Fosse Green Energy

Preliminary Environmental Information Report

VOLUME

3

Appendix 8-B: Preliminary Ecological Appraisal

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Prepared for:

Fosse Green Energy Limited

Prepared by:

AECOM Limited

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1. Introduction

1.1 Background

1.1.1 This report forms a technical appendix to the Preliminary Environmental Information (PEI) Report, specifically to accompany **PEI Report Volume 1, Chapter 8: Ecology and Nature Conservation**. This Preliminary Ecological Assessment (PEA) was commissioned to identify whether there are known or potential ecological receptors (nature conservation designations, protected and, or notable habitats and species and scheduled invasive non-native species (INNS)) that may constrain or influence the design and implementation of Fosse Green Energy (hereafter referred to as the 'Proposed Development').

1.1.2 Further information on the Proposed Development is included within **PEI Report Volume 1, Chapter 3: The Proposed Development**.

1.1.3 The approach during this PEA accords with the guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM) (Ref 1). The PEA addresses relevant wildlife legislation and planning policy as summarised in Section 2 of this PEA report (PEAR) and is consistent with the requirements of British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development (Ref 2).

1.2 Site Description

1.2.1 The Proposed Development is located 9 kilometres (km) south and south west of Lincoln City Centre, Lincolnshire, and lies within the administrative district of North Kesteven.

1.2.2 The Proposed Development comprises two distinct parcels:

a. 'the Principal Site', which is where ground mounted solar PV panels, electrical sub-stations and BESS will be installed; and

b. 'the Cable Corridor', which comprises the underground electrical infrastructure required to connect the Principal Site to the National Grid.

1.2.3 The location of the Proposed Development is centred at Ordnance Survey (OS) Grid Reference SK 90388 62514 and is presented in **PEI Report Volume 2, Figure 1-1**.

1.2.4 The Site covers an area of approximately 1,426 hectares (ha) and is dominated by arable fields (90% of the Site) with smaller areas of improved and semi-improved grassland, hedgerows and woodland.

1.3 Purpose of this Preliminary Ecological Appraisal Report

1.3.1 The purpose of this PEAR is to provide a high-level ecological appraisal of the Site, specifically to:

a. establish baseline conditions and determine the presence of Important Ecological Features (IEFs) (or those that could be present);

b. identify potential ecological constraints to the Proposed Development and recommendations to avoid impacts on IEFs;

c. identify opportunities for including avoidance of IEFs into the design of the Proposed Development;

d. identify requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final design of the Proposed Development);

e. establish any requirements for more detailed surveys required to inform the Development Consent Order (DCO) application and to contribute to an Environmental Impact Assessment (EIA) once the Proposed Development proposals have been finalised and any required surveys have been completed; and

f. identify any opportunities offered by the Proposed Development to deliver biodiversity enhancements.

1.3.2 This report makes a series of recommendations for additional surveys, impact assessment, and mitigation. The ecological impact assessment presented in **PEI Report Volume 1, Chapter 8: Ecology and Nature Conservation** presents a summary of the baseline conditions and a description of the impacts and mitigation measures that have been identified following the delivery of this PEAR and any subsequent protected species surveys that may have resulted from this Phase 1 survey.

1.3.3 In order to deliver the PEA, a desk study of the Study Area and an extended Phase 1 Habitat Survey, which included a protected species scoping survey, were undertaken from March 2023 with follow up surveys throughout 2023 and 2024 (reported here up to July 2024) to identify ecological features relevant to the Proposed Development and occurring within the Survey Area and the wider potential Zone of Influence (ZoI). The potential ZoI was defined with reference to the red line boundary of the Site as presented in **PEI Report Volume 2, Figure 1-1** and the type of development, as detailed in Section 1.2 of this PEAR. Additional details on the methods used are provided in Section 3 of this PEAR.

2. Legislation and Policy Context

2.1 Relevant Legislation

2.1.1 The following wildlife legislation was reviewed when undertaking this PEA:

a. The Conservation of Habitats & Species Regulations 2017 (as amended) (the Habitats Regulations) (Ref 3) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (Ref 4);

b. Wildlife and Countryside Act 1981 (as amended) (WCA) (Ref 5);

c. Countryside and Rights of Way Act 2000 (CRoW Act) (Ref 6);

d. The Environment Act 2021 (Ref 7);

e. The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref 8);

f. Natural Environment and Rural Communities Act 2006 (NERC Act) (Ref 9);

g. The Protection of Badgers Act 1992 (Ref 10);

h. The Hedgerows Regulations 1997 (Ref 11); and

i. The Invasive Alien Species (Enforcement and Permitting) Order 2019 (Ref 12).

2.1.2 Compliance with the above legislation may require the attainment of relevant protected species licences prior to the implementation of the Proposed Development.

2.1.3 Brief summaries of the above legislation are provided in Annex B of this PEA. For further information, refer to **PEI Report Volume 3, Appendix 8-A: Ecology and Nature Conservation: Ecology Policy and Legislation**.

2.2 National and Local Planning Policy

National Planning Policy Framework

2.2.1 The National Planning Policy Framework (NPPF) (Ref 13) sets out the UK Government's planning policies for England and how these are expected to be applied. The NPPF does not contain specific policies for Nationally Significant Infrastructure Projects (NSIPs), the NPPF is still relevant when considering the determination of DCOs.

2.2.2 The NPPF, with particular reference to Section 15 (conserving and enhancing the natural environment), states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity. The NPPF (Ref 13) is clear that pursuing sustainable development includes moving from a net loss of biodiversity to achieving net gains for nature, and that a core principle for planning is that it should contribute to conserving and

enhancing the natural environment and reducing pollution. The NPPF also specifies the obligations that the Local Authorities and the UK Government have regarding sites statutorily designated for their biodiversity value and otherwise protected or notable habitats and protected species under UK and international legislation and how this is to be delivered in the planning system. Protected or notable habitats and species are of material consideration in planning decisions and may therefore make some sites unsuitable for particular types of development, or if development is permitted and significant harm to biodiversity cannot be avoided, then adequate mitigation measures (or as a last resort, compensation) will be required to avoid or minimise impacts on certain habitats and species. The policies set out in the NPPF to a large extent mirror those that are explained in NPS EN-1.

2.2.3 The Planning Practice Guidance (Ref 14) was also reviewed for further guidance and interpretation on the NPPF.

National Planning Policy Statements

2.2.4 The 2023 revised National Policy Statements (NPSs) came into force on 17 January 2024. The NPSs relevant to solar energy that are considered practical and relevant to the Secretary of State's decision as whether to grant a DCO for the Proposed Development and therefore taken into account with the assessment for the Proposed Development are:

a. Overarching National Policy Statement for Energy (EN-1) (Ref 15);
b. National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 16); and
c. National Policy Statement for Electricity Networks Infrastructure (EN-5) (Ref 17).

2.2.5 The NPSs set out the Government's energy policy infrastructure for delivery of major energy infrastructure, along with the need for new infrastructure and guidance for determining applications for a DCO for a solar energy project. The NPSs provide specific guidance and criteria that applicants should cover when assessing the effects of their Proposed Development and set out how the Secretary of State should consider these impacts and any mitigation measures applied.

Local and Regional Policies

2.2.6 Local planning policies that are relevant to the biodiversity for the Proposed Development are:

a. Central Lincolnshire Local Plan (Adopted April 2023) (Ref 18), specifically Policy S60: Protecting Biodiversity and Geodiversity, Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains and Policy S66: Trees, Woodland and Hedgerows; and

b. Thorpe on the Hill Neighbourhood Plan 2016-2036 (Ref 19), specifically Policy 3: Biodiversity and Policy 4: Green Spaces and Green Infrastructure.

Central Lincolnshire Local Plan (Adopted April 2023)

2.2.7 Policy S60: Protecting Biodiversity and Geodiversity sets out the level of protection afforded to International, National and Local Sites as well as Irreplaceable Habitats. It states that development should:

a. *"protect, manage, enhance and extend the ecological network of habitats, species and sites of international, national and local importance (statutory and non-statutory), including sites that meet the criteria for selection as a Local Site;*

b. *minimise impacts on biodiversity and features of geodiversity value;*

c. *deliver measurable and proportionate net gains in biodiversity in accordance with Policy S61; and*

d. *protect and enhance the aquatic environment within or adjoining the site, including water quality and habitat".*

2.2.8 Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains states that: "*all development proposals, unless specifically exempted by the Government, must provide clear and robust evidence for biodiversity net gains and losses in the form of a biodiversity gain plan, which should be submitted with the application form*".

2.2.9 Policy S66: Trees, Woodland and Hedgerows states that: "*development proposals should be prepared based on the overrising principal that*:

a. *the existing tree and woodland cover is maintained, improved and expanded; and*

b. *opportunities for expanding woodland are actively considered, and implemented where practical and appropriate to do so*."

Thorpe on the Hill Neighbourhood Plan 2016-2036

2.2.10 Policy 3: Biodiversity states that: "*Development should minimise its impact on biodiversity and provide net gains in biodiversity where possible. The following measures to protect and enhance local biodiversity will be supported:*

a. *the preservation of ecological networks, especially those between built-up areas;*

b. *the protection of ancient trees or trees of arboricultural value;*

c. *the preservation, restoration and re-creation of wildlife habitats, and the protection and recovery of priority species; and*

d. *the provision of a net gain in flora and fauna."*

2.2.11 Policy 4: Green Spaces and Green Infrastructure states that: "*Development should protect public rights of way and the enhancement of public rights of way will be supported.*

a. *Where necessary to mitigate the impact of a development proposal, proportionate contributions will be sought to improve existing or deliver new green spaces or other green infrastructure. The delivery of new, or improvements to, green spaces or green infrastructure will be supported."*

Local Nature Recovery Strategy (LNRS)

2.2.12 A Local Nature Recovery Strategy (LNRS) is a tool designed to guide action for nature recovery. They were introduced by the Environment Act 2021 (see Section 2.2.11)) to help achieve the targets set out in the Government's Environmental Improvement Plan, build the Nature Recovery network and improve nature locally for the benefit of wildlife and people.

2.2.13 Using local knowledge and expertise, the statement will describe Greater Lincolnshire and its biodiversity and will identify priorities and potential opportunities for recovering or improving biodiversity.

2.2.14 The Regulations and Guidance for LNRSs were released in April 2023, with the official appointment of Responsible Authorities for the 48 LNRS areas The Strategy will be reviewed every 3-10 years. Lincolnshire County Council has been appointed as the Responsible Authority for Greater Lincolnshire.

2.2.15 To produce the LNRS, Lincolnshire County Council is working in close partnership with North Lincolnshire Council, North East Lincolnshire Council and Greater Lincolnshire Nature Partnership, with support and guidance from Natural England.

Delivering Biodiversity Net Gain in Central Lincolnshire Guidance for Applicants Seeking Planning Permission April 2023

2.2.16 This guidance has been prepared by the Central Lincolnshire Local Plan Team on behalf of the Central Lincolnshire Local Planning Authorities (City of Lincoln, North Kesteven and West Lindsey) in relation to the delivery of Biodiversity Net Gain (BNG) in Central Lincolnshire. The aim of this guidance is to help applicants and ecologists understand how BNG will apply to planning applications in Central Lincolnshire to support Local Plan Policy S61 Biodiversity Opportunity and Delivering Measurable Net Gains.

2.3 Other Guidance

2.3.1 Additional guidance has been reviewed for its relevance to the Proposed Development and is summarised below.

The Environmental Improvement Plan (2023)

2.3.2 In 2023, the UK Government published its Environmental Improvement Plan (Ref 20), the first revision of the 25 Year Environment Plan (Ref 21) to set out how the Government will work with landowners, communities and businesses to deliver each of its goals for the natural environment. An Environmental Improvement Plan is required to be prepared, updated and reported on under the Environment Act 2021 (Ref 7). This document continues to use the ten goals set out within the 25 Year Environment Plan

with the Apex goal being to achieve 'thriving plants and wildlife' and sets interim targets pursuant to the long-term targets set under the Environment Act 2021. The Environmental Improvement Plan recognises the wider value of the environment and its contribution, such as food, clean water and air, wildlife, energy, wood, recreation and protection from hazards.

Biodiversity 2020

2.3.3 Biodiversity 2020 (Ref 22) was published in August 2011, building on the Natural Environment White Paper and setting out the strategic direction for biodiversity policy to 2020 on land (including rivers and lakes) and at sea in England.

2.3.4 Biodiversity 2020 established a new global vision for biodiversity, including a set of strategic goals and targets to drive action. It outlines the Government's vision for the natural environment, shifting the emphasis from piecemeal conservation action towards a more integrated landscape-scale approach.

Natural England and Department for Environment, Food and Rural Affairs (Defra) Standing Advice (protected species)

2.3.5 Standing advice from Natural England and Defra (Ref 23) provides guidance on protected and notable species and includes reference to the best practice approaches to survey, mitigation and compensation. Guidance is also provided on the procedure for obtaining protected species licences.

2.3.6 This advice has informed the planning of surveys and the approach to mitigating impacts upon protected species, including where necessary the requirement for Natural England mitigation licences.

UK Biodiversity Framework 2024

2.3.7 The UK Biodiversity Action Plan (UK BAP) (Ref 24) was launched in 1994 and established a framework and criteria for identifying species and habitat types of conservation concern and remains an important reference material. The UK BAP was subsequently succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref 25), and then again by the UK Biodiversity Framework (Ref 26).

2.3.8 The UK list of priority species and habitats (of which there are 943 priority species and 56 priority habitats in England)remains an important reference source and the UK BAP is still used as one of the criteria to assist in assigning national value to an ecological receptor.

2.3.9 The UK Biodiversity Framework (Ref 26) is relevant within England in the context of Section 40 of the NERC Act 2006 (Ref 9), meaning that Priority Species and Habitats are material considerations in planning. These habitats and species are identified as those of conservation concern due to their rarity or a declining population trend.

Local Guidance

Local Biodiversity Action Plan

2.3.10 The Proposed Development is located within the county of Lincolnshire. Formerly, the Lincolnshire Biodiversity Action Plan (LBAP) (3rd edition) (Ref 27) provided context to inform identification of threatened or uncommon species of local relevance, alongside priorities for conservation and enhancement targeted at a local level. However, under the Environment Act 2021 (Ref 7), these are being replaced by Local Nature Recovery Strategies (LNRSs), which are a system of spatial strategies for nature which will support delivery of biodiversity net gain (BNG) and provide more focussed action for nature recovery. Whilst this is still being developed for Lincolnshire and with no specific habitat or species plans currently in place, this PEAR references those species formerly included on the LBAP (Ref 27).

2.3.11 The Lincolnshire Biodiversity Action Plan sets out action plans for 26 habitat types and 231 species. A list of the habitats and species action plans for Lincolnshire can be found in Annex C.

Internal Drainage Board (IDB) Policies

2.3.12 The Witham and Humber Drainage Boards Nature Strategy 2021 – 2026 (Ref 28) has been adopted to create a drainage district where wildlife is an integral part of delivering efficient and effective water-level management and reduced flood risk. The Nature Strategy sets out action plans for the included drainage districts and provides context for local priority habitats and species.

2.3.13 The Witham and Humber Internal Drainage Boards Water Vole (*Arvicola terrestris*) Policy (Ref 29) protects and enhances the Water Vole habitat and populations associated with the Boards' land and the drainage channels in the Upper Witham, Witham First District, Witham Third District and North East Lindsey Internal Drainage Board areas.

2.3.14 The occurrence of habitats and species of relevance at a local level, identified through the Witham and Humber Drainage Boards Nature Strategy, has been identified in the assessment through a desk study and field surveys, and the design of the Proposed Development includes measures for their conservation and enhancement.

3. Methods

3.1 Characterising the baseline

3.1.1 Within this PEAR, the following terminology is used when referring to the geographic areas within which assessments were made:

a. Study Area – the area within and around the Site which was subject to collection of background information e.g. desk study records for protected species;

b. Zone of Influence (ZoI) – the area over which receptors may be affected by the Proposed Development and defines the scope of field survey, which, using professional judgement, is typically no more than 2km around the Site (dependant on the ecological feature). Through review of likely impacts of the Proposed Development and results of the desk study, the scope of field surveys was then defined; and

c. Survey Area – the area within which initial field survey work was undertaken and is the Site plus a maximum distance of 50m (where visible/accessible).

3.2 Desk Study

3.2.1 A desk study was undertaken to identify sites designated for their biodiversity value and protected or notable habitats and species including invasive non-native species potentially relevant to the Proposed Development.

3.2.2 A stratified approach was taken when defining the desk Study Area, based on the likely ZoI of the Proposed Development on different ecological receptors and an understanding of the maximum distances typically considered by statutory consultees. Accordingly, the desk study identified sites designated internationally for their biodiversity value within 10km of the Site (as well as any Special Areas of Conservation (SACs) within 30km where bats are noted as the, or one of the, qualifying features); other statutory nature conservations designations within 5km of the Site; and non-statutory nature conservation designations and protected or notable habitats and species within 2km of the Site.

3.2.3 The desk study was carried out using the data sources presented in **Table 1**. Protected and notable habitats and species include those listed under Schedules 1, 5 and 8 of the WCA (Ref 5); Schedules 2 and 4 of The Habitats Regulations (Ref 4); species and habitats of principal importance (SPI and HaPI) for nature conservation in England listed under Section 41 (S41) of the NERC Act (Ref 9); and other species that are listed in national or local lists as species of conservation concern (such as Nationally Rare on the IUCN Red Data Book (Ref 30), or species listed as Red or Amber -listed on the Birds of Conservation Concern (BoCC) (Ref 31).

3.2.4 Only records up to ten years old were considered within the assessment, as any records older than ten years are unlikely still to be representative of species presence in the local area.

Table 1: Desk study data sources

Data Source	Data Obtained
Multi-Agency Geographic Information for the Countryside (MAGIC) website (Ref 32)	International statutory designations (such as Ramsar, SPAs, SACs) within 10km of the Site. National statutory designations (such as LNR, SSSI) within 5km of the Site. Ancient woodlands and notable habitats within 2km of the Site.
Ordnance Survey 1:2500 Pathfinder maps and aerial photography	Information on habitats and habitat connections (based on aerial photography) relevant to the Proposed Development.
Lincolnshire Environmental Records Centre (LERC) (accessed April 2023)	Sites designated at a county or local level for their biodiversity importance, such as County / Local Wildlife Sites (CWS / LWS), Protected Road Verges (PRV) within 2km of the Site. Protected and notable species within 2km of the Site (records for the last ten years only).
Lincolnshire Naturalists' Union journal and other publications (accessed October 2023)	Protected and notable species within 2km of the Site.

3.3 Field Survey

Phase 1 Habitat Survey

3.3.1 A Phase 1 Habitat survey was undertaken between 19-27 June 2023 with follow up surveys completed on the 24 August 2023, 5-6 September 2023, 7-9 November 2023 and 8-9 May 2024, all undertaken by appropriately experienced ecologists in accordance with the standard survey method developed by the Joint Nature Conservation Committee (JNCC) (Ref 33). Phase 1 Habitat Survey is a standard method of environmental audit and involves categorising different habitat types and habitat features within a Survey Area. The information gained from the survey can be used to determine the likely biodiversity value of a site, and if there is a need to undertake any more specific survey work to inform the ES.

3.3.2 The standard Phase 1 Habitat Survey method was extended to record target notes on protected, notable and invasive species. Typical and notable plant species were recorded for different habitat types and reflect the conditions at the time of survey. This was not intended to be a detailed inventory of the plant species present in the Survey Area, as this is not required for the purposes of Phase 1 Habitat Survey.

3.3.3 The Survey Area encompassed all accessible parts of the Site and adjacent habitats to a maximum distance of 50m, where access permission had been granted in advance of survey, or where this land was visible from within the Site, from public rights of way or other publicly accessible areas.

Appraisal of the Potential Suitability of Habitats for Protected and Notable Species

3.3.4 An appraisal was made of the potential suitability of the habitats present to support protected and notable species of plants or animals (as defined by legislation and planning policy in Section 2 of this PEAR). Field signs, habitat features with potential to support protected species, and any sightings or auditory evidence were recorded when encountered, but no detailed surveys were carried out for any particular species.

3.3.5 In addition, attention was given to identifying invasive non-native species that are listed under Schedule 9 of the WCA (Ref 5) and those “widespread species” listed in the Invasive Alien Species (Enforcement and Permitting) Order 2019 (Ref 12). Locations of plants and animals of any such invasive non-native species, if found, were recorded.

Desk Study and Field Survey Limitations

3.3.6 The aim of the desk study was to help characterise the baseline context of the Proposed Development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of the desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitat or species does not necessarily mean that the habitats or species do not occur in the Study Area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Proposed Development.

3.3.7 Where habitat boundaries coincide with physical boundaries recorded on OS maps, the resolution is as determined by the scale of mapping. Elsewhere, habitat mapping is as estimated in the field and/or recorded by hand-held Samsung tablets using Collector software. Where areas of habitat are given, they are approximate and should be verified by measurement on-site where required for design or construction. While indicative locations of trees are recorded, this does not replace requirements for detailed specialist arboriculture survey to British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction (Ref 34).

3.3.8 There were no other limitations to the desk study or habitat survey.

4. Results

4.1 Sites Designated for their Biodiversity Value

Sites Statutorily Designated for their Biodiversity Value

4.1.1 The desk study did not identify any sites statutorily designated for their international biodiversity value within 10 km of the red line boundary for the Site and within 30 km for those sites where a special feature includes bats. The nearest such sites were Birklands and Bilhaugh Special Area of Conservation (SAC) (located approximately 25 km north west of the Site) and the Wash Special Protection Area (SPA) and Ramsar site (located approximately 36 km in a direct line southeast of the Site, but over 70 km along connected watercourses).

4.1.2 Two nationally designated sites, Whisby Nature Park, a Local Nature Reserve (LNR) statutorily designated for biodiversity reasons (340 m north of the Site and Swanholme Lakes LNR and Site of Special Scientific Interest (SSSI), which is located 4060 m north east of the Site. A description of these designated sites is presented in **Table 2.** Designation details are taken from citation documents and published online by the Joint Nature Conservation Committee (JNCC) for the individual sites. The locations of statutory sites are presented in **Figure 8-B-1** (Annex A). An additional geological site, Metheringham Heath Quarry SSSI located 4.8 km east of the Site is included in the figure, but not discussed in relation to biodiversity.

Table 2: Sites Statutorily Designated for their biodiversity value within 5km (national) of the Site

Statutory Site Name, Designation and Area	Description	Distance (m) and direction from closest point of the Site
Whisby Nature Park LNR (110.6 ha)	A complex of small, medium and large flooded gravel pits which have now become 'greened' by nearly 40 years of natural colonisation. There is only one significant flowing stream, the Pike Drain, a small agricultural channel that runs east-west across the southern part of the Park. Some former pits have been used as sediment lagoons and now support wet willow scrub. Of these, one has subsequently been cleared and developed into clay grassland, and others are undergoing systematic coppicing to maintain more open scrub conditions. The majority remain as 'non-intervention' areas. Dense Willow and Birch scrub occurs over wide areas in the north on spoil in between the pits. This is gradually developing tall	340 m north of the Site

Statutory Site Name, Designation and Area	Description	Distance (m) and direction from closest point of the Site
	canopy scrub resembling woodland. A small oak woodland of some maturity lies alongside a railway crossing. Near to the sites of former gravel works there are very dry, open expanses of gravel-pit waste that, over time, are developing interesting plant communities. Some more orthodox grasslands, both dry and wet, support a variety of flowering plants, and the richest of these is the Orchid Glade.	
Swanholme Lakes LNR / SSSI (63 ha)	Formed from flooded sand and gravel pits, the open water supports several uncommon species of submerged plants and is surrounded by a species-rich mosaic of habitats. The sandy heath, willow carr and sphagnum bog form an area of county importance for amphibians and reptiles and support several invertebrate groups, including grasshoppers and crickets, bumblebees and solitary wasps. Important species, found within this LNR / SSSI include several pondweeds (species of *Potamogeton*). and Water Soldier (*Stratiotes aloides*). The lakes also support many aquatic invertebrate species, including 17 species of dragonfly and damselfly. Three species (Red-eyed Damselfly (*Erythroma najas*), Variable Damselfly (*Coenagrion pulchellum*) and Ruddy Darter (*Sympetrum sanguineum*) are rare in Lincolnshire.	c.4.06 km north east of the Site

Sites Non-statutorily Designated for their Biodiversity Value

4.1.3 The desk study identified 29 sites non-statutorily designated for their biodiversity value within the Study Area. These sites are presented in **Table 3** and are listed in ascending order of distance from the Site. These sites have been designated as Local Wildlife Sites (LWS) for their biodiversity value at a county level and are known to have supporting value to a wide variety of protected and ecologically important species and/ or habitats. The locations of these non-statutory sites, relative to the Proposed Development, are presented in **Figure 8-B-2** (Annex A).

Table 3: Non-Statutory Designated Sites within 2km of the Site

Non-statutorily designated site name and designation	Area – hectares (ha) / length (km)	Description of non-statutorily designated site	Approximate distance (metres (m)) and direction from closest point of the Site
Navenby Heath Road Verges	2.8 km	Verge made up of calcareous grassland.	Within the Cable Corridor.
Navenby, Green Man Road Verges	6 km	Verge made up of calcareous grassland.	Within the Cable Corridor.
River Witham, Aubourn to Beckingham	11.8 km	The banks are managed through grazing or mowing. Aquatic plants occurring are Water-starwort *Callitriche stagnalis*, Spiked Water-milfoil *Myriophyllum spicatum*, River Water-crowfoot *Ranunculus fluitans*, Fennel Pond Weed *Stuckenia pectinata* and Unbranched Bur-weed *Sparganium emersum*.	Within the Principal Site.
Tunman Wood (including Stocking Wood)	38.2 ha	A managed, ancient woodland with a mosaic of high forest trees, cleared areas with scrub and invading saplings with intermediate stands. However, a relatively poor ground flora.	Adjacent to the Principal Site.
Tunman Wood North	15.4 ha	This site is the northern part of Tunman Wood LWS, located close to Whisby Nature Park LNR. Planted trees occur throughout, although it is the network of rides that is of most interest for flora and fauna. Corsican Pine *Pinus nigra* is the dominant plantation tree here, with smaller numbers of Scots Pine *Pinus sylvestris*, Beech *Fagus sylvatica* and Pedunculate Oak *Quercus robur*.	Adjacent to the Principal Site.
Gorse Lane	1.3 km	A narrow lane, running north from Gorse Hill Lane (TF014563), east of Wellingore, to a minor road (TF013576) connecting Navenby to the A15. It is separated from arable fields on the west side by a thick, unmanaged hedge. On the east side, the southern half merges into Gorse Hill Covert, a small mainly deciduous wood, and the northern half is	Within 5m of the Cable Corridor, to the south.

Non-statutorily designated site name and designation	Area – hectares (ha) / length (km)	Description of non-statutorily designated site	Approximate distance (metres (m)) and direction from closest point of the Site
		separated from arable fields by a hedge along most of its length.	
High Dike, Coleby Mill to Harmston Verges	2.1 km	Verge made up of calcareous grassland.	310 m north of the Cable Corridor.
Whisby Nature Park, Whisby Pits Complex	110.6 ha	Also a LNR, see **Table 2.**	340 m north of the Principal Site.
Boothby Graffoe Road Verges	0.4 ha	Calcareous grassland verge that slopes down from the south side of the B1202. Plants that it supports include Small Scabious *Scabiosa columbaria*, Common Bird's-foot-trefoil *Lotus corniculatus*, Burnet Saxifrage *Pimpinella saxifrage*, Salad Burnet *Sanguisorba minor*, Greater Knapweed *Centaurea scabiosa*, Lady's Bedstraw *Galium verum* and Upright Brome *Bromus erectus*.	595 m north of the Cable Corridor.
A15, Green Man Road to Cuckoo Lane	3.2 km	Strip of calcareous grassland.	665 m east of the Cable Corridor.
Green Man Lane	3.5 km	Verge made up of calcareous grassland. Calcareous grassland indicator species are numerous in this verge, but their distribution is patchy. The grassland is interspersed by coarse, dense vegetation such as Bramble *Rubus fruticosus*.	705 m east of the Cable Corridor.
Brant Plantation	10.7 ha	Plantation that is largely dominated by Poplar *Populus* agg. and Sycamore *Acer pseudoplatanus*. Other woody species that grow across the plantation include Aspen *Populus tremula*, Pedunculate Oak, Silver Birch *Betula pendula*, Downy Birch *Betula pubescens* and Honeysuckle *Lonicera* agg. The lower canopies and ground flora comprises of Male-fern *Dryopteris filix-mas*, Wood Millet *Milium effusum*, False Brome *Brachypodium sylvaticum*, Buckler	760 m north of the Principal Site.

Non-statutorily designated site name and designation	Area – hectares (ha) / length (km)	Description of non-statutorily designated site	Approximate distance (metres (m)) and direction from closest point of the Site
		Ferns *Dryopteris dilatate*, Herb-Robert *Geranium robertianum*, Red Campion *Silene dioica*, Foxglove *Digitalis purpurea* and Three-veined Sandwort *Moehringia trinervia*. The area which is closest to the river has the greatest diversity and includes species such as Creeping-Jenny *Lysimachia nummularia*, Soft Rush *Juncus effusus*, Ragged-Robin *Silene flos-cuculi*, Marsh Bedstraw *Galium palustre* and Silverweed *Potentilla anserina*. There is a long grass area to the eastern margin of the wood, supporting species such as Tufted Vetch *Vicia cracca* and Common Bird's-foot-trefoil. A range of bird and invertebrates occupy the plantation including Bullfinch *Pyrrhula pyrrhula*, Willow Tit *Poecile montanus*, Wren *Troglodytes troglodytes*, and Migrant Hawker *Aeshna mixta*, Common Darter *Sympetrum striolatum* and Emerald Damselfly *Lestes sponsa*.	
Hykeham Railway Line, Whisby Nature Park	3.2 ha	A section of active railway line running through Whisby Nature Park. Vegetation cover is largely concentrated in a narrow (c.1-2m wide) belt on both sides of the railway, adjacent to the fence line. This mainly comprises Bramble, scrub and tall ruderal vegetation, including species such as Rosebay Willowherb *Chamaenerion angustifolium*, Nettle *Urtica dioica*, Field Horsetail *Equisetum arvense* and, occasionally, Common Hemp-nettle *Galeopsis tetrahit*. There are also some small patches of semi-improved neutral grassland vegetation dominated by False Oat-grass *Arrhenatherum elatius*, Couch *Elymus repens* and other tall coarse grass species. Occasional patches of shorter turf occur and feature species such as	790 m north of the Principal Site.

Non-statutorily designated site name and designation	Area – hectares (ha) / length (km)	Description of non-statutorily designated site	Approximate distance (metres (m)) and direction from closest point of the Site
		Common Bent *Agrostis capillaris* and Sheep's Sorrel *Rumex acetosella*. Occasional shrubs and trees occur on the fence line, including Silver Birch, Pedunculate Oak, Hawthorn *Crataegus monogyna*, Gorse *Ulex europaeus* and Hazel *Corylus avellana*. A short section of ditch occurs adjacent to the southern boundary towards the eastern end of the section.	
Ski World, Whisby Pits Complex	25.2 ha	Three eutrophic lakes (flooded gravel pits) dominated by Canadian Pondweed *Elodea canadensis* and a significant amount of Blanketweed *Cladophora glomerata*, with smaller amounts of Fennel-leaved Pondweed *Potamogeton pectinatus* and Curled Pondweed *Potamogeton crispus*. Much of the surrounding land is managed as a caravan and camping site with large areas of improved grassland and amenity planting, however remnants of the original heath/dry grassland survive in very limited areas.	805 m north of the Principal Site.
Mr Nevile's Pits West, Whisby Pits Complex	7.2 ha	A flooded sand and gravel pit bordered by Willow woodland.	830 m north of the Principal Site.
Norton Big Wood	36.1 ha	A large area of woodland, the majority of which is ancient semi-natural, comprising a mix of planted conifers and hardwoods and longer established native broadleaves.	850 m west of the Principal Site.
Mr Nevile's Pits East, Whisby Pits Complex	11.4 ha	A large lake (flooded gravel pit) with numerous smaller peripheral, seasonally flooded, hollows. The open water is surrounded by Silver Birch and Grey Willow (*Salix cinerea*) woodland. Mature Ash (*Fraxinus excelsior*) and Oak occur towards the edges where the woodland is more open, grading into discrete areas of	950 m north of the Principal Site.

Non-statutorily designated site name and designation	Area – hectares (ha) / length (km)	Description of non-statutorily designated site	Approximate distance (metres (m)) and direction from closest point of the Site
		rough grassland and acid scrub. Nearer the water's edge, the only truly aquatic species recorded was Duckweed (*Lemna minor*).	
North Hykeham Gravel Pit	94.2 ha	Made up of two areas - Cemex Angling Lake and Millennium Green. Cemex Angling Lake is formed of gravel pits with three small islands covered in woodland. The lake itself supports limited flora, including Nuttall's Pondweed (*Elodea nuttallii*) and Spiked Water-milfoil. Other emergent species such as Yellow Flag Iris *Iris pseudacorus* and Bulrush *Typha latifolia* are also present. There is a fragment of woodland on the northern edge which is dominated by mature Pedunculate Oak and Silver Birch. Hazel, Alder Buckthorn *Frangula alnus* are most frequent in the understories. On the southern edge of the lake a peninsula (SK925662) is covered by Birch woodland. To the south of this peninsula lie ridges of sand which have been colonised by Broom *Cytisus scoparius*. Juniper Haircap Moss *Polytrichum juniperinum*, Sand Fibrecap (a fungi) *Inocybe arenicola* and a species of *Cladonia* lichen are also noted here. An area of wet scrub and semi-improved neutral grassland can be found to the south of the lake supporting a variety of species. Millennium Green's main habitat is a large lake. Other habitats, flora and fauna are similar to those of in Cemex Angling Lake.	1,035 m north of the Principal Site.
Butt Lane Pit	2.2 ha	Flooded pit which is used as an angling lake and surrounded by acid woodland. Spiked Water-milfoil dominates the aquatic flora with occasional clumps of Common Water-crowfoot *Ranunculus aquatilis* and	1,077 m west of the Principal Site.

Non-statutorily designated site name and designation	Area – hectares (ha) / length (km)	Description of non-statutorily designated site	Approximate distance (metres (m)) and direction from closest point of the Site
		Common Water-starwort. Very small areas of acid grassland around the edge of the lake support Common Centaury *Centaurium erythraea*, Wood Small Reed *Calamagrostis epigejos*, Cat's-ear *Hypochaeris radicata*, Leafy Hawkweed *Hieracium umbellatum*, and Sheep Sorrel *Rumex acetosella*. Area of acid woodland is dominated by Pedunculate Oak, Silver Birch and Downy Birch. Other species include Wild Cherry Prunus avium, Aspen, Alder and Gorse. Rhododendron *Rhododendron ponticum* has invaded the woodland. Fauna species noted in this area include birds, Migrant Hawker and Speckled Wood *Pararge aegeria*.	
Coleby, Heath Road Verges	2.2 km	Verge made up of calcareous grassland.	1,250 m north of the Cable Corridor.
Gorse Hill Lane Verges	0.4 km	Verge made up of calcareous grassland.	1,250 m south of the Cable Corridor.
High Dike, Long Lane to Navenby Verges	5.8 km	Verge made up of calcareous grassland.	1,280 m west of the Cable Corridor.
Eagle Hall Wood	55 ha	Ancient, replanted woodland supporting Pedunculate Oak and Ash that are dominant across the site and some ancient trees remain, as do old, coppiced Hazel. Wet areas in the north east of the site are dominated by dense scrub and rides in the woodland have ditches along them.	1,350 m west of the Principal Site.
Brant Washlands	36.5 ha	Two fields comprising wet woodland wet pasture, ponds and scrapes that are both rich in flora and fauna.	1,400 m north of the Principal Site.
Teal's Lake, Whisby Pits Complex	32.8 ha	Large, flooded gravel pit surrounded by areas of grazing marsh/damp grassland scrub and small patches of remnant dry and acid grassland.	1,510 m north of the Principal Site.

Non-statutorily designated site name and designation	Area – hectares (ha) / length (km)	Description of non-statutorily designated site	Approximate distance (metres (m)) and direction from closest point of the Site
		Canadian Pondweed dominates the open water. Margins support stands of Common Reed *Phragmites australis* and Bulrush. New Zealand Pigmyweed *Crassula helmsii,* an invasive plant, dominates the marginal zones of the entire lake. Much of the lake is bordered by a dense Willow and Birch woodland. Dry acid grassland fragments around the perimeter of the site support such species as Wormwood *Artemisia absinthium*, Broom and Vipers Bugloss *Echium vulgare*.	
Hawdin's Wood	49.8 ha	A large area of damp acid woodland, forming part of a more extensive woodland. The site is a former conifer plantation, supporting Scot's Pine and Larch *Larix decidua*. A good number of ancient woodland indicator species are present including Wood Anemone *Anemone nemorosa*, Wood Sedge *Carex sylvatica*, Scaly Male Fern *Dryopteris affinis* and Bluebell *Hyacinthoides non-scripta*. Damp acid rides support a typical flora with abundant common forbs. Large areas of the site are dominated by a vigorous community of Bracken *Pteridium aquilinum* and Bramble. There is a pond near the centre of the area.	1,550 m west of the Principal Site.
Wellingore Heath Road Verges	0.8 km	Verge made up of calcareous grassland.	1,700 m west of the Cable Corridor.
Harmston Quarry	9.4 ha	An active limestone quarry lying within an arable landscape. Small areas of calcareous grassland along the site's northern boundary with the road.	1,885 m north of the Cable Corridor.
Stapleford Moor	128.1 ha	Largely coniferous plantation of Scots Pine with Silver Birch with Rowan *Sorbus aucuparia* and broadleaved woodland on the edges and in	1,950 m west of the Principal Site.

Non-statutorily designated site name and designation	Area – hectares (ha) / length (km)	Description of non-statutorily designated site	Approximate distance (metres (m)) and direction from closest point of the Site
		discrete patches in the north and south east. Very limited areas of acid grassland/heath exist in small clearings in the north of the wood which support a good diversity of species typical of this habitat type. The soil across most of the site is a layer of peaty humus over sand. Many of the smaller paths are largely fringed by Purple Moor-grass *Molinia caerulea*, which is also frequent under the trees in some places. The clearings are dominated by Sheep's Fescue *Festuca ovina* which forms a low tussocky sward.	

4.1.4 In addition, three areas of Ancient Woodland were identified within 2 km of the Site:

a. Tunman Wood and Housham Wood, contiguous woodlands both of which are part of Tunman Wood LWS and are immediately adjacent to the Principal Site;

b. Hawdin's Wood (part of Norton Big Wood) which is approximately 850 m west of the Cable Corridor; and

c. Great Low Wood which is approximately 1,350m north east of the Principal Site

4.1.5 The locations of these Ancient Woodland sites are presented in **Figure 8-B-2** (Annex A).

4.2 Habitats

4.2.1 The Phase 1 Habitat Survey recorded and mapped all habitat types present within the survey area, along with any associated relevant ecological features observed. Where relevant ecological features were present, target notes were recorded (see Annex D) and the positions of these target notes are shown as TN on **Figure 8-B-3** (Annex A).

4.2.2 The broad habitat types present within the Site are presented in **Table 4**. The approximate extent and distribution of these habitats recorded are shown on **Figure 8-B-3** (Annex A).

Table 4: Broad habitat types within the Site

(HaPI = Habitat of Principal Importance)

Habitat	Area (ha) / Length (km)	% of site area	Conservation designation
A1.1.1 – Broadleaved woodland – Semi-natural	12.92 ha	0.91	HaPI – Lowland Mixed Deciduous Woodland. LBAP habitat in Lincolnshire
A1.1.2 – Broadleaved woodland – plantation	3.39 ha	0.24	None
A1.2.2 – Coniferous woodland - plantation	0.26 ha	0.02	None
A1.3.2 – Mixed woodland – plantation	0.26 ha	0.02	None
A2.1 – Scrub – dense / continuous	0.89 ha	0.06	None
A2.2 – Scrub - scattered	0.28 ha / 0.04 km	0.02	None
A3.1 – Broadleaved parkland / scattered trees	0.05 ha / 2.39km	0.02	None
B2.2 – Neutral grassland – semi-improved	20.91 ha	1.47	HAPI - Coastal and Floodplain Grazing Marsh HaPI.
B4 – Improved grassland	9.29 ha	0.65	None
B6 – Poor semi-improved grassland	35.69 ha	2.51	None
C3.1 – Other tall herb and fen - ruderal	1.59 ha	0.11	None
F1 - Swamp	0.30 ha	0.02	Upland Flushes, Fens and Swamps is a HaPI.
G1 – Standing water	0.41 ha	0.03	Ponds meeting certain criteria are a HaPI.
G2 - Running water	0.21 ha / 0.9 km	0.01	Rivers may qualify as a HaPI
Hardstanding	11.43 ha	0.80	None
J1.1 – Cultivated / disturbed land - arable	1,314.45 ha	92.35	Arable field margins are a HaPI
J1.1 – Cultivated / disturbed land – amenity grassland	0.06 ha	<0.01	None

Habitat	Area (ha) / Length (km)	% of site area	Conservation designation
J1.1 – Cultivated / disturbed land – ephemeral / short perennial	0.28 ha	0.02	None
Hedgerows – intact without trees	33.95 km	n/a	HaPI. LBAP habitat in Lincolnshire
Hedgerows – defunct without trees	1.53 km	n/a	HaPI. LBAP habitat in Lincolnshire
Hedgerows – intact with trees	38.73 km	n/a	HaPI. LBAP habitat in Lincolnshire
J2.4 – Fence-lines	0.24 km	n/a	None
J2.5 – Wall	1.64 km	n/a	None
J2.6 – Dry ditch	9.82 km	n/a	None
J4 – Bare Ground	5.04 ha	0.35	None
J5 – Other habitat	0.07 ha	<0.01	None

4.3 Notable Habitats

4.3.1 **Table 5** provides a summary of notable habitats recorded within the Site, based on the results of the Phase 1 Habitat Survey and with reference to guidance for the recognition of Section 41 listed habitat (NERC Act 2006) (Ref 9) and the relevant LBAP, as detailed in Section 2.3.10 of this PEAR.

Table 5: Notable habitat types within the Site

Habitat	HaPI?	Lincolnshire BAP	Supporting Comments
Rivers and streams	✓	✓	The River Brant qualifies as HaPI due to the presence of Annex II Habitats Directive species Spined Loach (*Cobitis taenia)*; the River Witham is designated as a LWS; both are therefore of up to County importance.
Standing open waters / ponds	✓	✓	There are a number of waterbodies within and surrounding the Site and further investigation will be required to determine their value.

Arable Field Margins	✓	✓	Indicator species of scarce arable plants were noted during the survey and arable field margins present within the Site may fulfil the criteria for this priority habitat type. Further investigation will be required to determine their value.
Hedgerows	✓	✓	Hedgerows were present within the Site boundary and further investigation will be required to determine their value.
Wood-Pasture and Parkland	✓	✓	Wood-pasture and parkland were present within the Site, limited to scattered individual trees and further investigation will be required to determine their value.
Lowland Mixed Deciduous Woodland	✓	✓	Broad-leaved woodland was present within the Site boundary and further investigation will be required to determine its value.
Coastal and floodplain grazing marsh	✓	✓	Coastal and floodplain grazing marsh was present within the Site and further investigation will be required to determine its value.

4.4 Protected and Notable Species

4.4.1 **Table 6** provides a summary of potentially relevant species identified through a combination of desk study and field survey. The table summarises the conservation status of each species and provides comment on the likelihood of presence in the Site based on observations during the Phase 1 Habitat Survey.

4.4.2 Where species are identified in **Table 6** as likely or possible, they are likely to represent legislative constraints or may be material to determination of the planning application. Further surveys may be required or have been undertaken to determine presence or probable absence of species (see Section 5 and references to other relevant PEI Report Appendices).

Table 6: Protected or notable species within the Site

Species (or species group)	Supporting comments
Flora/plant species	**Desk Study:** Records of notable plants occurring within the Study Area in the last ten years, including Bluebell (*Hyacinthoides non-scripta*) and Penny Royal (*Mentha pulegium*). Field surveys of habitats, including grassland areas, arable field margins and other notable habitats will be required to determine their value and whether they support any protected or notable flora.

	Aquatic habitat surveys have identified Opposite-leaved Pondweed (*Groenlandia densa*) within the Site.
Terrestrial Invertebrates	**Desk Study:** Two records of notable terrestrial invertebrates occurring within the Study Area in the last ten years, including the butterflies Purple Emperor (*Apatura iris*), and White-letter Hairstreak (*Satyrium w-album*). There are grassland areas and scrub habitats present across the Site that may support other protected and notable invertebrate species (see **PEI Report Volume 3, Appendix 8-D: Terrestrial Invertebrates**).
Aquatic Invertebrates	**Desk Study:** No records of aquatic invertebrates within the Study Area in the last ten years. There are aquatic habitats present with the Site (e.g., ponds and watercourses) with potential to support notable aquatic invertebrate species and assemblages (see **PEI Report Volume 3, Appendix 8-C: Aquatic Ecology**).
Fish	**Desk Study:** Five notable fish species were identified within the Study Area, one of which, European Bullhead (*Cottus gobio*) was within the Site. The other species were European Eel (*Anguilla anguilla*), Brown Trout (*Salmo trutta*), Spined Loach (*Cobitis taenia*) and Barbel (*Barbus barbus*) (see **PEI Report Volume 3, Appendix 8-C: Aquatic Ecology**).
Amphibians	**Desk Study:** Sixty-five records of four amphibian species occurring within the Study Area in the last ten years: Great Crested Newt (*Triturus cristatus*), Smooth Newt (*Lissotriton vulgaris*), Common Frog (*Rana temporaria*) and Common Toad *Bufo bufo*. There are water bodies (ponds) in the Site and within 250 m of the Site (see **PEI Report Volume 3, Figure 8-E-1: Ponds and GCN Survey Locations**). Further investigation of ponds relevant to the Proposed Development will be required to determine their potential suitability for Great Crested Newt and other amphibians.
Reptiles	**Desk Study:** 144 records of three reptile species occurring within the Study Area in the last ten years: Grass Snake (*Natrix helvetica*), Common Lizard (*Zootoca vivipara*) and Slow-worm (*Anguis fragilis*). Reptile habitat is limited across the Site, but there are small areas of grassland habitat, particularly along the River Witham suitable for reptiles (see **PEI Report Volume 3, Appendix 8-F: Reptiles and Common Toad**).
Breeding birds	**Desk Study:** Fifty records of bird species within the Study Area in the last ten years, including specially protected bird species. The habitats in the Site are likely to support nesting birds during the breeding season, including species of conservation concern such as Skylark (*Alauda arvensis*) and Lapwing (*Vanellus vanellus)* (see **PEI Report Volume 3, Appendix 8-G: Breeding Birds**).

Non-breeding (wintering and passage) birds	Trees, scrub and arable fields occurring within the Site have the potential to support notable assemblages of birds during the non-breeding season, including those of conservation concern, such as Linnet (*Linaria cannabina*), Redwing (*Turdus iliacus*) and Fieldfare (*Turdus pilaris*) (see **PEI Report Volume 3, Appendix 8-H: Non-breeding Birds**).
Bats	**Desk Study:** 382 records of 11 bat species occurring within the Study Area in the last ten years, including: Brandt's Bat (*Myotis brandtii*), Brown Long-eared Bat (*Plecotus auritus*), Common Pipistrelle (*Pipistrellus pipistrellus*), Daubenton's Bat (*Myotis daubentonii*), Leisler's bat (*Nyctalus leisleri*), Nathusius' Pipistrelle (*Pipistrellus nathusii*), Natterer's Bat (*Myotis nattereri*), Noctule Bat (*Nyctalus noctule*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Western Barbastelle (*Barbastella barbastellus*) and Whiskered Bat (*Myotis mystacinus*). Within the Site, the species that have been recorded include Noctule Bat, Common Pipistrelle, Soprano Pipistrelle and Brown Long-eared Bat. Habitats within the Site and in the surrounding area, such as trees and buildings, have the potential to support roosting bats. The habitat within the Site also provides low suitability for commuting and foraging bats.
Badger (*Meles meles*)	**Desk Study:** 48 records of Badger occurring within the Study Area in the last ten years, **Field Survey:** The habitats within the Site could support Badger (see **PEI Report Volume 3, Appendix 8-J: Badger**).
Otter (*Lutra lutra*)	**Desk Study:** 73 records of Otter occurring within the Study Area in the last ten years. The watercourses and water bodies occurring within the Site have the potential to support Otter (see **PEI Report Volume 3, Appendix 8-I: Riparian Mammals**).
Water Vole *Arvicola amphibius*	**Desk Study:** Sixty-six records of Water Vole occurring within the Study Area in the last ten years. The watercourses and waterbodies occurring within the Site have the potential to support Water Vole (see **PEI Report Volume 3, Appendix 8-I: Riparian Mammals**).
Brown Hare (*Lepus europaeus*)	**Desk Study:** No records of Brown Hare within the Study Area in the last ten years. The species has the potential to occur across the Site within the arable fields. **Field Survey:** Brown Hare was sighted within the Site during the Phase 1 survey.
Hedgehog (*Erinaceus europaeus*)	No records of Hedgehog within the Study Area in the last ten years. The species has the potential to occur across the Site within the grassland and scrub habitats.
Invasive Non-native Species (INNS)	**Desk Study:** Two invasive non-native plant species: Nuttall's Waterweed (*Elodea nuttallii*) and Canadian Waterweed (*Elodea canadensis*); both found outside the Site boundary and downstream of it.

Two potentially invasive non-native species of macroinvertebrate: (Mud-snail (*Potamopyrgus antipodarum*) and Northern River Cragonyctid (*Crangonyx pseudogracilis*) or Florida Crangonyx (*Crangonyx floridanus*); both found outside the Site boundary and downstream of it.

No records of American Mink occurring within the Study Area in the last ten years were returned.

Six records of Feral Ferret (*Mustela putorius*), a non-native species but not yet properly naturalised on mainland Britain, were returned within the Study Area. The closest record was approximately 300 m from the Site, with another record returned from the A15, which runs immediately adjacent to the Site, however there is no exact location given for this record.
Field Survey: No INNS were recorded within the Site during the Phase 1 Habitat Survey, however the Aquatic Ecology survey recorded Rhododendron on the northern boundary of the Site in Tunman Wood, Nuttall's Waterweed within the Principal Site and Canadian Waterweed within the Cable Corridor.

5. Identification of Ecological Constraints and Recommendations

5.1 Approach to the Identification of Ecological Constraints

5.1.1 Relevant important ecological features (IEFs) that may represent constraints to the Proposed Development, or that provide opportunities to deliver ecological enhancement in accordance with planning policy, are identified in Section 4 of this PEAR.

5.1.2 The NPPF (Ref 13) and local planning policy (summarised in Section 2 of this PEAR) specify requirements for the protection of features of importance for biodiversity. Planning policy is a material consideration when determining planning applications.

5.1.3 Compliance with planning policy requires that the Proposed Development considers and engages the following mitigation hierarchy where there is potential for impacts on relevant ecological features:

a. Avoidance - actions taken to avoid causing impacts to the environment prior to beginning development (for example, moving the development to a different location).

b. Minimisation - measures taken to reduce the duration, intensity, extent and/or likelihood of the unavoidable environmental impacts caused by development (for example, adapting the development design to minimise impacts).

c. Restoration or rehabilitation - actions taken to repair environmental degradation or damage following unavoidable impacts caused by development.

d. Offsets - measures taken to compensate for any adverse environmental impacts caused by development which cannot be avoided, minimised and/or restored (e.g., including habitat creation to offset losses and/or by providing suitable habitats elsewhere (whether in the control of Fosse Green Energy Ltd or otherwise legally enforceable through planning condition).

5.1.4 This hierarchy requires the highest level to be applied where possible. Only where this cannot reasonably be adopted should lower levels be considered. The rationale for the proposed mitigation and/or compensation should be provided with planning applications, including sufficient detail to show that these measures are feasible and would be provided.

5.1.5 In pursuance of the objectives within the NPPF (Ref 13) and the Environment Act 2021 (Ref 7) of providing net gains in biodiversity, consideration should be given to the scope for enhancement as part of the Proposed Development. This should represent biodiversity gain over and

above that achieved through mitigation and compensation. Enhancement could be achieved on and/or off the Site.

5.1.6 The likelihood of the relevant ecological features constraining the Proposed Development has been assessed with reference to the scale described in **Table 7**. The higher the importance of the ecological receptor for the conservation of biodiversity at national and local scales, the more likely it is to be a material consideration during determination of the DCO application for the Proposed Development.

Table 7: Scale of Constraint to the Proposed Development

Likelihood	Definition
High	An actual or potential constraint that is subject to relevant legal protection and is likely to be of material consideration in determining the DCO application (e.g., statutory nature conservation designations and European/nationally protected species). Further assessment or survey likely to be required (as detailed in this PEAR) to support a DCO application.
Medium	An actual or potential constraint that is covered by national or local planning policy and depending on the level of the potential impact as a result of the Proposed Development, may be of material consideration in determining the DCO application. Further assessment or survey may be required (as detailed in this PEAR) to support a DCO application.
Low	Unlikely to be a constraint to development or require further survey prior to submission of a DCO application. Mitigation is likely to be covered under a Construction Environmental Management Plan (CEMP) or precautionary working method statement (e.g., generic requirements for the management of risks to vegetation clearance).

5.2 Biodiversity Net Gain

5.2.1 Surveys to inform the biodiversity net gain (BNG) assessment should be undertaken as appropriate to record the area (or length) of each habitat measured alongside a habitat condition assessment in line with UKHab (Ref 35), as per BNG guidance documents (Ref 36). Biodiversity metrics provide a measure of overall biodiversity value based on habitat type, area, condition, strategic significance and distinctiveness. The current approved metric is Defra's Statutory Metric and this metric is a tool that allows a value of biodiversity to be measured, which is calculated pre- and post-development for three habitat components: Habitat, Rivers and streams and Hedgerows. The change in biodiversity units is calculated for each component and indicates either a net loss, a net gain or no change in biodiversity.

5.2.2 Compliance with planning policy in the NPPF (Ref 13) requires that the Proposed Development considers and implements a mitigation hierarchy, requiring the highest level to be applied, where possible. The mitigation hierarchy (see Section 5.1.3) is also fundamental to BNG. The BNG

assessment will identify the opportunities of the Proposed Development that could contribute to a BNG, in line with the requirements of the Environment Act 2021 (Ref 7), NPS EN-1 (Ref 15), the NPPF (Ref 13), CIEEMs Good Practice Guidance (Ref 37) and local planning policy (Ref 18 and Ref 19).

5.3 Constraints and Requirements: Sites Designated for their Biodiversity Value

Sites Statutorily Designated for their Biodiversity Value

5.3.1 No European sites are present within 10km of the Site and no European sites are designated for birds (within 20 km) or bats (within 30 km). The nearest European site to the Site is Birklands and Bilhaugh SAC, which is located approximately 23 km to the west of the Site (see **PEI Report Volume 3, Figure 8-B-1**) and is designated for its old acidophilous oak woods. Whilst it is acknowledged that the Birklands and Bilhaugh SAC is likely to support roosting bats as it is a woodland habitat, these are not a qualifying feature of the SAC.

5.3.2 The Site is not hydrologically connected to any European sites within the 30 km search area. Beyond the 30 km Study Area, the River Witham and minor watercourses connected to it are linked to the Wash SPA/Ramsar and along the River Witham, the Wash and North Norfolk Coast SAC is approximately 70 km downstream of the Proposed Development. At this distance, there are no potential impacts arising and the Proposed Development will not have a likely significant effect upon these sites.

5.3.3 The desk study identified two statutory sites within the Study Area, Whisby Nature Park LNR and Swanholme Lakes LNR and SSSI, which have been designated for their biodiversity value. (Essential details of these sites are set out in Section 3.1 of this PEA Report with additional information in **PEI Report Volume 1, Chapter 8: Ecology and Nature Conservation** and in **PEI Report Volume 3, Appendix 8-K: HRA Pre-Screening**).

5.3.4 An appraisal of the potential impacts of the Proposed Development on Whisby LNR has identified that there will be no direct impacts. Although only 340 m from the Site boundary, the LNR is on the other side of Thorpe-on-the-Hill, which as its name indicates creates a topographical barrier. Potential indirect impacts could occur and therefore the potential for this to occur should be removed and assessed appropriately once further details of the Proposed Development are known.

5.3.5 An appraisal of the potential impacts of the Proposed Development on Swanholme Lakes SSSI and LNR has identified that there will be no direct impacts. Likewise, due to the absence of any ecological pathways between the Proposed Development and this SSSI and LNR, there will be no indirect effects. Swanholme Lakes SSSI and LNR is 4 km from the Site boundary within the intervening landscape including residential areas, industry, main roads (A46 and A4134) and the Nottingham to Lincoln main line railway.

5.3.6 From a hydrological viewpoint, should any pollution be caused from the Proposed Development, e.g. a spill during construction, the Prial Drain which flows along the western side of Swanholme Lakes SSSI and LNR is protected by the hydrological barrier in the form of Hartsholme Lake. Pike Drain is over 800 m to the south and downstream of the Swanholme Lakes SSSI and LNR.

5.3.7 It is concluded that the Proposed Development will not have any impact on Swanholme Lakes SSSI and LNR.

5.3.8 Were the River Witham to back up Pike Drain, the water quality in the river would be better due to the Proposed Development, e.g. less sediment due to change from arable to grassland and reduced levels of nutrients and pesticides, neither of which would be applied in the operational phase of the Proposed Development. It is also likely that the incidence of excessive river levels would be reduced due to the greater storage capacity in the Proposed Development and grassland vegetation and its dampening effect on runoff and overall discharge.

5.3.9 The potential indirect impacts on Whisby LNR will be assessed as part of the air quality assessment and the water and drainage investigations. If necessary, when details of the Proposed Development are developed, suitable management plans will need to be prepared (such as a Construction and Environmental Management Plant (CEMP)) to ensure best practice guidance is followed during construction, and to ensure indirect impacts do not occur.

Sites Non-statutorily Designated for their Biodiversity Value

5.3.10 The desk study identified 29 non-statutory sites designated for nature conservation within the Study Area set out in Section 4 of this PEAR and presented in **Table 3**. Three of these LWSs were within the Site; one within the Principal Site and two within the Cable Corridor (i.e. Navenby Heath Road Verges LWS, Navenby, Green Man Road Verges LWS and River Witham, Aubourn to Beckingham LWS). Three LWSs are immediately adjacent to the Site; two within the Principal Site and one within the Cable Corridor (i.e. Tunman Wood LWS, Tunman Wood North LWS and Gorse Lane LWS).

5.3.11 The Proposed Development should be designed to avoid direct impacts (i.e., through habitat loss) to these sites and to avoid the potential for indirect impacts (e.g., from pollution events or changes in air quality) during construction. Direct and indirect impacts will need to be assessed fully when details of the Proposed Development are developed and suitable management plans will need to be prepared (such as a Construction and Environmental Management Plant (CEMP)) to ensure best practice guidance is followed during construction, and to ensure any predicted impacts do not occur.

5.4 Constraints and Requirements: Habitats

5.4.1 Notable habitats within the Site potentially impacted by the Proposed Development, include Rivers and streams, Standing Waters, Arable Field Margins, Hedgerows and Lowland Mixed Deciduous Woodland, as identified in **Table 5**. Further investigation of these habitats is required to determine their quality and extent and whether they meet the relevant criteria to qualify as suitable priority habitats. As such, further surveys (e.g., of hedgerows and arable field margins as well as areas where impacts cannot be avoided) will be undertaken across the Proposed Development.

5.4.2 The Proposed Development will avoid, protect and retain notable habitats where practicable, all of which will be included in the design. This will include:

a. offsets of at least 25 m from existing boundary features (e.g. woodlands);

b. offsets applicable to each tree's root protection area (RPA) (Ref 34) for individual trees (at least 25 m) and trees occurring within hedgerows (at least 10 m);

c. a minimum no development buffer of 5 m from hedgerows without trees;

d. a minimum offset of 10 m from the banks of watercourses as per Environment Agency guidelines; and

e. suitable no development buffers (minimum 10 m) dependent on the aquatic habitat present from water bodies (such as ponds) to protect aquatic habitats.

5.4.3 A Landscape and Biodiversity Management Plan (or similar document) and BNG assessment are required to integrate green and blue infrastructure and biodiversity into the Proposed Development to meet requirements under the NPPF and Local Planning Policy and to inform the design of the Proposed Development.

5.5 Constraints and Requirements: Species

Flora

5.5.1 There are records of notable plants occurring within the Study Area in the last ten years, including Bluebell and Penny Royal. Field surveys of habitats, including grassland areas, arable field margins, watercourses and other notable habitats will be required to determine their value and whether these habitats support any protected or notable flora.

5.5.2 Where these habitats cannot be avoided, such as arable field margins, further Phase 2 Botanical Surveys will be undertaken across the Site to identify species and any areas of notable plant communities.

Terrestrial Invertebrates

5.5.3 Two records of notable terrestrial invertebrates were recorded within the Study Area in the last ten years, comprising the butterflies Purple Emperor and White-letter Hairstreak. The Site has limited scope in terms of extent and quality of habitat to support protected and notable terrestrial invertebrates or invertebrate communities, identified as being present within the wider ZoI during the desk study. Based on the habitats and species recorded during the desk study, any potentially important habitats (i.e., woodland, hedgerows and arable field margins) are unlikely to be impacted by the Proposed Development (through retention of such habitats) and would be suitably buffered to avoid unnecessary damage during construction (see Section 5.4.2) and therefore reduce impacts to terrestrial invertebrates.

5.5.4 The arable habitat apart (comprising a minimum of 90% of the Site), the majority of higher value habitats will be retained and buffered (i.e. hedges, mature/veteran trees and grassland), a scoping survey to determine the potential for protected or notable terrestrial invertebrate species or communities to be present should be undertaken by a specialist entomologist. This will determine the requirement for any avoidance measures or further targeted surveys to establish the presence of particular species or hotspots for terrestrial invertebrate assemblages.

Aquatic Macroinvertebrates and Macrophytes

5.5.5 There are aquatic habitats present within the Site (such as ponds and ditches/watercourses) that have the potential to support notable aquatic macroinvertebrate species and macrophytes (submerged, floating and emergent aquatic plants). Whilst the majority of aquatic habitats will be retained, there is potential for direct and indirect impacts to these habitats in the absence of detailed design of the Proposed Development.

5.5.6 Further investigation of watercourses and waterbodies will be required to determine the quality of aquatic habitats associated with ponds and water courses and then the likelihood of such habitats supporting notable aquatic invertebrate species and assemblages.

Amphibians

5.5.7 The desk study identified 70 water bodies within the Site and within 250m of the Site (see **PEI Report Volume 3, Figure 8-E-1: Ponds and GCN Survey Locations**). The data search returned eight records of Great Crested Newt and 57 records of other amphibians (Common Frog, Common Toad and Smooth Newt) occurring within the Study Area. The closest record of Great Crested Newt to the Site was of a negative eDNA sample (confirming Great Crested Newt absence) approximately 40 m from the Site in 2021. All other records exceeded a distance of 250 m from the Site.

5.5.8 Further investigation of the waterbodies that are within or close to the Site will be required where potential impacts are likely because of the Proposed Development in relation to Great Crested Newt. In the first instance, a

habitat suitability assessment will be undertaken using a Habitat Suitability Index (HSI) to categorise the suitability of the waterbodies for Great Crested Newt. Following this, where water bodies are identified as being suitable to support Great Crested Newt, then further surveys (eDNA presence/absence analysis of water samples from water bodies) of those water bodies will be required to determine presence or absence of Great Crested Newt. Surveys of Great Crested Newt using eDNA analysis can only be undertaken between mid-April and the end of June. If presence of Great Crested Newt is confirmed in water bodies through eDNA, then further surveys may be needed to determine the size of the population present and inform the assessment of the potential impacts of the Proposed Development on Great Crested Newt, dependent on licencing requirements. Such surveys can only be undertaken between early April and June; however, two surveys must be undertaken on each water body between mid-April and mid-May (the peak of the breeding season for Great Crested Newt).

5.5.9 It is recommended that waterbodies are avoided, where possible. Where not possible, suitable buffer zones (>20m) would be part of the embedded mitigation.

Reptiles

5.5.10 The data search returned 76 records of Grass Snake, 49 records of Common Lizard and four records of Slow-worm within the Study Area. Habitat potentially suitable to support reptiles was recorded in the Site, including streams and ditches for Grass Snake and grassland areas suitable for other reptile species such as Common Lizard. Further surveys following standard guidelines are recommended to determine the presence or absence of reptiles. Where reptiles are found to be present, mitigation may be required to avoid injuring or harming reptiles during construction.

Birds

5.5.11 There are 50 records of bird species within the Study Area in the last ten years, including of specially protected bird species.

5.5.12 Habitats including woodland, grassland, hedgerows, scrub and arable fields occurring within the Site have the potential to support protected and notable nesting birds during the breeding season, including those of conservation concern such as Skylark and Lapwing. The Proposed Development will result in the direct loss of arable habitat used by notable bird species, particularly ground-nesting farmland birds such as Skylark.

5.5.13 Further surveys of the non-breeding bird assemblage will be required to determine the magnitude of impacts of the Proposed Development on the non-breeding bird assemblage and help define appropriate mitigation.

Bats

5.5.14 The data search returned bat records of at least 11 species within the Study Area, including roost data for Brown Long-eared Bat, Common Pipistrelle,

Natterer's Bat and Soprano Pipistrelle. The extended Phase 1 Habitat Survey identified approximately 300 trees that have suitable features to support bat roosts as well as other woodlands close to the Site with suitable roosting habitats.

5.5.15 The site provides some commuting and foraging habitat for bats. The majority is assessed as of low suitability, comprising 92% arable fields, with watercourses, grassland margins and hedgerows providing higher value commuting and foraging habitat.

5.5.16 A daytime bat walkover (DBW) survey is needed to determine the presence of potential roost features to help inform the design and assess potential impacts. The assumption is that any trees or woodlands with potential roost features will be avoided by the Proposed Development. If any are impacted then further assessment including presence/absence surveys will also be required to refine the assessment further and to determine whether such features support roosting bats. The findings of these surveys will inform any mitigation requirements for roosting bats. Buffer zones around roosts or potential roosts in which there is no development are recommended (>15m from the roost feature as per recommendations for offsets from woodland and trees) where any such features are present.

5.5.17 There is suitable habitat for foraging and commuting bats and therefore, night-time bat walkover (NBW) survey is required based on the assessed overall low suitability of the site. The NBW will comprise bat activity transect and static detector surveys to determine species and flight paths across the Site to assess potential impacts of the Proposed Development on foraging and commuting bats.

Badger

5.5.18 There are desk study and field survey records of Badger activity within the Study Area. Owing to legislative provisions under the Protection of Badger Act 1992 (Ref 10), further surveys (following standard guidelines) are required to determine the full extent of Badger presence across the Site and in the wider ZoI (up to 30m from the Site). The findings of these surveys will determine the potential constraints and whether mitigation and/or relevant licences are required to avoid impacts to Badgers or their setts.

Otter, Water Vole and American Mink

5.5.19 The data search returned 73 records of Otter and 66 of Water Vole from within 2 km of the Site. No records of American Mink (*Neovison vison*) were returned by the data search.

5.5.20 The watercourses and waterbodies in the Site have the potential to support Water Vole, Otter and American Mink. The Proposed Development should seek to avoid drainage ditches and any other watercourse in the Site, leaving a minimum working distance of 8 m from the edges of watercourses (or water bodies) to avoid disturbance to Otter and Water Vole.

5.5.21 To ensure adequate baseline information on the presence, or otherwise, of Otter, Water Vole and American Mink occurring in the Site, further surveys of all water bodies and watercourses within the Site for Water Vole and Otter (including suitable adjacent habitats for Otter), along with the potential for Mink will be required. The results of these surveys will identify whether mitigation is required should the Proposed Development result in direct loss of habitats used by Water Vole and Otter or indirect impacts to these species (if present).

5.5.22 Any findings of American Mink should be submitted to the Greater Lincolnshire Nature Partnership to be available to support any American Mink eradication project(s) in the area, e.g. Waterlife Recovery Trust.

Non-native Invasive Species

5.5.23 The data search returned two invasive non-native species of macroinvertebrate and two invasive non-native plant species within the Study Area.

5.5.24 During aquatic field surveys, Rhododendron and two submerged plants, Canadian Waterweed and Nuttall's Waterweed were recorded, therefore biosecurity measures will need to be put in place during construction to prevent their spread further into and beyond the Proposed Development. An invasive non-native species management plan should also be produced to establish the approach to management and eradication of any such species found to be present.

Other Species of Principal Importance (SPI)

5.5.25 The data search returned records of Common Toad within the Study Area, but none within the Site, however this species is likely to be present in suitable habitats (e.g. within or close to waterbodies). The data search did not return any records of Brown Hare, Hedgehog, Polecat or Harvest Mouse within the Study Area, however all these species may be present within the Site. These species receive limited legal protection but are Species of Principal Importance on Section 41 of the NERC Act (Ref 9). As such, precautionary mitigation measures should be recommended to ensure they are not harmed during construction through a Construction Environmental Management Plan (CEMP) or precautionary working method statement.

6. Conclusions

6.1.1 This PEA has identified statutory and non-statutory sites designated for their biodiversity value, notable habitats and species and has assigned a biodiversity importance to these.

6.1.2 Ecological constraints and recommendations have been identified associated with these designated sites, notable habitats and species in relation to the Proposed Development. This includes a high-level impact assessment and recommendations for avoidance and mitigation. The requirements for a Biodiversity Net Gain assessment and a Landscape and Ecological Management Plan have been outlined that would aim to deliver biodiversity enhancement across the Site.

6.1.3 A summary appraisal of ecological constraints (scaled from Low to High as per **Table 7**) and the recommended further requirements are presented in **Table 8** below.

Table 8: Summary appraisal of ecological constraints and further requirements

Receptor	Scale of potential constraint	Further requirements	Number of survey visits required	Survey period	Driver
Sites statutorily designated for their biodiversity value	Medium	No direct impacts (habitat loss) would occur to Sites statutorily designated for their biodiversity value as all are outside of the Proposed Development. However, appropriate buffers will need to be included within the design to protect indirect impacts from occurring (see also Section 5.2).	N/A	N/A	Habitat Regulations (2017) WCA 1981,
Sites non-statutorily designated for their biodiversity value	Medium	Direct and indirect impacts will need to be assessed fully when details of the Proposed Development are developed and suitable management plans will need to be prepared (such as a Construction and Environmental Management Plant (CEMP)) to ensure best practice guidance is followed during construction, and to ensure any predicted impacts do not occur.	N/A	N/A	Habitat Regulations (2017) WCA 1981,
Habitat – condition assessment, River Morph surveys to inform BNG Assessment	Medium / High	A survey to determine the condition of habitats and any other assessments required (such as River Morph surveys) to inform the BNG Assessment.	Initially one survey visit	May to September	Environment Act 2021

Receptor	Scale of potential constraint	Further requirements	Number of survey visits required	Survey period	Driver
Habitat / Plants / Phase 2 survey / Hedgerow	Medium / High	A Phase 2 Botanical Survey and arable plant survey to identify the presence and extent of any potential notable habitats and protected/notable plant species. The surveys will focus on potential priority habitat within the Proposed Development (where impacted). Arable plant surveys will involve walking field boundaries and comparable areas of marginal habitat only.	Two survey visits	May to August (flora) May to September (hedgerows)	WCA 1981, LBAP, UKBAP, NERC Act 2006
Aquatic Habitats / macrophytes / macroinvertebrates / fish	Medium	A scoping assessment of any aquatic habitats potentially directly or indirectly affected by the Proposed Development. This will include an assessment of the potential for aquatic habitats to support protected/notable species. Surveys of selected field ponds and watercourses are likely to be required and will be determined following the scoping survey	Initially one survey visit followed by targeted species surveys, where required	Any time of year, but April to May for scoping in advance of any further surveys that may be required between May and September	LBAP, UKBAP, NERC Act 2006
Terrestrial Invertebrates	Medium / High	A scoping survey to assess the potential of areas within the Site to support protected or notable invertebrate species and assemblages (Depending on the	Initially one survey visit followed by targeted species surveys, where required	Any time of year, but ideally April for scoping in advance of any further surveys that	WCA 1981, NERC Act 2006

Receptor	Scale of potential constraint	Further requirements	Number of survey visits required	Survey period	Driver
		outcomes of these surveys further targeted survey may be required).		may be required between May and October	
Great Crested Newt	High	Undertake HSI assessment of all waterbodies within 500m (where accessible) for their suitability to support Great Crested Newt. Following this, surveys to determine presence or absence of Great Crested Newt within suitable waterbodies (either by eDNA or four survey visits at night). Depending on the outcomes of these surveys further surveys are required to determine the population size and evidence of breeding may be required).	One survey visit for HSI assessment and, where required, followed by presence/absence survey (eDNA or four survey visits) and then up to a total of six survey visits for population survey.	HSI - anytime of year eDNA / population surveys – April to June	Habitat Regulations (2017), WCA 1981, NERC Act 2006, UKBAP, LBAP
Reptiles	Medium	Surveys to identify the presence or absence of reptile species across suitable habitats within the Site.	One survey visit to place the reptile refugia followed by seven survey visits to check for reptiles.	April to June and / or September to October.	WCA 1981, LBAP, UKBAP, NERC Act 2006
Breeding birds	High	Surveys required to determine the breeding bird assemblage across the Proposed Development,	Six survey visits for a territory mapping survey and to determine	March to July (breeding bird assemblage); August/	Birds Directive, WCA 1981, LBAP, UKBAP, NERC Act 2006

Receptor	Scale of potential constraint	Further requirements	Number of survey visits required	Survey period	Driver
		including species listed on WCA Sch. 1.	presence, or absence, of species listed on Schedule 1 of the WCA. Late season survey for Hobby.	September for Hobby.	
Non-breeding birds	Medium / High	Surveys required to determine the non- breeding (wintering) bird assemblage across the Proposed Development.	Six survey visits.	October to March.	Birds Directive, WCA 1981, LBAP, UKBAP, NERC Act 2006
Bats - roosting	High	Surveys to identify potential features on trees and buildings that may support bat roosts (Depending on the findings of this survey and risk to these features, further surveys may be required to determine whether bats are present).	One survey visit to undertake Daytime Bat Walkover (DBW) survey within the Site.	Anytime for DBW (ideally when trees not in leaf, January to February). May to September for roost characterisation (if required)	Habitat Regulations (2017), WCA 1981, LBAP, UKBAP, NERC Act 2006
Bats - foraging	High	Transect surveys and deployment of static detectors to identify important areas across the Proposed Development used by commuting and foraging bats.	Night-time Bat Walkover (NBW) required between April and October, including the deployment of static detectors.	April to October	Habitat Regulations (2017), WCA 1981, LBAP, UKBAP, NERC Act 2006

Receptor	Scale of potential constraint	Further requirements	Number of survey visits required	Survey period	Driver
Otter	High	Undertake a presence / absence survey, including the presence of any Otter holts on watercourses and water bodies that may be affected by the Proposed Development.	At least two survey visits.	Winter and Spring is best, but the survey can be undertaken at any time of year	WCA 1981
Water Vole	High	Undertake a presence / absence survey on watercourses and water bodies that may be affected by the Proposed Development.	Two survey visits.	April to June and July to September	WCA 1981
American Mink	Medium / High	Undertake a presence / absence survey on watercourses and water bodies that may be affected by the Proposed Development, during Otter and Water Vole surveys.	Two survey visits.	Winter and Spring is best, but the survey can be undertaken at any time of year	WCA 1981,
Badger	Medium / High	Survey to record evidence of Badger activity within the Site to identify setts to avoid and/or identify mitigation requirements.	One survey visit.	Any time of year, ideally when vegetation not in leaf (i.e. October to February)	Protection of Badger Act 1992
Hedgehog, Brown Hare, Polecat and Harvest Mouse.	Low	No further survey required, but mitigation and enhancement delivered as part of the Proposed Development should look to avoid disturbance to these species,	N/A.	-	SPI under the NERC Act

Receptor	Scale of potential constraint	Further requirements	Number of survey visits required	Survey period	Driver
		retain habitats and ensure that connectivity is maintained throughout the Proposed Development and into the wider area. All species are likely to benefit from a reduction in intensively managed agricultural land.			
Invasive Non-native Species	Medium / High	No further investigation is required. Given the presence of invasive non-native species in the Study Area, a Biosecurity Management Plan should be produced to ensure that not only does the Proposed Development avoid spreading any such species in the wild beyond the boundary of the Site, but that no such invasive non-native species are brought onto the Site, e.g. on excavators or other plant with soil from previous sites which could have been contaminated by seeds or rhizomes.	Ongoing.	April to September	WCA 1981, Invasive Alien Species Order 2019

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Annex A Figures

PEI Report Volume 3, Figure 8-B-1: Statutory Designated Sites

PEI Report Volume 3, Figure 8-B-2: Non-statutory Designated Sites and Priority Habitats

PEI Report Volume 3, Figure 8-B-3: Phase 1 Habitat Survey

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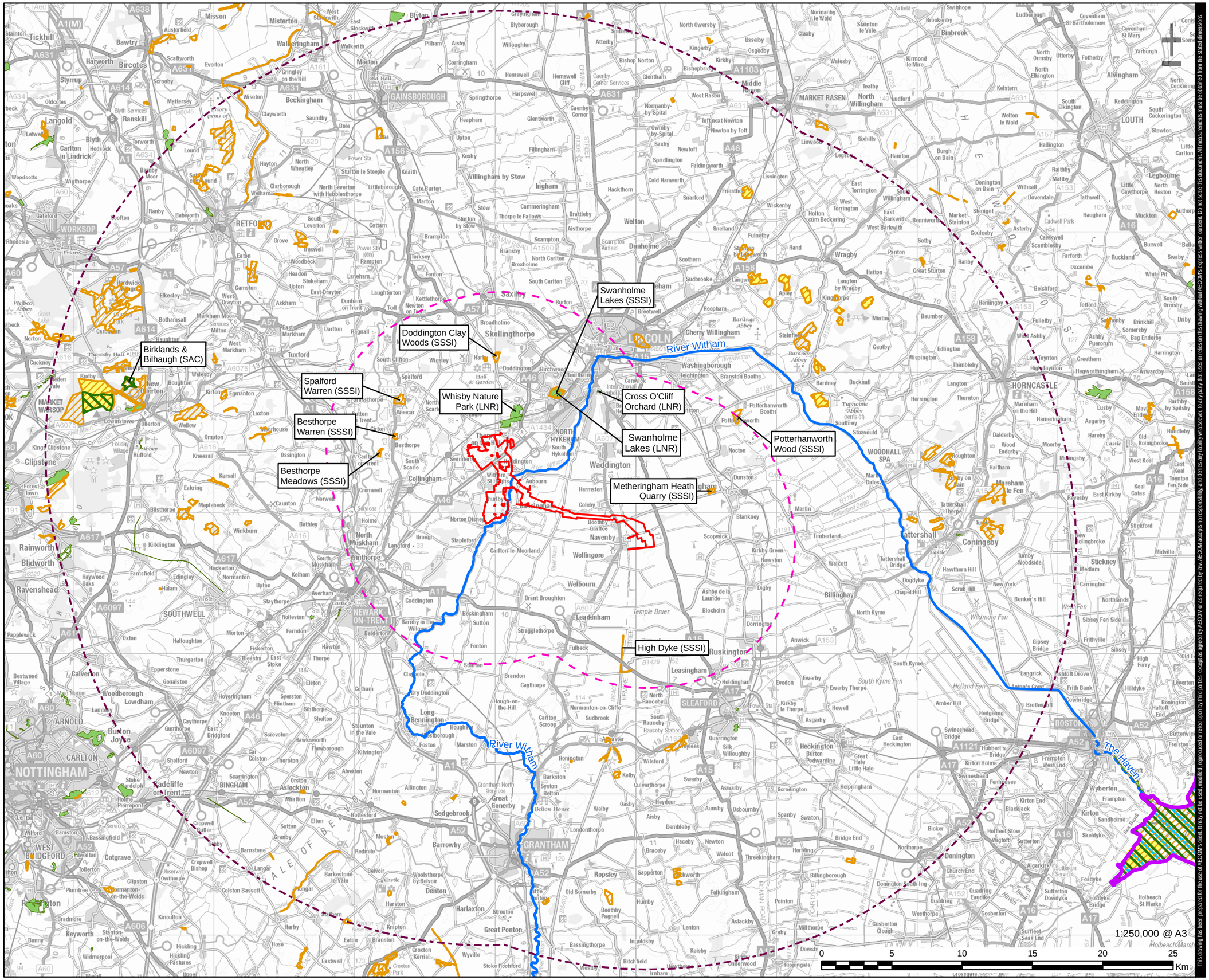

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LEGEND

- Site Boundary
- 10km Study Area
- 30km Study Area

International Sites within 30km of Site

- Special Areas of Conservation (SAC)
- Special Protection Area (SPA) *Note, none within 30km of the site*
- Ramsar *Note, none within 30km of the site*

Statutory Sites within 10km of Site

- Site of Special Scientific Interest (SSSI)
- Local Nature Reserve (LNR)
- National Nature Reserve (NNR) *Note, none within 10km of the site*
- River Witham

NOTES

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FIGURE TITLE

Statutory Designated Sites

FIGURE NUMBER

Figure 8-B-1

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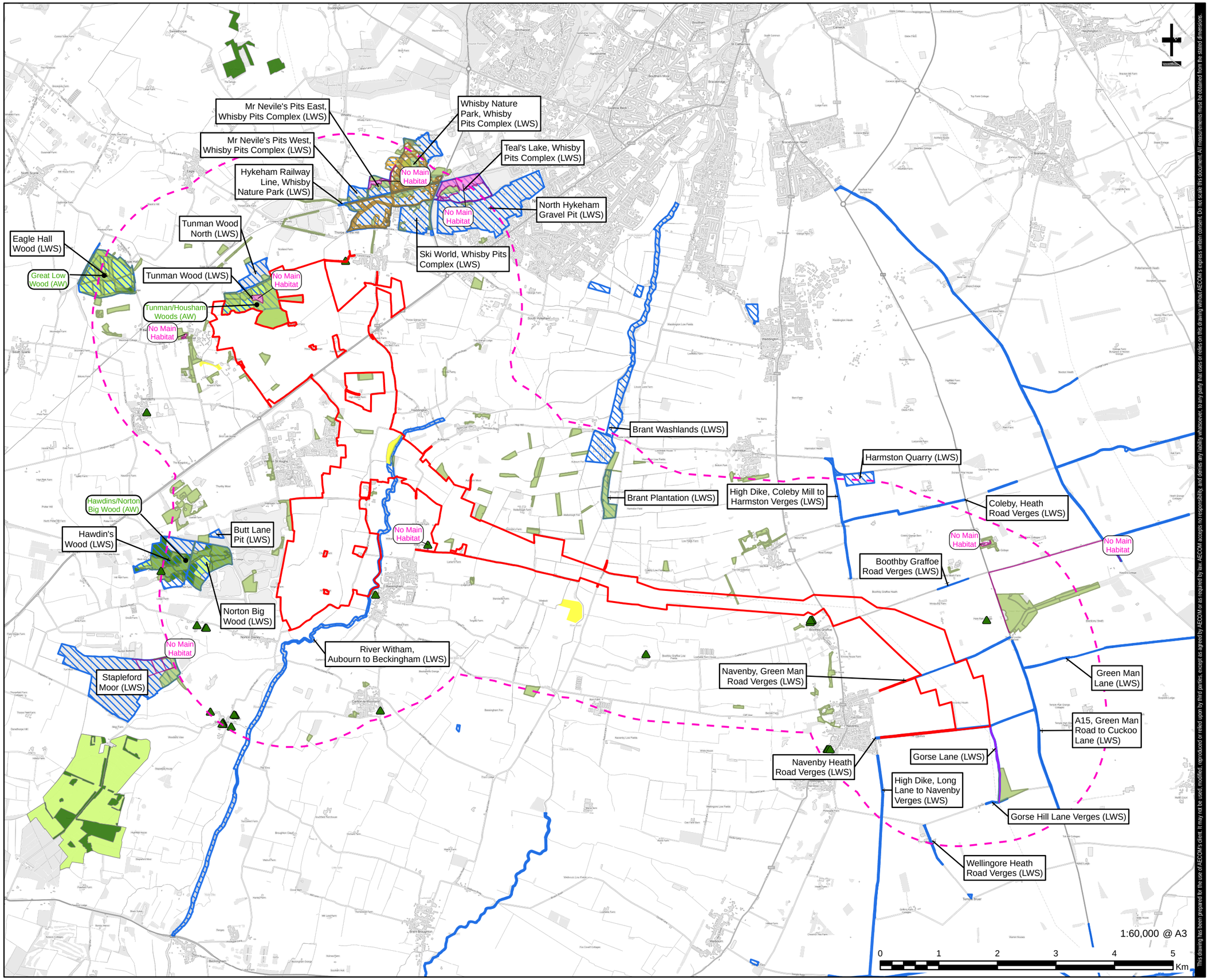

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LEGEND

- Site Boundary
- 2km Study Area
- Local Wildlife Site (LWS)
- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

Priority Habitats Inventory (within study area)

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland heathland
- Reedbeds
- Traditional orchard
- No main habitat but additional habitats present

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FIGURE TITLE

Non-statutory Designated Sites and Priority Habitats

FIGURE NUMBER

Figure 8-B-2

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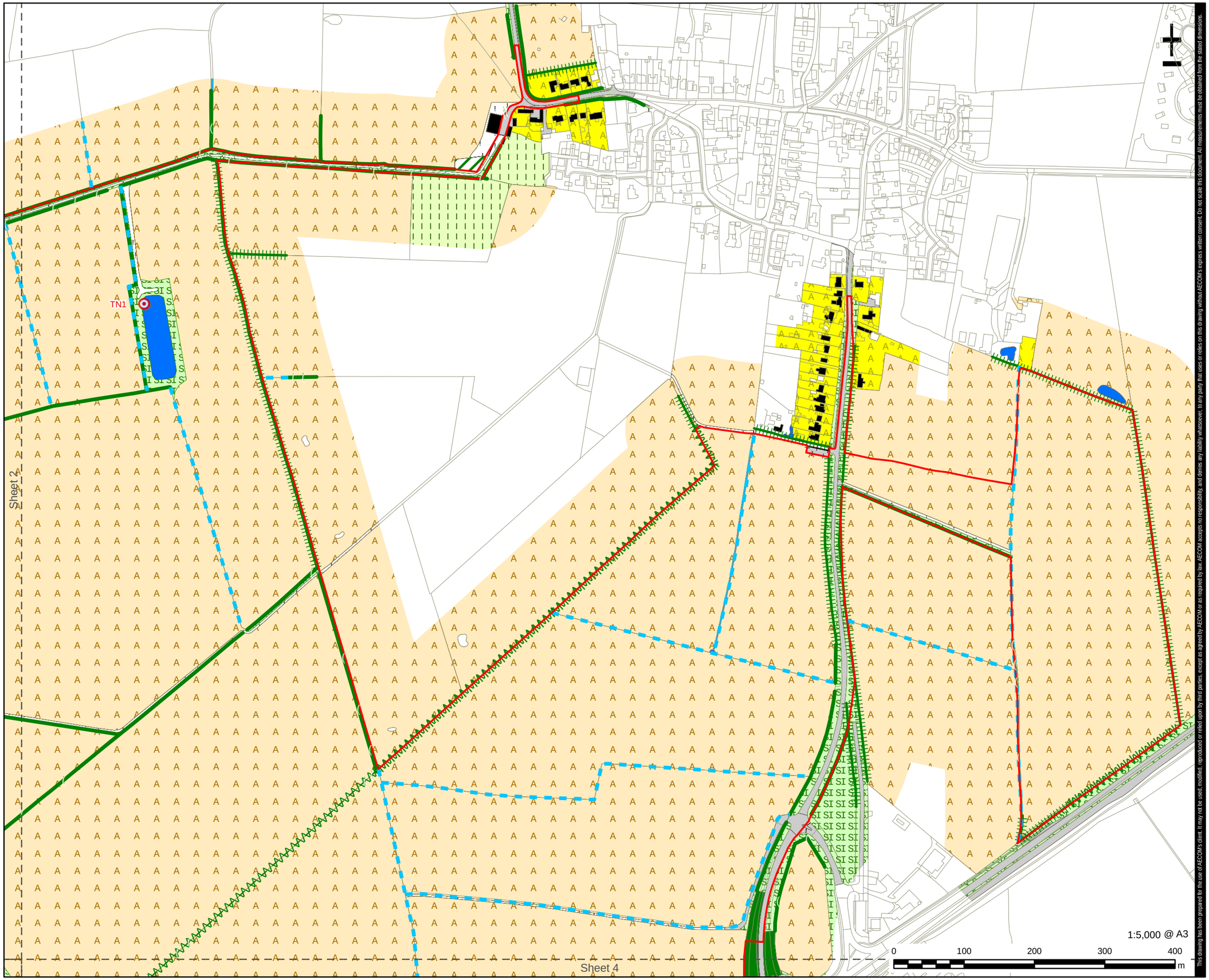

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LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Improved grassland
- Poor semi-improved grassland
- Standing water
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Intact hedge - species-poor
- Defunct hedge - native species-rich
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Dry ditch
- Broadleaved tree
- Target Note

SHEET LAYOUT

NOTES

ISSUE PURPOSE

PEA Report

PROJECT NUMBER

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FIGURE TITLE

Phase 1 Habitat Survey

FIGURE NUMBER

Figure 8-B-3

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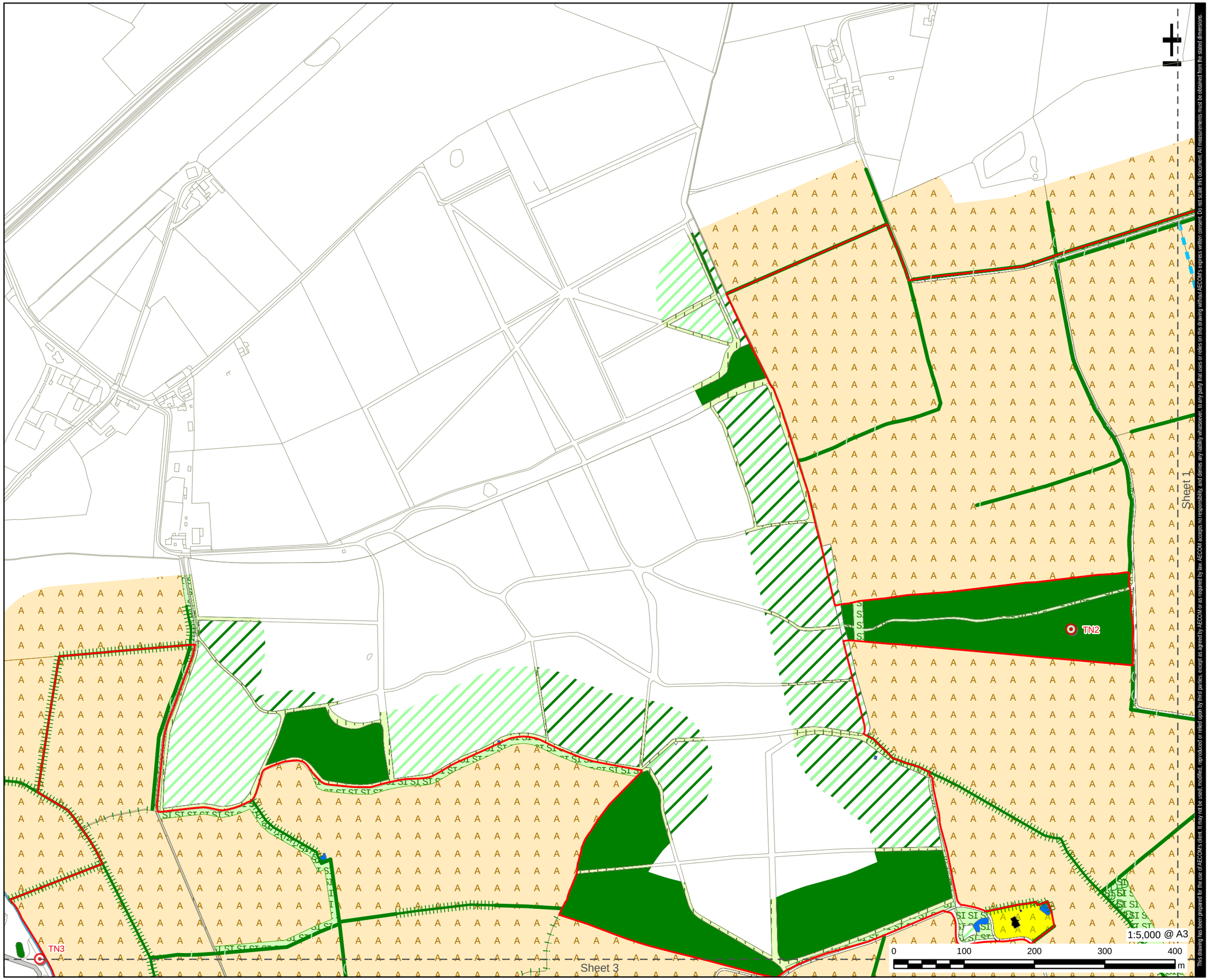

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LEGEND

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- Broadleaved woodland - semi-natural
- Coniferous woodland - plantation
- Mixed woodland - plantation
- Improved grassland
- Poor semi-improved grassland
- Standing water
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Broadleaved parkland/scattered tree line
- Intact hedge - species-poor
- Hedge with trees - species-poor
- Dry ditch
- Scrub
- Broadleaved tree
- Target Note

SHEET LAYOUT

NOTES

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Figure 8-B-3

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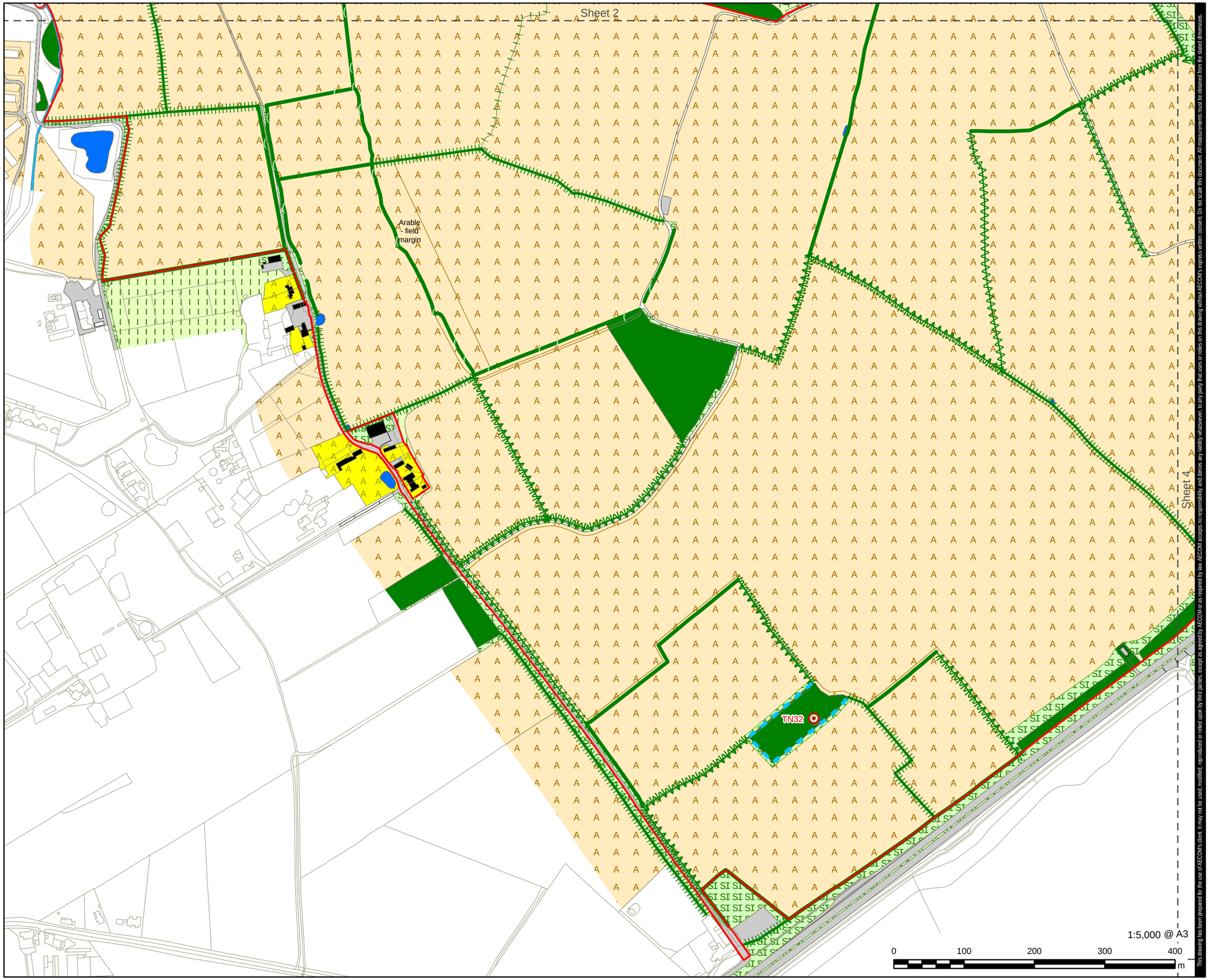

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- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Broadleaved parkland/scattered tree line
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Dry ditch
- Broadleaved tree
- Target Note

SHEET LAYOUT

NOTES

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Phase 1 Habitat Survey

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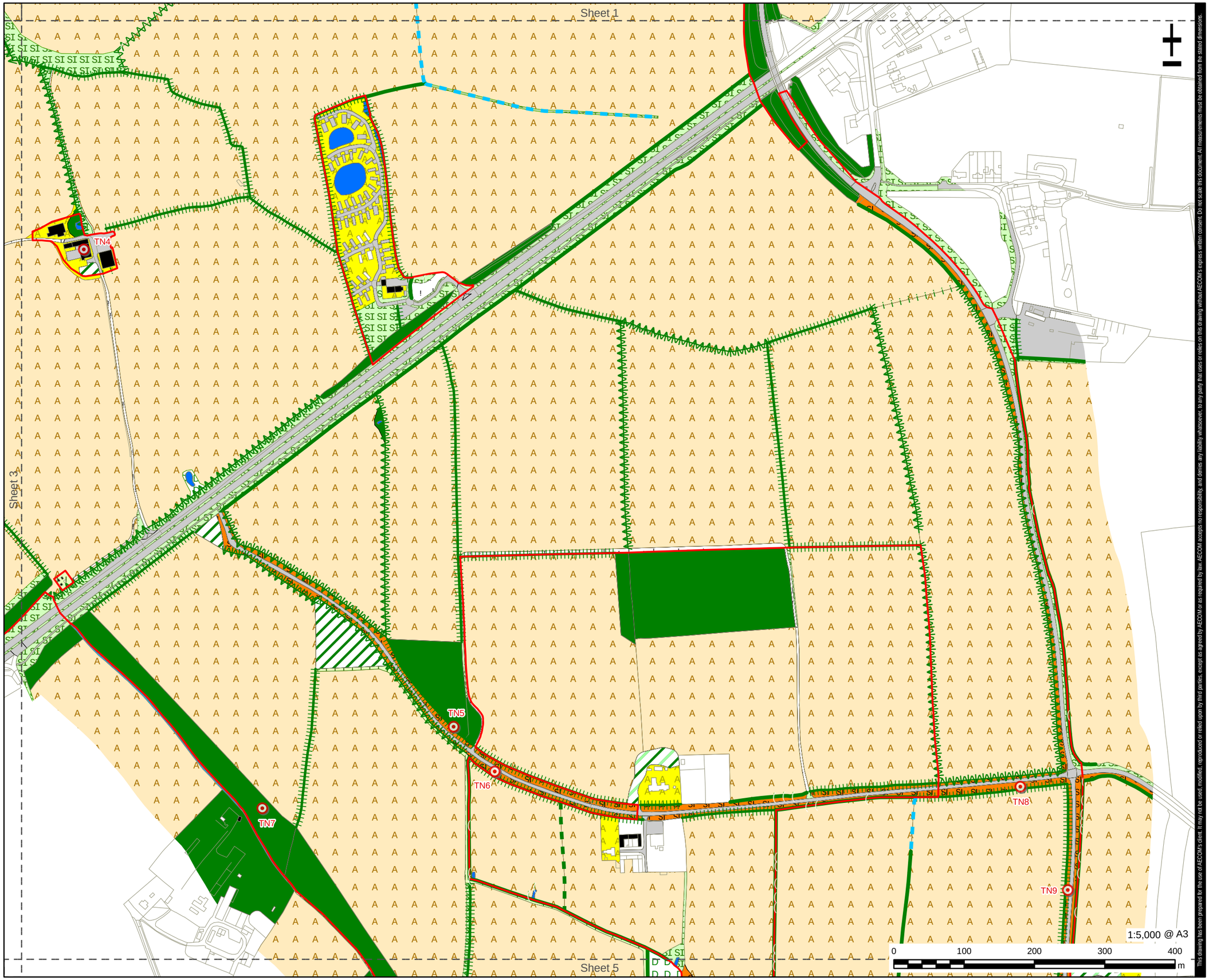

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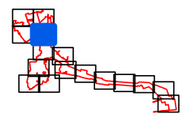
LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Scrub - scattered
- Neutral grassland - semi-improved
- Improved grassland
- Poor semi-improved grassland
- Standing water
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Broadleaved parkland/scattered tree line
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - native species-rich
- Defunct hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Dry ditch
- Broadleaved tree
- Target Note

SHEET LAYOUT



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Phase 1 Habitat Survey

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Figure 8-B-3

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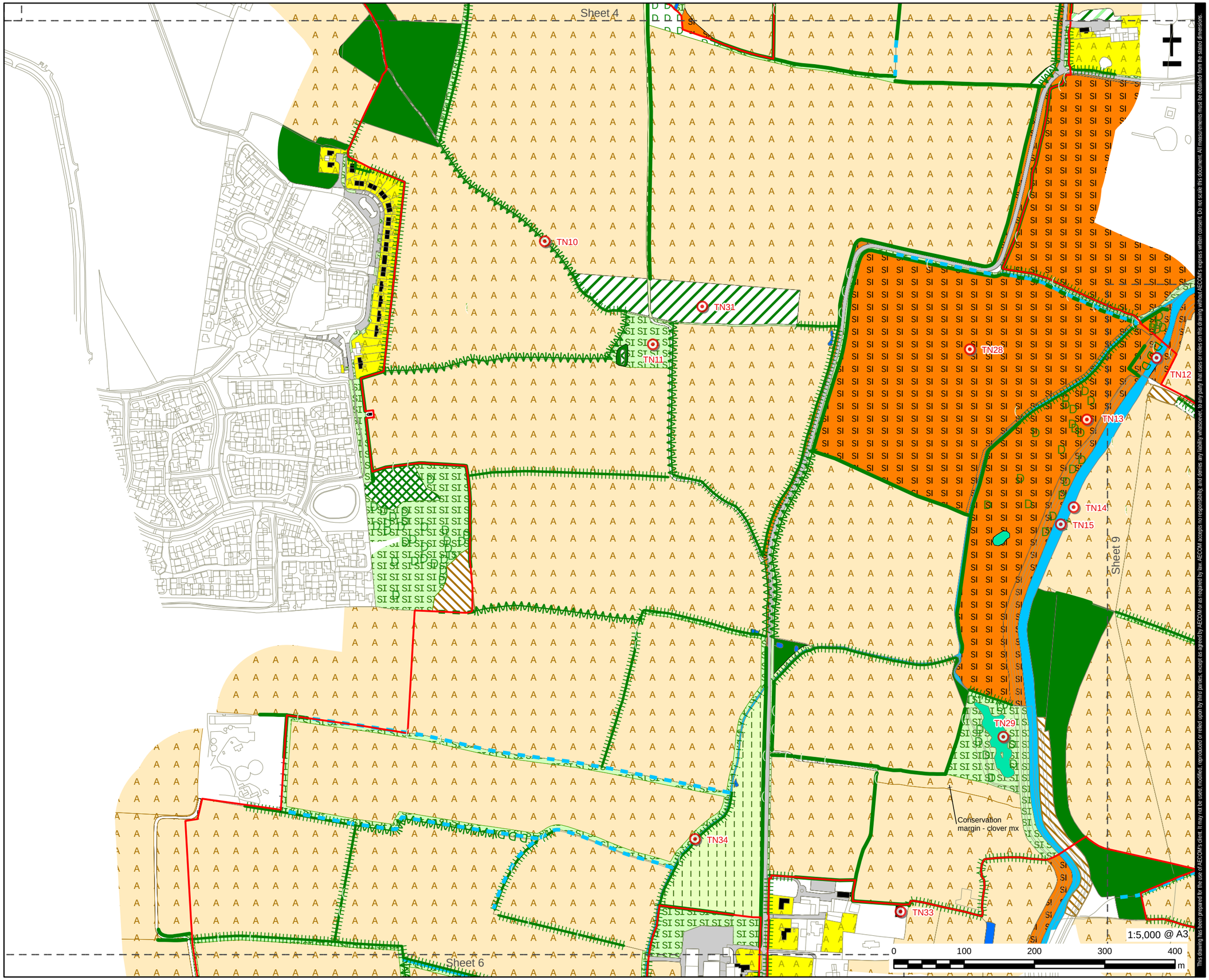

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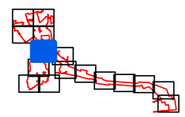
LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Scrub - scattered
- Broadleaved parkland/scattered trees
- Neutral grassland - semi-improved
- Improved grassland
- Poor semi-improved grassland
- Other tall herb and fern - ruderal
- Swamp
- Standing water
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Scrub line
- Broadleaved parkland/scattered tree line
- Wet ditch
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Dry ditch
- Scrub
- Broadleaved tree
- Target Note

SHEET LAYOUT



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Phase 1 Habitat Survey

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Figure 8-B-3

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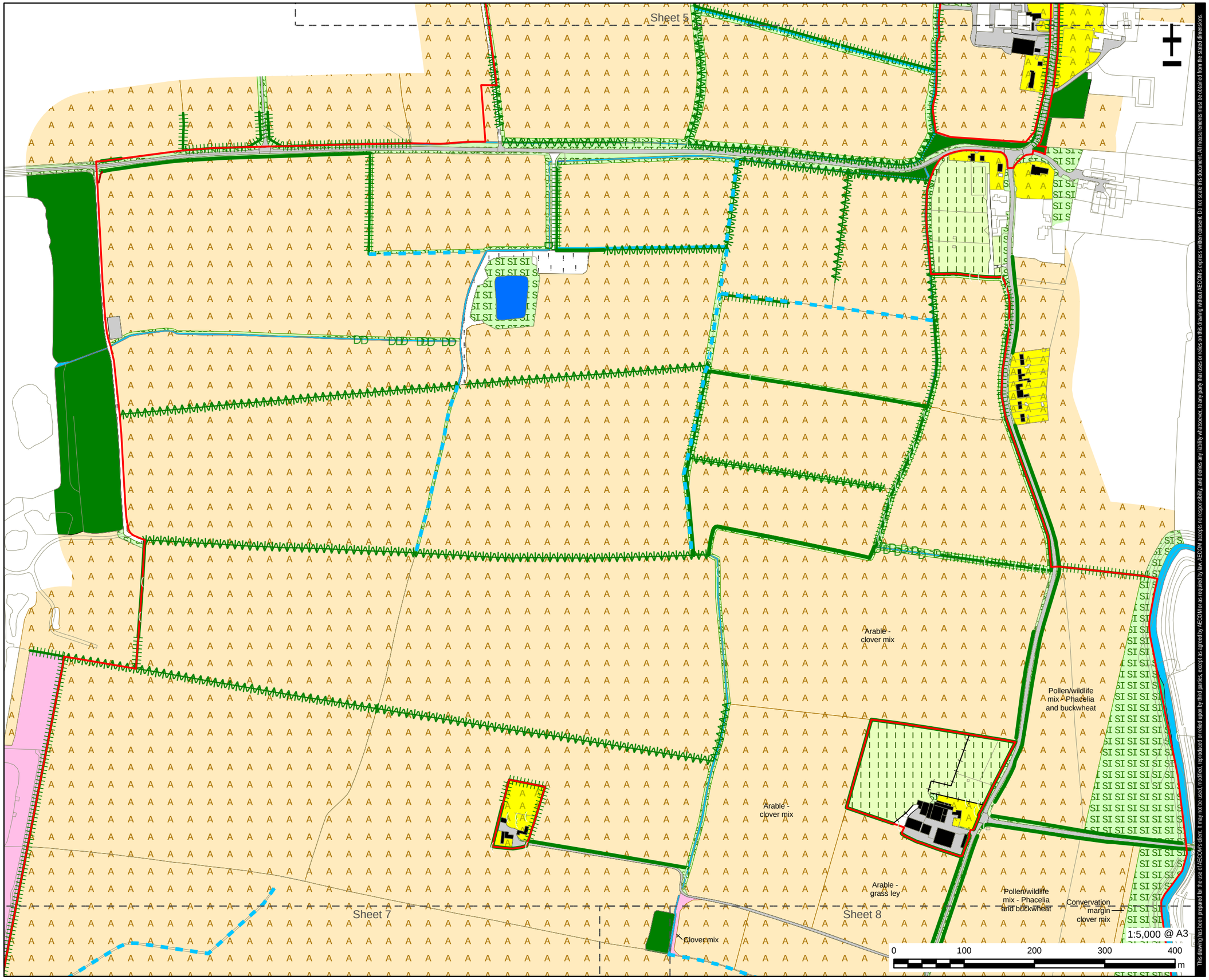

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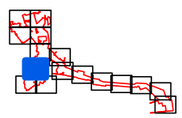
LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Improved grassland
- Poor semi-improved grassland
- Swamp
- Standing water
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Other habitat
- Scrub line
- Broadleaved parkland/scattered tree line
- Wet ditch
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Wall
- Dry ditch
- Scrub
- Broadleaved tree

SHEET LAYOUT



NOTES

ISSUE PURPOSE

PEA Report

PROJECT NUMBER

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FIGURE TITLE

Phase 1 Habitat Survey

FIGURE NUMBER

Figure 8-B-3

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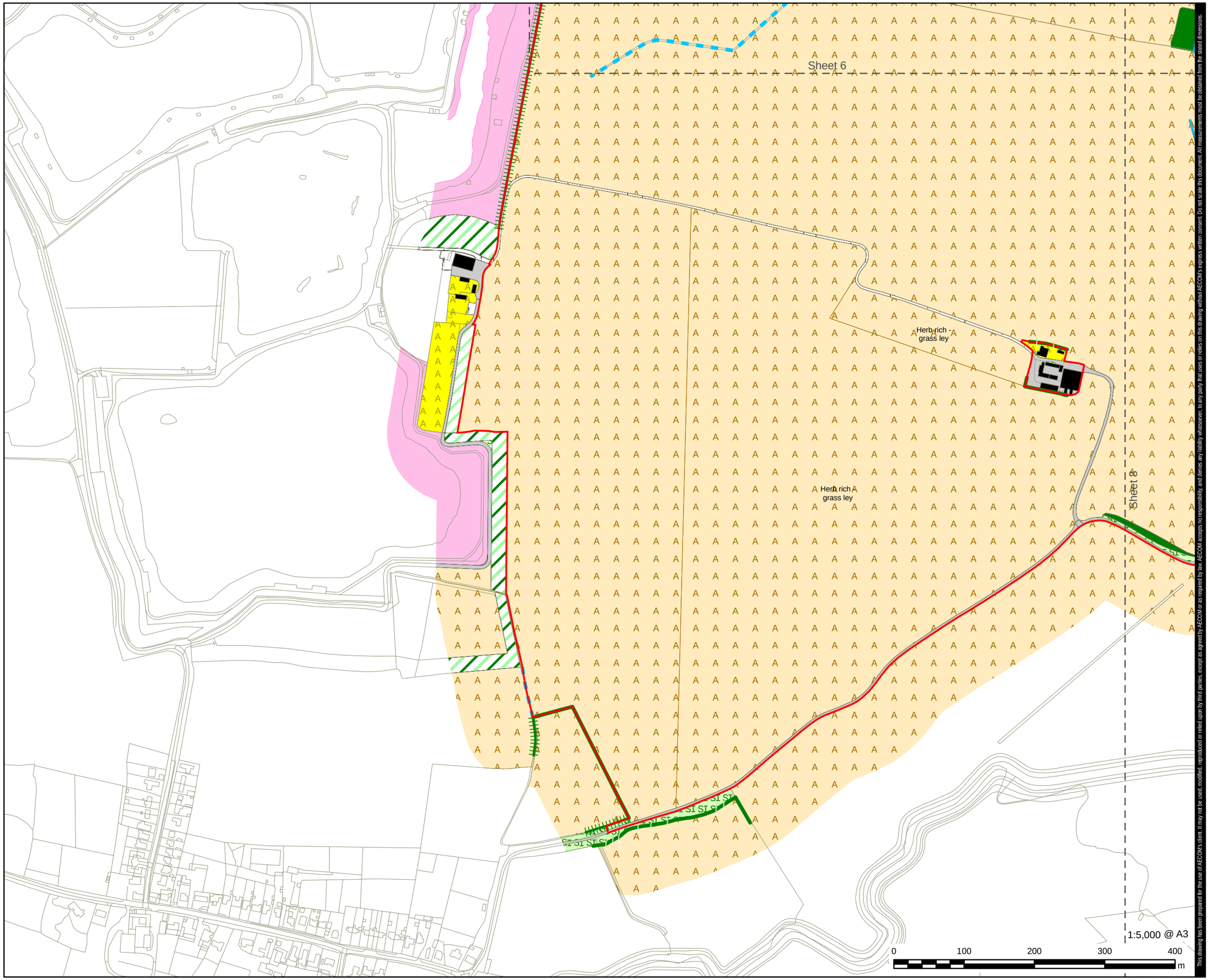

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LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Coniferous woodland - plantation
- Mixed woodland - plantation
- Poor semi-improved grassland
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Other habitat
- Intact hedge - species-poor
- Hedge with trees - species-poor
- Dry ditch
- Broadleaved tree

SHEET LAYOUT

NOTES

ISSUE PURPOSE

PEA Report

PROJECT NUMBER

60664324

FIGURE TITLE

Phase 1 Habitat Survey

FIGURE NUMBER

Figure 8-B-3

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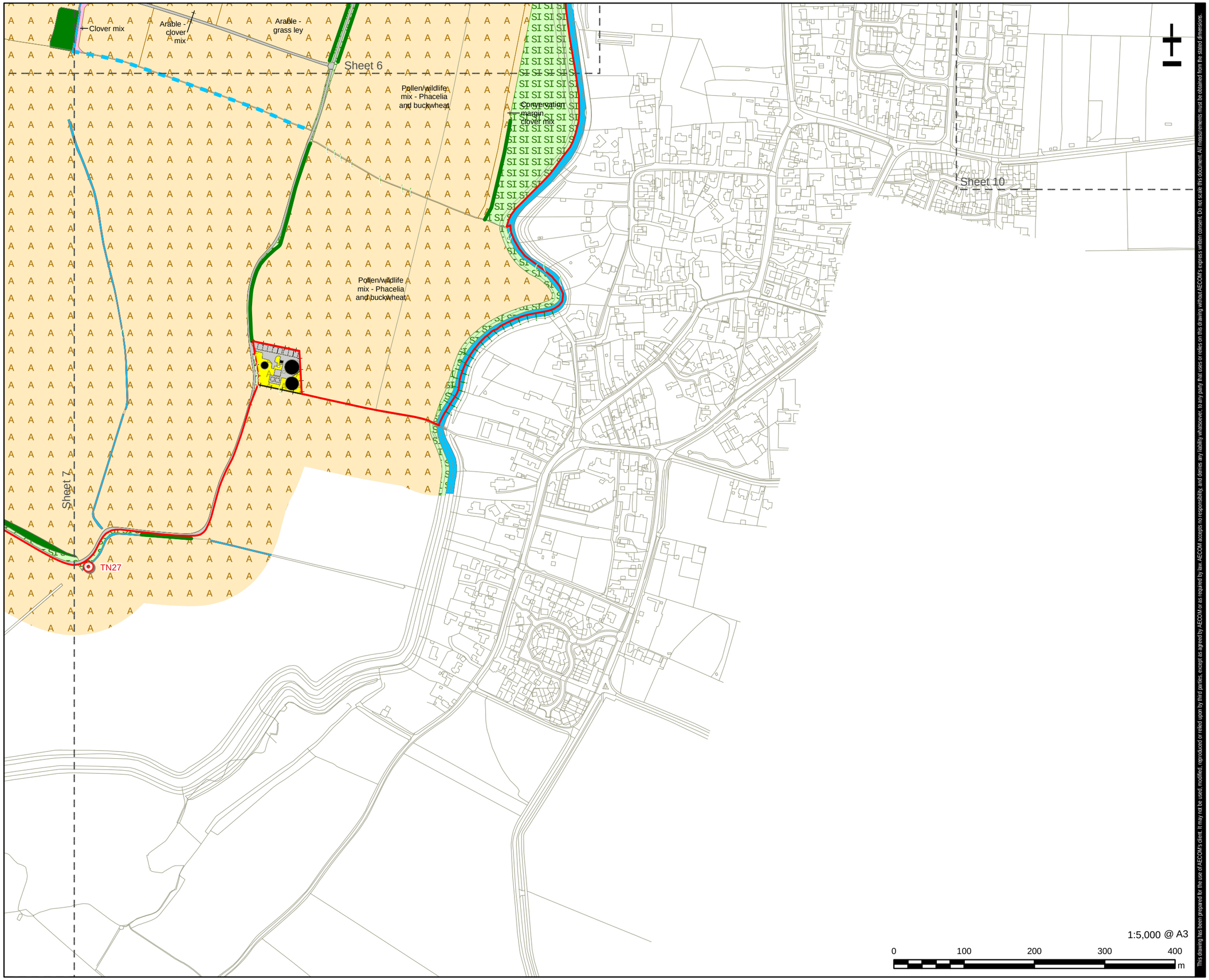

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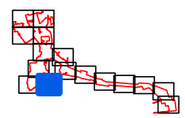
LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Poor semi-improved grassland
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Other habitat
- Broadleaved parkland/scattered tree line
- Intact hedge - species-poor
- Fence
- Dry ditch
- Broadleaved tree
- Target Note

SHEET LAYOUT



NOTES

ISSUE PURPOSE

PEA Report

PROJECT NUMBER

60664324

FIGURE TITLE

Phase 1 Habitat Survey

FIGURE NUMBER

Figure 8-B-3

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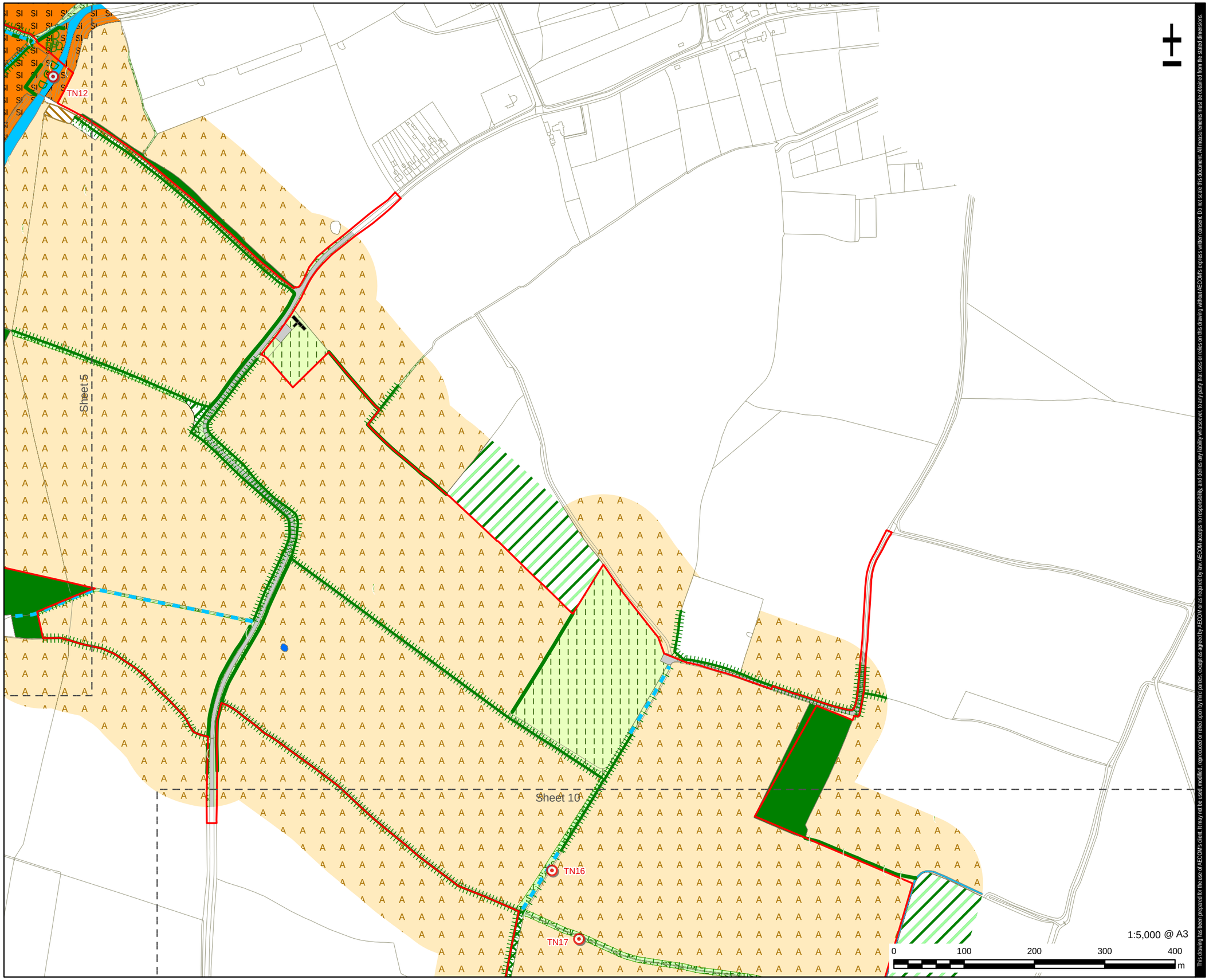

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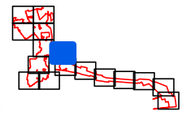
LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Broadleaved parkland/scattered trees
- Neutral grassland - semi-improved
- Improved grassland
- Poor semi-improved grassland
- Other tall herb and fern - ruderal
- Standing water
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Buildings
- Bare ground
- Scrub line
- Broadleaved parkland/scattered tree line
- Wet ditch
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - species-poor
- Dry ditch
- Scrub
- Broadleaved tree
- Target Note

SHEET LAYOUT



NOTES

ISSUE PURPOSE

PEA Report

PROJECT NUMBER

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FIGURE TITLE

Phase 1 Habitat Survey

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Figure 8-B-3

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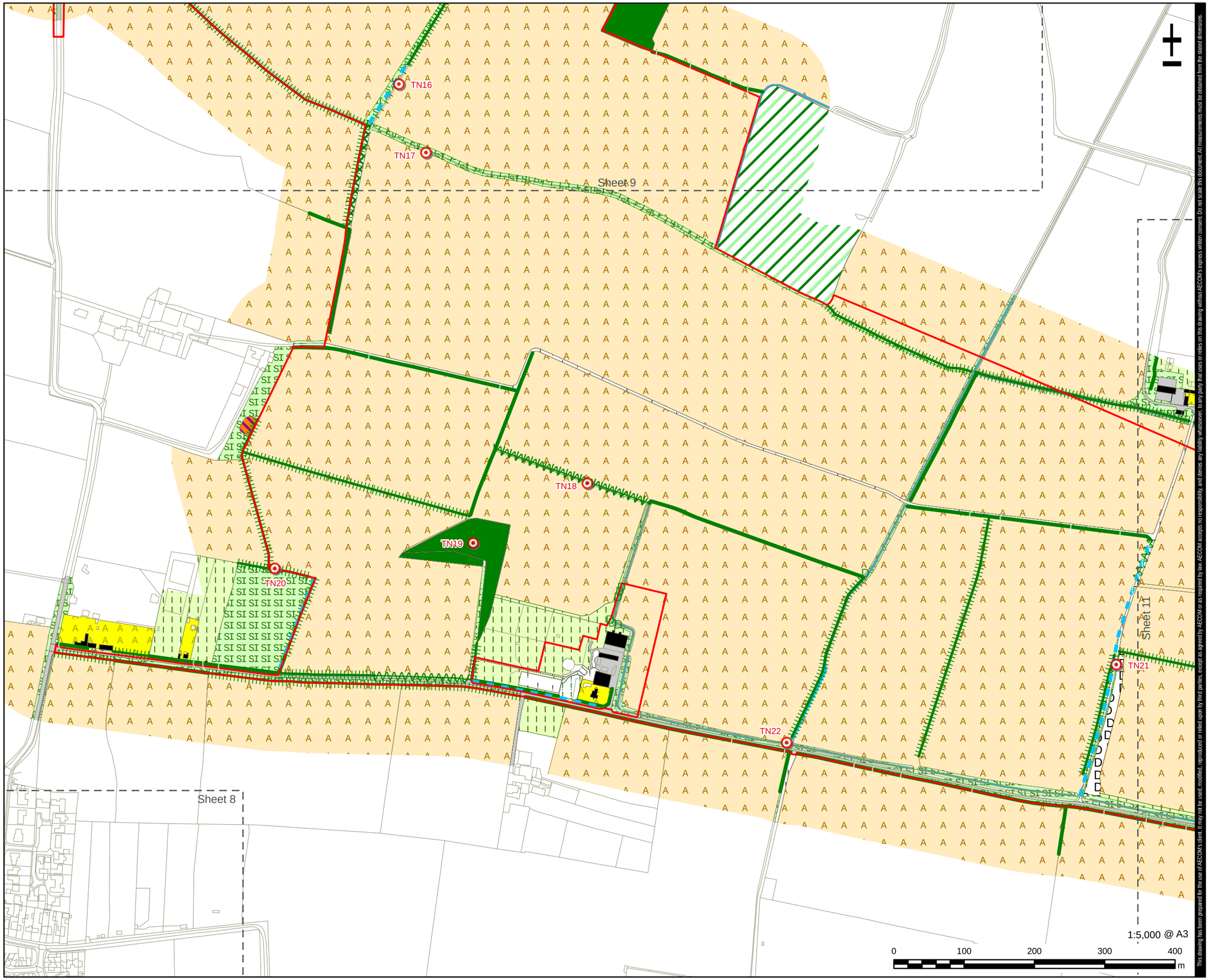

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LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Mixed woodland - plantation
- Scrub - dense/continuous
- Broadleaved parkland/scattered trees
- Neutral grassland - semi-improved (SI)
- Improved grassland
- Marsh/marshy grassland
- Poor semi-improved grassland (I SI S)
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Buildings
- Bare ground
- Broadleaved parkland/scattered tree line
- Wet ditch
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Dry ditch
- Scrub (D)
- Broadleaved tree
- Target Note

SHEET LAYOUT

NOTES

ISSUE PURPOSE

PEA Report

PROJECT NUMBER

60664324

FIGURE TITLE

Phase 1 Habitat Survey

FIGURE NUMBER

Figure 8-B-3

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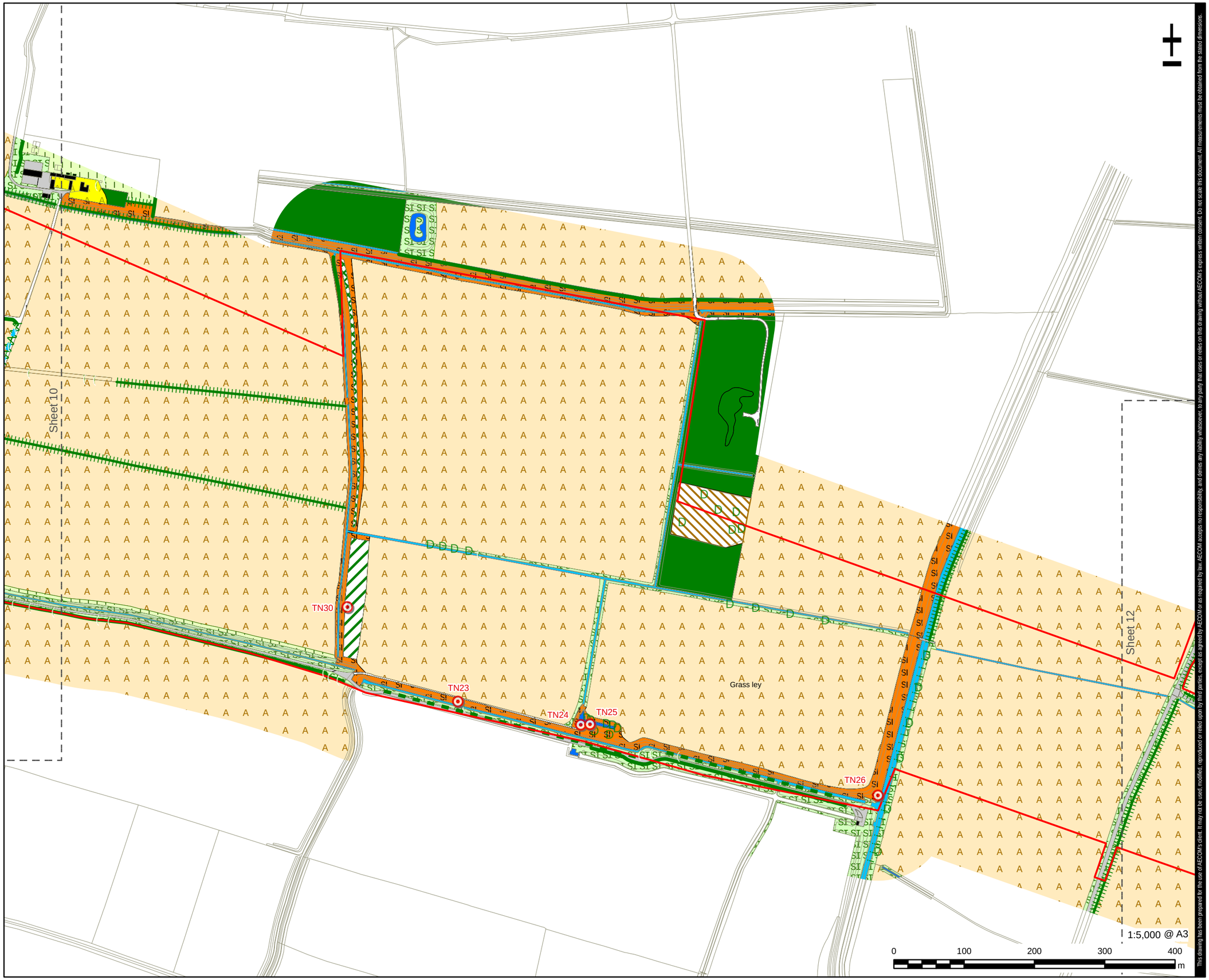

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- Broadleaved woodland - plantation
- Scrub - dense/continuous
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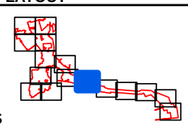
- Improved grassland
- Poor semi-improved grassland
- Other tall herb and fern - ruderal
- Standing water
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Broadleaved parkland/scattered tree line
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - species-poor
- Dry ditch
- Scrub
- Broadleaved tree
- Target Note

SHEET LAYOUT



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PROJECT NUMBER

60664324

FIGURE TITLE

Phase 1 Habitat Survey

FIGURE NUMBER

Figure 8-B-3

Revision: 01 Drawn: BF Checked: MP Approved: KF Date: 2024-10-10

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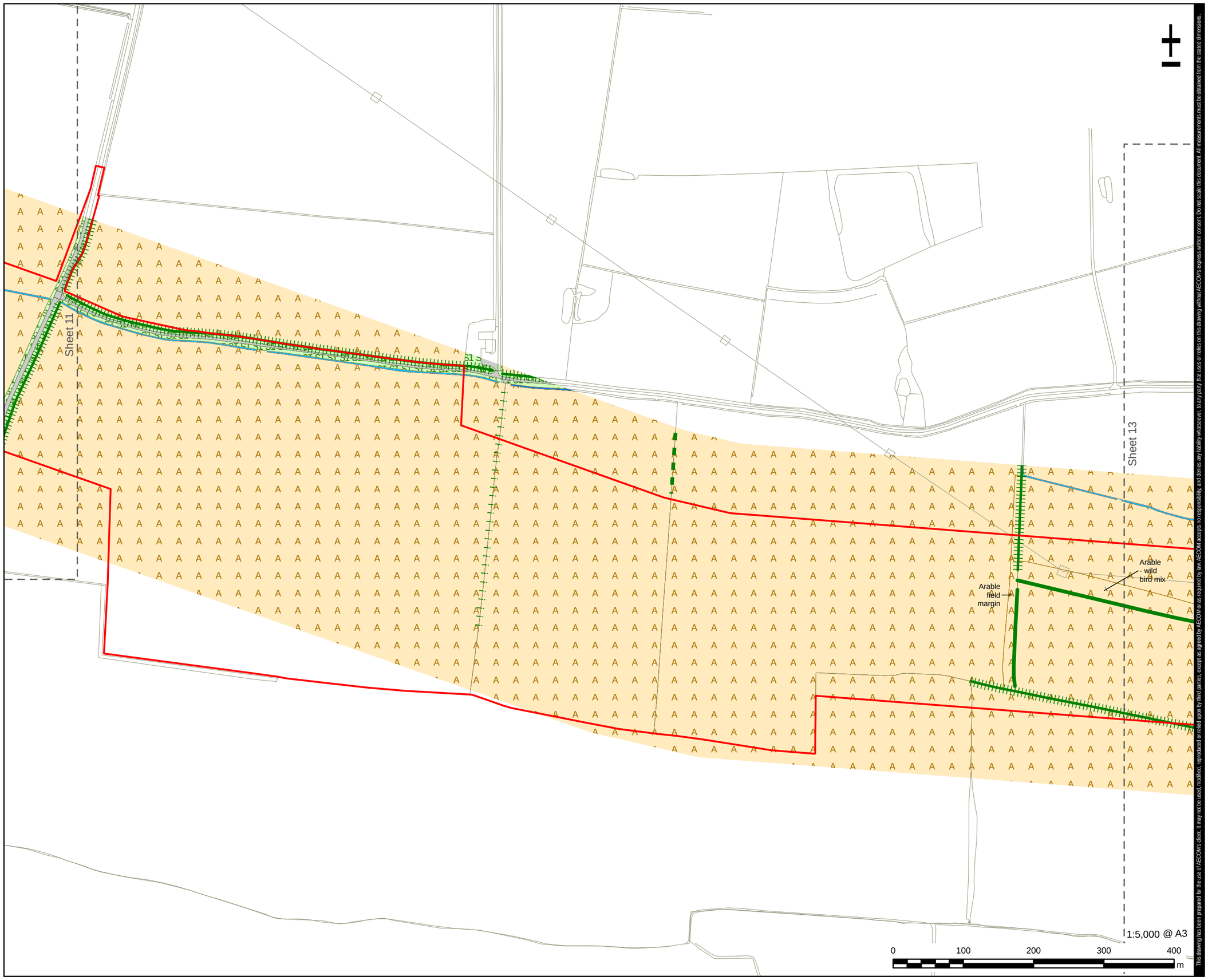


Fosse Green Energy

PROJECT

Fosse Green Energy

CLIENT

Fosse Green Energy Ltd

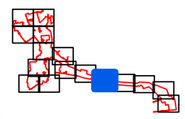
CONSULTANT

AECOM Limited
Sunley House
4 Bedford Park
Surrey, CR0 2AP, UK
www.aecom.com

LEGEND

- Site Boundary
- Poor semi-improved grassland
- Standing water
- Running water
- Hardstanding
- Cultivated/disturbed land - arable
- Broadleaved parkland/scattered tree line
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - species-poor

SHEET LAYOUT



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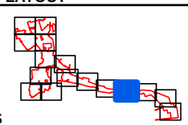
Sunley House
4 Bedford Park
Surrey, CR0 2AP, UK
www.aecom.com

LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Coniferous woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Improved grassland
- Poor semi-improved grassland
- Standing water
- Running water
- Cultivated/disturbed land - arable
- Buildings
- Bare ground
- A3.3 - Mixed parkland/scattered trees
- Wet ditch
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - species-poor
- Dry ditch

SHEET LAYOUT



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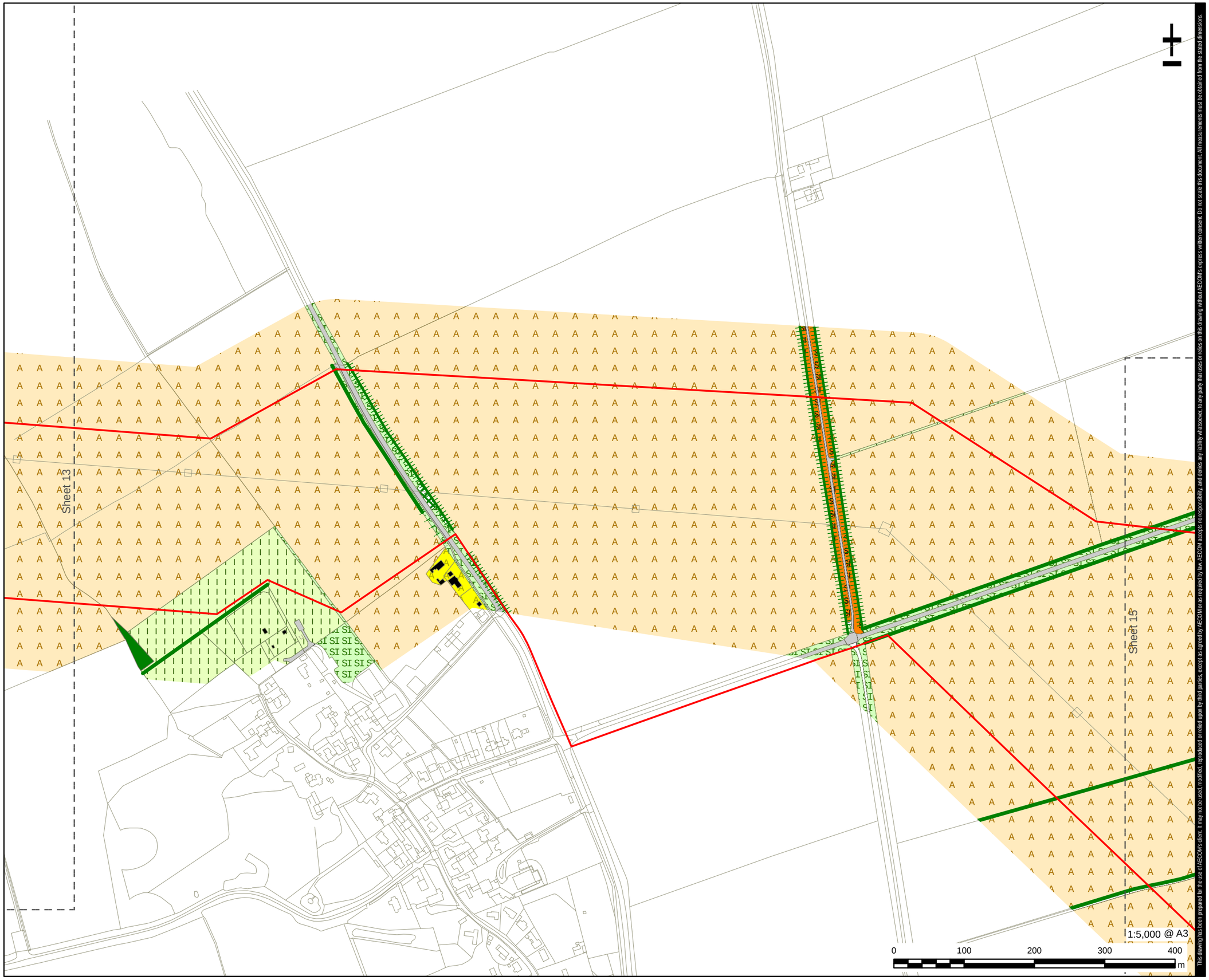

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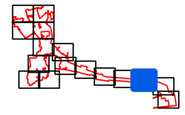
4 Bedford Park
Surrey, CR0 2AP, UK
www.aecom.com

LEGEND

- Site Boundary
- Broadleaved woodland - semi-natural
- Scrub - dense/continuous
- SI Neutral grassland - semi-improved
- Improved grassland
- Poor semi-improved grassland
- Hardstanding
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Buildings
- Bare ground
- Broadleaved parkland/scattered tree line
- Intact hedge - species-poor
- Hedge with trees - species-poor

SHEET LAYOUT



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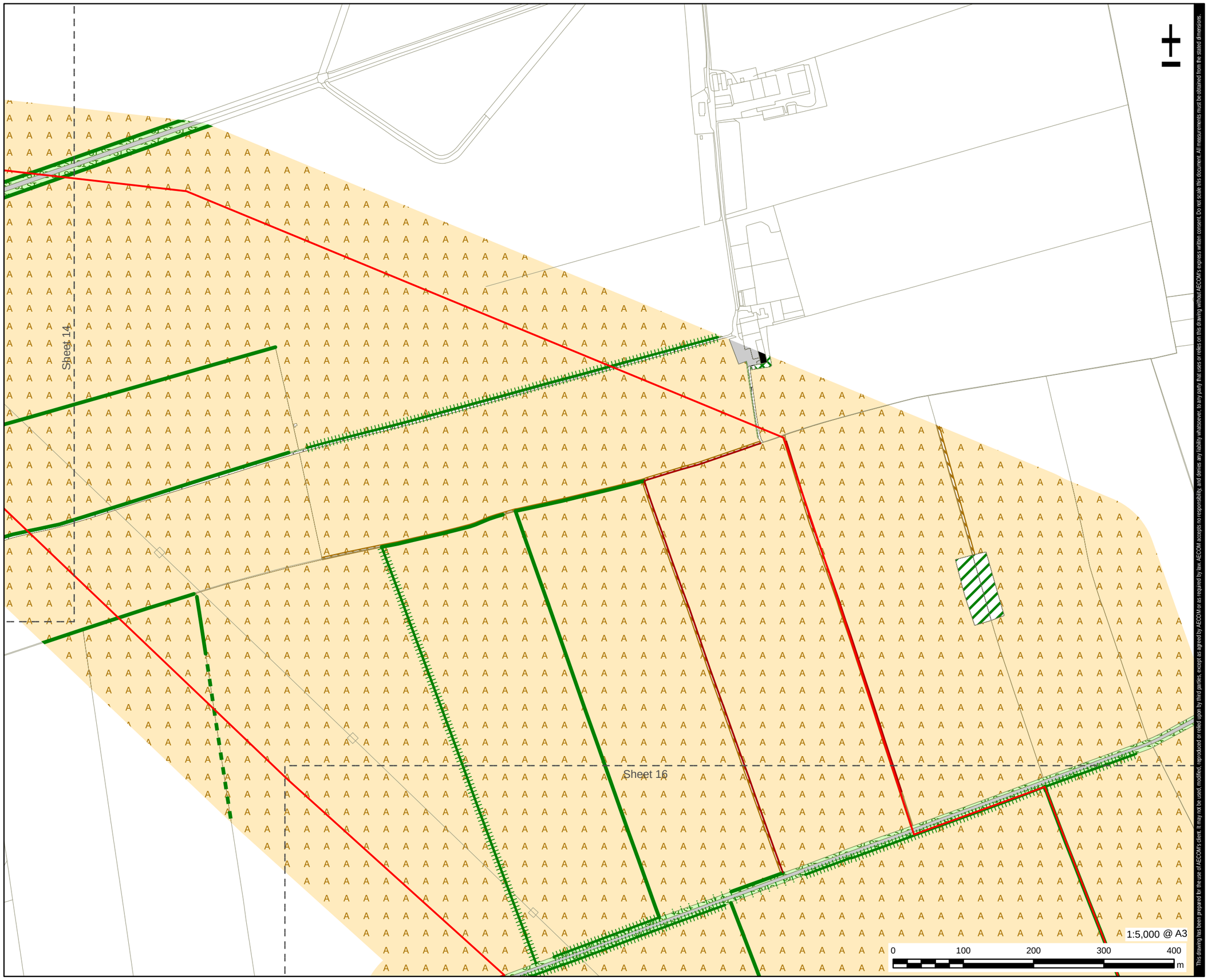

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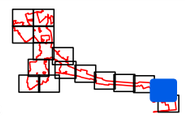
4 Bedford Park
Surrey, CR0 2AP, UK
www.aecom.com

LEGEND

- Site Boundary
- Broadleaved woodland - plantation
- Scrub - dense/continuous
- Poor semi-improved grassland
- Other tall herb and fern - ruderal
- Hardstanding
- Cultivated/disturbed land - arable
- Buildings
- Bare ground
- Broadleaved parkland/scattered tree line
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - species-poor
- Wall

SHEET LAYOUT



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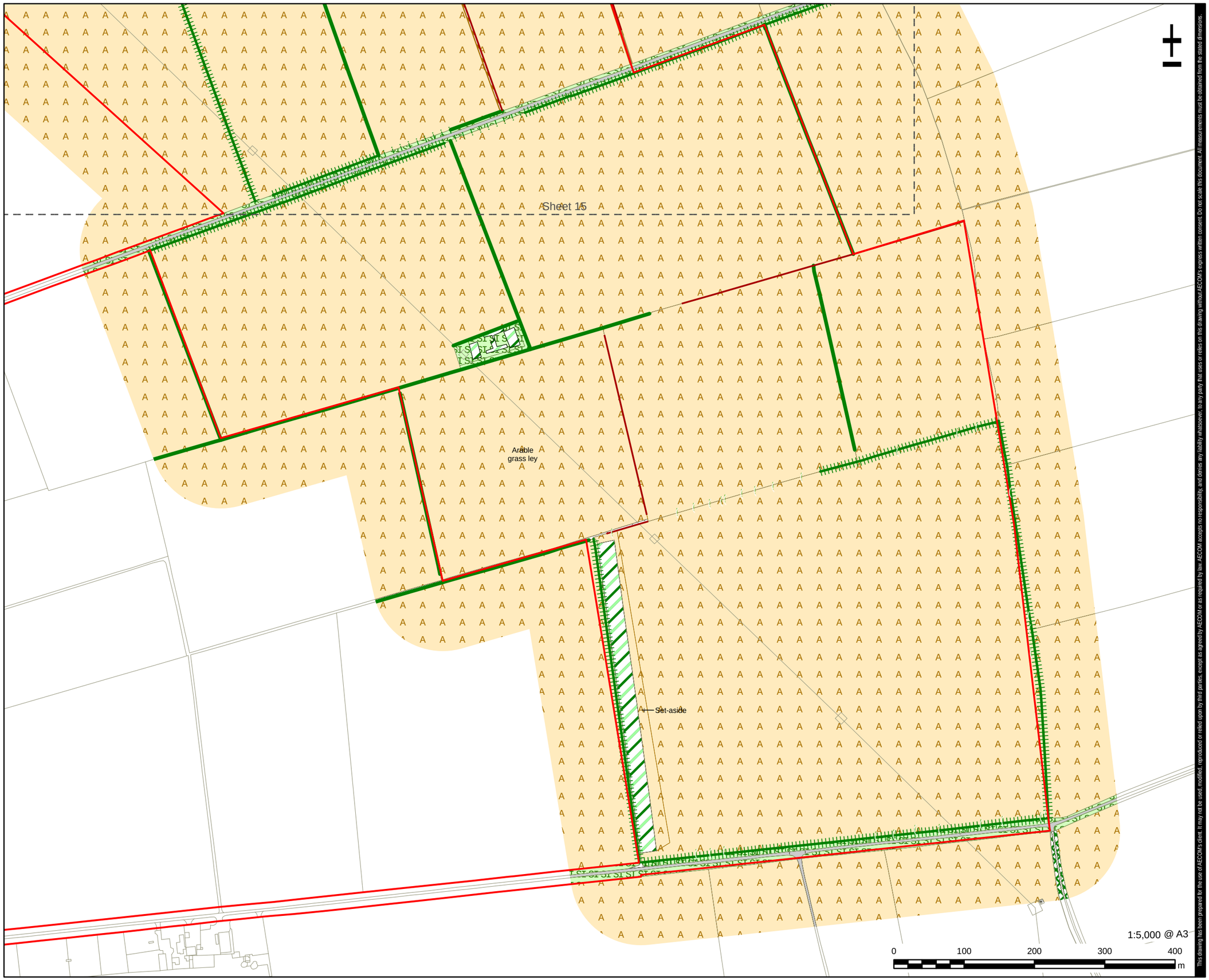

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4 Bedford Park
Surrey, CR0 2AP, UK
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LEGEND

- Site Boundary
- Mixed woodland - plantation
- Scrub - dense/continuous
- Improved grassland
- Poor semi-improved grassland
- Other tall herb and fern - ruderal
- Hardstanding
- Cultivated/disturbed land - arable
- Buildings
- Bare ground
- Broadleaved parkland/scattered tree line
- Intact hedge - species-poor
- Hedge with trees - species-poor
- Wall
- Broadleaved tree

SHEET LAYOUT

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Annex B Legislation

B.1 The Conservation of Habitats & Species Regulations 2017 (as amended)

B.1.1 The Habitats Regulations (Ref 11) transposed the requirements of the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) (Ref 38) and the Directive 2009/147/EC on the conservation of wild birds (Birds Directive) (Ref 39) into UK law and provide for the designation and protection of European Sites (and adapt planning and other controls for the protection of these sites). This includes Annex I (habitats) and Annex II (species) for which such European sites can be designated.

B.1.2 The Habitats Regulations (Ref 3) also provide protection for certain European Protected Species (EPS) that are listed in Schedule 2 (animals) or Schedule 5 (plants) of the Habitats Regulations (Ref 3). The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

B.1.3 The Regulations make special provisions for the protection of European marine sites, requiring the country agencies to advise other authorities of the conservation objectives for a site, and also of the operations which may affect its integrity. The Regulations also enable the establishment of management schemes and byelaws by the relevant authorities and country agencies respectively, for the management and protection of European marine sites.

B.1.4 The latest 2019 amendment to the Habitats Regulations (Ref 3) means that Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network, following the UK's exit from the EU. The 2019 amendment (Ref 4) instead created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

a. Existing SACs and SPAs; and

b. New SACs and SPAs designated under these Regulations.

B.2 The Wildlife and Countryside Act 1981 (as amended)

B.2.1 The WCA (Ref 5) is a primary piece of UK wildlife legislation, protecting birds, other animals and plants (including vascular plants, bryophytes, lichens and fungi), providing for the designation of protected areas including Sites of Special Scientific Interest (SSSIs) and promoting protections for such designated areas. The WCA (Ref 5) also defines a list of invasive non-native species, making it illegal to release or allow to escape into the wild any invasive non-native animals; or to cause to grow in the wild any invasive non-native plants.

B.3 Countryside and Rights of Way Act 2000

B.3.1 The CRoW Act (Ref 6) applies to England and Wales only. The Act extends powers relating to the protection and management of SSSIs. This includes powers for entering management agreements, placing a duty on public bodies to further the conservation and enhancement of SSSIs, increasing penalties for conviction, and appeal processes for the notification, management and protection of SSSIs. It also introduced the offence of 'reckless' disturbance of threatened species.

B.4 The Environment Act 2021

B.4.1 The Environment Act 2021 (Ref 7) provides a post-Brexit legal framework for environmental governance and makes provision for improvements to the natural environment. The Act requires the Secretary of State to set long-term targets (15-year minimum) for biodiversity and also includes proposals to make 10% BNG a mandatory requirement within the planning system in England. The Act will require NSIPs to include a 10% BNG, however the relevant provisions are not yet in force.

B.5 The Water Environment (Water Framework Directive) (England and Wales) Regulation 2017

B.5.1 The EU Water Framework Directive (EU WFD) (Ref 40) is transposed into law in England by the Water Framework Directive (Ref 8). The EU WFD follows a holistic approach to the sustainable management of water by considering the interactions between surface water (including transitional and coastal waters, rivers, streams and lakes), groundwater and water-dependent ecosystems.

B.6 Natural Environment and Rural Communities Act 2006

B.6.1 The NERC Act (Ref 9) came into force on 1st October 2006. In England, Section 41 of the NERC Act (Ref 9) requires the Secretary of State for Environment to publish and maintain a list of habitats and species that are of

'principal importance' for the purpose of conserving biodiversity and are regarded as conservation priorities under the Biodiversity Framework 2024 (Ref 26).

B.6.2 Section 40 of the NERC Act (Ref 9) places a duty on public authorities with functions exercisable in England to from time to time consider what action they can properly take, consistently with the exercise of their functions, to further the general biodiversity objective, which is the conservation and enhancement of biodiversity in England.

B.6.3 Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the (now withdrawn) UK BAP and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. They include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland, and freshwater and marine habitats such as ponds and subtidal sands and gravels.

B.6.4 There are 943 species of principal importance included on the S41 list. These are the species found in England which were identified as requiring action under the (now withdrawn) UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. In addition, the hen harrier has also been included on the list because without continued conservation action it is unlikely that the hen harrier population will increase from its current very low levels in England.

B.7 The Protection of Badgers Act 1992

B.7.1 Badgers and their setts (burrows) are protected under the Protection of Badgers Act 1992 (Ref 10). This makes it an offence to kill or take a badger, to cruelly ill-treat a badger, or to interfere with a badger sett, including disturbing a badger while it is occupying a sett.

B.7.2 Licences to permit otherwise prohibited actions can be granted under Section 10 of the Act for various purposes. This includes licences to interfere with a badger sett for the purpose of development as defined by Section 55(1) of the Town and Country Planning Act 1990 (Ref 41).

B.7.3 Licences may be granted in order to close down setts, or parts of setts, prior to development or to permit activities close to a badger sett that might result in disturbance. A licence will be required if a sett is likely to be damaged or destroyed in the course of development or if the badger(s) occupying the sett will be disturbed.

B.7.4 Licences can be applied for at any time, but a licence for development will not normally be issued unless full planning permission has been granted. The closure of setts under licence is normally only permitted during July to November, inclusive.

B.8 The Hedgerows Regulations Act 1997

B.8.1 The intention of the Hedgerows Regulations Act 1997 (Ref 11) is to protect important countryside hedges from destruction or damage. The Act does not apply where planning permission has been granted. There are various other exemptions under the Act, including:

a. To make a new opening in substitution for an existing one that gives access to land. For example, a gate. However, the old opening must be filled in within 8 months;

b. To obtain access to land where other means are not available or are only available at disproportionate cost;

c. For the proper management of the hedgerow. This means real management, such as coppicing. But if the hedgerow is deliberately 'over-managed' this might qualify as removal.

B.8.2 If the proposed works are not exempt or subject to a current planning permission then the landowner must serve a Hedgerow Removal Notice in writing on their local planning authority. The authority then has 42 days (which period can be extended if the applicant agrees) to determine whether or not the hedge is considered 'important' under the regulations, and if so, whether or not to issue a Hedgerow Retention Notice. The local authority does not have to issue a Retention Notice, even if the hedgerow counts as important. If they do not issue a notice for an important hedge this is often on condition that certain things are done e.g., reinstatement or replanting to a certain standard, or creation of an equivalent boundary elsewhere.

B.9 Invasive Alien Species (Enforcement and Permitting) Order 2019

B.9.1 The Invasive Alien Species (Enforcement and Permitting) Order 2019 (Ref 12) came into effect on 1st October 2019. This implemented the EU Invasive Alien Species Regulation 1143/2014 (Ref 12) on the prevention and management of invasive alien plant and animal species in England and Wales, including the relevant licenses, permits and rules for keeping invasive alien species. If it is not a species of special concern, then the WCA (Section 14, Schedule 9) (Ref 5) still applies.

B.10 National Planning Policy Framework

B.10.1 The latest version of the NPPF came into being in September 2023 (Ref 13), relevant sections are as follows:

B.10.2 Section 15 of the NPPF relates specifically to '*Conserving and Enhancing the Natural Environment'. Paragraph 174 states that 'Planning policies and decision should contribute to and enhance the natural and local environment by:*

a. *protecting and enhancing valued landscapes, Sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*

b. *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*

c. *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*

d. *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*

e. *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*

f. *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.'*

B.10.3 *Paragraph 175 states that 'Plans should: distinguish between the hierarchy of international, national and locally designated Sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.'*

B.10.4 Paragraph 176 states that '*Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.*'

B.10.5 Paragraph 177 states that '*When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:*

a. *the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;*

b. *the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and*

c. *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.*

B.10.6 Paragraph 179 states that 'T*o protect and enhance biodiversity and geodiversity, plans should:*

a. *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 stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*

b. *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.'*

B.10.7 Paragraph 180 states that '*When determining planning application, local planning authorities should apply the following principles:*

a. *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative Site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*

b. *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the Site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*

c. *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*

d. *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'*

B.10.8 Paragraph 181 states that '*The following should be given the same protection as habitats Sites:*

a. potential Special Protection Areas and possible Special Areas of Conservation;

b. listed or proposed Ramsar Sites; and

c. Sites identified, or required, as compensatory measures for adverse effects on habitats Sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar Sites'.

B.10.9 Paragraph 182 states that '*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*'

Annex C LBAP Habitats and Species

C.1 Lincolnshire Biodiversity Action Plan

Habitats

Coastal and Marine:

a. Coastal Sand Dunes
b. Peat and clay exposures
c. *Sabellaria spinulosa* reefs
d. Saline lagoons
e. Saltmarsh

Farmland and Grassland:

f. Arable field margins
g. Grazing marsh
h. Hedgerows and hedgerow trees
i. Lowland calcareous grassland
j. Lowland meadows

River and Wetlands:

k. Chalk streams and blow wells
l. Fens
m. Ponds, lakes and reservoirs
n. Reedbeds and bittern
o. Rivers, canals and drains
p. Springs and flushes

Trees and Woodland:

q. Lowland mixed deciduous woodland
r. Traditional orchards
s. Wet woodland
t. Wood-pasture and parkland

Urban:

u. Brownfield
v. Churchyard and cemeteries
w. Gardens and allotments
x. Parks and open spaces

Species

Common name	Scientific name
a fungus (non lichenised)	*Mycena renati*
a fungus (non lichenised)	*Podoscypha multizonata*
a lichen	*Anaptychia ciliaris ciliaris*
a lichen	*Lecanora sublivescens*
Starry stonewort	*Nitellopsis obtusa*
Tassel stonewort	*Tolypella intricata*
Great tassel stonewort	*Tolypella prolifera*
Sea bryum	*Bryum warneum*
Rusty fork-moss	*Dicranum spurium*
Pitted frillwort	*Fossombronia foveolata*
Man orchid	*Aceras anthropophorum*
Ribbon-leaved water-plantain	*Alisma gramineum*
Tall thrift	*Armeria maritima elongata*
Purple milk-vetch	*Astragalus danicus*
Flat-sedge	*Blysmus compressus*
Slender hare's-ear	*Bupleurum tenuissimum*
Divided sedge	*Carex divisa*
Rare spring-sedge	*Carex ericetorum*
Basil thyme	*Clinopodium acinos*
Frog orchid	*Coeloglossum viride*
Deptford pink	*Dianthus armeria*
Glandular eyebright	*Euphrasia anglica*
Chalk eyebright	*Euphrasia pseudokerneri*
Red hemp-nettle	*Galeopsis angustifolia*
Early gentian	*Gentianella anglica*
Sea barley	*Hordeum marinum*
Marsh clubmoss	*Lycopodiella inundata*
Pennyroyal	*Mentha pulegium*
Fine-leaved sandwort	*Minuartia hybrida*
Bird's-nest	*Monotropa hypopitys hypophegea*
Tubular water-dropwort	*Oenanthe fistulosa*
Burnt orchid	*Orchis ustulata*

Common name	Scientific name
Pillwort	*Pilularia globulifera*
Sharp-leaved pondweed	*Potamogeton acutifolius*
Grass-wrack pondweed	*Potamogeton compressus*
Pasqueflower	*Pulsatilla vulgaris*
Corn buttercup	*Ranunculus arvensis*
Prickly saltwort	*Salsola kali kali*
Shepherd"s needle	*Scandix pecten-veneris*
Annual knawel	*Scleranthus annuus*
Greater water-parsnip	*Sium latifolium*
Small cord-grass	*Spartina maritima*
Marsh stitchwort	*Stellaria palustris*
Spreading hedge parsley	*Torilis arvensis*
a bryozoan	*Lophopus crystallinus*
Mud pond snail	*Omphiscola glabra*
Depressed (or compressed) river mussel	*Pseudanodonta complanata*
Witham orb mussel	*Sphaerium solidum*
Norfolk hawker	*Aeshna isosceles*
Thorne pin-palp	*Bembidion humerale*
Scarce four-dot pin-palp	*Bembidion quadripustulatum*
Necklace ground beetle	*Carabus monilis*
Hazel pot beetle	*Cryptocephalus coryli*
Six-spotted beetle	*Cryptocephalus sexpunctatus*
Mire pill-beetle	*Curimopsis nigrita*
Brush-thighed seed-eater	*Harpalus froelichi*
Oxbow diving beetle	*Hydroporus rufifrons*
Stag beetle	*Lucanus cervus*
Set-aside downy-back	*Ophonus laticollis*
Mellets downy-back	*Ophonus melletii*
Oolite downy-back	*Ophonus stictus*
Crucifix ground beetle	*Panagaeus cruxmajor*
Yellow pogonus	*Pogonus luridipennis*
Chequered skipper	*Carterocephalus palaemon*

Common name	Scientific name
Small heath	*Coenonympha pamphilus*
Large heath	*Coenonympha tullia*
Small blue	*Cupido minimus*
Dingy skipper	*Erynnis tages*
Duke of Burgundy	*Hamearis lucina*
Grayling	*Hipparchia semele*
Wall	*Lasiommata megera*
White admiral	*Limenitis camilla*
Silver-studded blue	*Plebejus argus*
Grizzled skipper	*Pyrgus malvae*
White letter hairstreak	*Satyrium w-album*
Brown hairstreak	*Thecla betulae*
Grey dagger	*Acronicta psi*
Knot grass	*Acronicta rumicis*
The forester	*Adscita statices*
Flounced chestnut	*Agrochola helvola*
Brown-spot pinion	*Agrochola litura*
Beaded chestnut	*Agrochola lychnidis*
Green-brindled crescent	*Allophyes oxyacanthae*
Ear moth	*Amphipoea oculea*
Mouse moth	*Amphipyra tragopoginis*
Large nutmeg	*Apamea anceps*
Dusky brocade	*Apamea remissa*
Deep-brown dart	*Aporophyla lutulenta*
Garden tiger	*Arctia caja*
The sprawler	*Asteroscopus sphinx*
Centre-barred sallow	*Atethmia centrago*
Marsh moth	*Athetis pallustris*
Dark brocade	*Blepharita adusta*
Minor shoulder-knot	*Brachylomia viminalis*
Mottled rustic	*Caradrina morpheus*
Haworth's minor	*Celaena haworthii*
The crescent	*Celaena leucostigma*

Common name	Scientific name
The streak	*Chesias legatella*
Latticed heath	*Chiasmia clathrata*
The concolorous	*Chortodes extrema*
Oak lutestring	*Cymatophorima diluta*
Small square-spot	*Diarsia rubi*
Figure of eight	*Diloba caeruleocephala*
Small phoenix	*Ecliptopera silaceata*
September thorn	*Ennomos erosaria*
Dusky thorn	*Ennomos fuscantaria*
August thorn	*Ennomos quercinaria*
Galium carpet	*Epirrhoe galiata*
Autumnal rustic	*Eugnorisma glareosa*
The spinach	*Eulithis mellinata*
Scarce pug	*Eupithecia extensaria occidua*
Garden dart	*Euxoa nigricans*
Double dart	*Graphiphora augur*
Small emerald	*Hemistola chrysoprasaria*
Ghost moth	*Hepialus humuli*
The rustic	*Hoplodrina blanda*
Rosy rustic	*Hydraecia micacea*
Brindled beauty	*Lycia hirtaria*
The lackey	*Malacosoma neustria*
Dot moth	*Melanchra persicariae*
Broom moth	*Melanchra pisi*
Pretty chalk carpet	*Melanthia procellata*
Rosy minor	*Mesoligia literosa*
Shoulder-striped wainscot	*Mythimna comma*
Scarce vapourer	*Orgyia recens*
Oblique carpet	*Orthonama vittata*
Barberry carpet	*Pareulype berberata*
Dark spinach	*Pelurga comitata*
Grass rivulet	*Perizoma albulata albulata*
Pale shining brown	*Polia bombycina*

Common name	Scientific name
Chalk carpet	*Scotopteryx bipunctaria*
Shaded broad-bar	*Scotopteryx chenopodiata*
White ermine	*Spilosoma lubricipeda*
Buff ermine	*Spilosoma luteum*
Hedge rustic	*Tholera cespitis*
Feathered gothic	*Tholera decimalis*
Blood-vein	*Timandra comae*
Pale eggar	*Trichiura crataegi*
The cinnabar	*Tyria jacobaeae*
Four-spotted moth	*Tyta luctuosa*
Oak hook-tip	*Watsonalla binaria*
Dusky-lemon sallow	*Xanthia gilvago*
The sallow	*Xanthia icteritia*
Dark-barred twin-spot carpet	*Xanthorhoe ferrugata*
Northern yellow splinter	*Lipsothrix errans*
Hairy canary fly	*Phaonia jaroschewskii*
Shining guest ant	*Formicoxenus nitidulus*
Moss carder-bee	*Bombus muscorum*
Large garden bumblebee	*Bombus ruderatus*
a mining bee	*Colletes halophilus*
Ruby-tailed wasp	*Chrysis fulgida*
White-clawed crayfish	*Austropotamobius pallipes*
Lagoon sand-shrimp	*Gammarus insensibilis*
a money spider	*Saaristoa firma*
River lamprey	*Lampetra fluviatilis*
Sea lamprey	*Petromyzon marinus*
Common skate	*Dipturus batis*
Tope shark	*Galeorhinus galeus*
Thornback ray	*Raja clavata*
European eel	*Anguilla anguilla*
Herring	*Clupea harengus*
Spined loach	*Cobitis taenia*
Cod	*Gadus morhua*

Common name	Scientific name
Halibut	*Hippoglossus hippoglossus*
Whiting	*Merlangius merlangus*
Smelt	*Osmerus eperlanus*
Plaice	*Pleuronectes platessa*
Atlantic salmon	*Salmo salar*
Brown/sea trout	*Salmo trutta*
Mackerel	*Scomber scombrus*
Sole	*Solea solea*
Common toad	*Bufo bufo*
Natterjack toad	*Epidalea calamita*
Great crested newt	*Triturus cristatus*
Slow worm	*Anguis fragilis*
Grass snake	*Natrix natrix*
Adder	*Vipera berus*
Common lizard	*Zootoca vivipara*
Skylark	*Alauda arvensis arvensis/scotica*
Tree pipit	*Anthus trivialis*
Scaup	*Aythya marila*
Bittern	*Botaurus stellaris*
Dark-bellied brent goose	*Branta bernicla bernicla*
Nightjar	*Caprimulgus europaeus*
Lesser redpoll	*Carduelis cabaret*
Linnet	*Carduelis cannabina autochthona/cannabina*
Twite	*Carduelis flavirostris bensonorum/pipilans*
Hawfinch	*Coccothraustes coccothraustes*
Common cuckoo	*Cuculus canorus*
Bewick's swan	*Cygnus columbianus bewickii*
Lesser spotted woodpecker	*Dendrocopos minor comminutus*
Corn bunting	*Emberiza calandra calandra/clanceyi*
Yellowhammer	*Emberiza citrinella*
Reed bunting	*Emberiza schoeniclus*
Herring gull	*Larus argentatus argenteus*
Black-tailed godwit	*Limosa limosa limosa*

Common name	Scientific name
Grasshopper warbler	*Locustella naevia*
Woodlark	*Lullula arborea*
Yellow wagtail	*Motacilla flava flavissima*
Spotted flycatcher	*Muscicapa striata*
Curlew	*Numenius arquata*
House Sparrow	*Passer domesticus*
Tree Sparrow	*Passer montanus*
Grey partridge	*Perdix perdix*
Wood warbler	*Phylloscopus sibilatrix*
Willow tit	*Poecile montanus Kleinschimdti*
Marsh tit	*Poecile palustris palustris/dresseri*
Dunnock	*Prunella modularis occidentalis*
Common bullfinch	*Pyrrhula pyrrhula pileata*
Arctic skua	*Stercorarius parasiticus*
Turtle dove	*Streptopelia turtur*
Starling	*Sturnus vulgaris vulgaris*
Song thrush	*Turdus philomelos clarkei*
Ring ouzel	*Turdus torquatus*
Lapwing	*Vanellus vanellus*
Water vole	*Arvicola amphibius*
Barbastelle	*Barbastella barbastellus*
Common dolphin	*Delphinus delphis*
Hedgehog	*Erinaceus europaeus*
Atlantic white-sided dolphin	*Lagenorhynchus acutus*
White-beaked dolphin	*Lagenorhynchus albirostris*
Brown hare	*Lepus europaeus*
Otter	*Lutra lutra*
Harvest mouse	*Micromys minutus*
Dormouse	*Muscardinus avellanarius*
Polecat	*Mustela putorius*
Noctule	*Nyctalus noctula*
Common seal	*Phoca vitulina*
Harbour porpoise	*Phocoena phocoena*

Common name	Scientific name
Soprano pipistrelle	*Pipistrellus pygmaeus*
Brown long-eared bat	*Plecotus auritus*

Annex D Target Notes and Photos

Target Notes	Target Note Information
1	Fenced, plastic lined irrigation reservoir, surrounded by species poor semi-improved (50%) grassland, bare ground (30%) and tall herbs: Yorkshire fog (*Holcus lanatus),* creeping thistle *(Cirsium vulgare),* teasel *(Dipsacus fullonum),* ribwort plantain (*Plantago lanceolata)*.
2	Stocking wood. comprising broad-leaved semi-natural woodland with mature ash (*Fraxinus excelsior*) and pedunculate oak (*Quercus robur*) trees with a bramble (*Rubus fruticosa* agg.) understorey.
3	Barn owl box on a tower along the Site boundary.
4	Barn complex with bat roosting and barn owl nesting suitability
5	Broad-leaved semi-natural woodland (including some plantation) and scattered scrub. Species include ash, pedunculate oak, elder (*Sambucus nigra*), common hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*).
6	Semi-improved grass verge with moderate species diversity, including false oat-grass (*Arrhenatherum elatius),* hogweed (*Heracleum sphondylium),* common knapweed *(Centaurea nigra* agg.*),* meadow vetchling (*Lathyrus pratensis),* meadowsweet *(Filipendula ulmaria),* hedge woundwort *(Stachys sylvatica),* common sorrel *(Rumex acetosa),* perforate St.John's-wort *(Hypericum perforatum),* meadow crane's-bill *(Geranium pretense*).
7	Broad-leaved semi-natural woodland plus a strip of plantation on northern edge, with wild cherry (*Prunus avium),* field maple *(Acer campestre),* pedunculate oak, ash, goat willow (*Salix caprea)* and elder.
8	Semi-improved grass verge similar to TN6 with moderate species diversity including false oat-grass, tall fescue (*Schedonorus arundinacea),* meadow crane's-bill, meadowsweet, meadow crane's-bill, silverweed *(Potentilla anserina),* common couch *(Elytrigia repens),* common vetch *(Vicia sativa* subspecies *segetalis),* rough meadow grass *(Poa trivialis)* and meadow vetchling.
9	Semi-improved roadside verges, similar to TN10 but narrower and more 'weedy' species. Species include false-oat grass, hogweed, cow parsley *(Anthricus sylvestris),* perennial sow-thistle *(Sonchus arvensis),* cock's-foot, meadowsweet, rough meadow grass *(Poa triviialis),* perennial rye-grass *(Lolium perenne),* common nettle *(Urtica doica)* 5% and creeping thistle (*Cirsium arvense*).
10	Short semi-improved grassland flora on bank of ditch including self-heal (*Prunella vulgaris*), daisy (*Bellis perennis*), perforate St.John's-wort and common cat's-ear (*Hypochaeris radicata*)
11	Species poor (modified) grassland. Dominated by tall fescue with cock's-foot, common knapweed, broad-leaved dock (*Rumex*

Target Notes	Target Note Information
	obtusifolius), perennial rye-grass, creeping thistle, lucerne (*Medicago sativa*) and Yorkshire fog.
12	River Witham, riffle section with wider area of swamp on the north bank, willow (*Salix* species) in the channel.
13	Semi-improved neutral grassland with false oat-grass, tufted hair-grass (*Deschampsia cespitosa),* clustered dock *(Rumex conglomerata)*, creeping buttercup (*Ranunculus repens),* common couch, creeping thistle, spear thistle *(Cirsium vulgare),* cock's-foot, hairy sedge *(Carex hirta),* cow parsley, common ragwort *(Jacobaea vulgaris)*. Small area of swamp 20 x 10m to south with reed canary grass (*Phalaris arundinacea),* creeping bent *(Agrostis stolonifera),* clustered dock, tufted hair-grass. Seasonally wet in places. Field is listed as priority habitat coastal and floodplain grazing marsh.
14	Adult male grass snake observed on the bank east of the River Witham.
15	River Witham, water-crowfoot (*Ranunculus* species) and unbranched bur-reed (*Sparganium emersum)* in channel. Up to 2m wide swamp fringe, with reed sweet-grass (G*lyceria maxima)* and reed canary-grass, yellow-flag *(Iris pseudacorus).* 10m wide semi-improved mown banks
16	Mature oak trees of various ages, willows (*Salix* species*)*, over semi-improved grassland and dry ditch. Grassland includes cock's-foot, false oat-grass, cow parsley and hogweed with bramble scrub (30% cover).
17	Oak of various ages, some potential veteran trees, over semi-improved grassland.
18	Veteran oak tree in the hedge.
19	Broad leaved semi-natural woodland with crab apple (*Malus sylvestris)*, holly (*Ilex aquifolium*), ash, oak, Scot's pine (*Pinus sylvestris)*. Some mature oak trees, sparse ground flora with bramble. Dry ditch.
20	Dead tree with barn owl roost/nest observed.
21	Mature ash tree with a large central cavities with barn owl roost/nest.
22	Wet ditch and tall semi-improved grassland with clustered cock, reed canary-grass, reed sweet-grass, bulrush *(Typha latifolia),* great willowherb *(Epilobium hirsutum)* and adjacent poor semi-improved grassland bank with meadowsweet, false oat-grass and Yorkshire fog and 2m wide poor semi-improved grass field margins.
23	West Brant Syke – potential for otter, water voles, aquatic macrophytes include opposite leaved pondweed (*Groenlandia densa*), connects to the River Brant.
24	Wet ditch and small area of swamp.

Target Notes	Target Note Information
25	Semi-improved grassland dominated by false oat-grass with willow scrub, rush (*Juncus* species), meadowsweet and scattered hawthorn scrub.
26	River Brant – suitable for water vole, otter, aquatic macrophytes.
27	Seasonally wet drain with tall ruderal herb and grass margins.
28	Large semi-improved grass field, formerly grazed , with tussocky grassland, species including cock's-foot, false oat grass, tufted hair-grass (*Deschampsia cespitosa),* creeping thistle, spear thistle *(Cirsium vulgare)* and broad-leaved dock.
29	Swamp with bulrush, reed canary-grass, reed and sweet-grass, with 20x5m of open water with duckweed (*Lemna* species*)*, and adjacent common nettle tall ruderal herb with scattered willow scrub.
30	Underground structure c. 30 x 4m within woodland with steps leading down inside, open entrance, water on the ground. Potential for roosting bats.
31	Broad-leaved plantation with sycamore (*Acer pseudoplatanus*), European larch (*Larix decidua*), ash and Scot's pine around margins. Shrub layer of common hawthorn, elder, sycamore. Field layer with hairy St.John's-wort, cow parsley, wood false brome (*Brachypodium sylvaticum*), cleavers (*Galium aparine*), wood dock (*Rumex sanguineus*), hedge woundwort (*Stachys sylvatica*), ground-ivy (*Glechoma hederacea*) and wood avens (*Geum urbanum*) Ash dieback well established.
32	Broad-leaved semi-natural woodland with mature ash, hazel (*Corylus avellana*), field maple (*Acer campestre*), common hawthorn with a nettle/bramble understorey, surrounded by dry ditch and a 5m wide species poor semi-improved grassland verge.
33	Barn adjacent to the Site suitable for barn owl.
34	2m wide wet ditch with adjacent hedge. Flora includes Branched Bur Reed (*Sparganium erectum*), Meadow Sweet (*Filipendula ulmaria*), Valerian (*Valeriana officinalis*). The ditch is steep-sided with a 5m wide poor semi-improved grass margin.

Representative Photos

Photo 1 – Woodland at TN2

Photo 2- Woodland at TN9

Photo 3 – Grassland verge at TN14

Photo 4 – Grassland verge at TN15

Photo 5 – Grassland at TN17

Photo 6 – River Witham at TN18

Photo 7 – Grassland and swamp at TN19

Photo 8 – River Witham at TN21

Photo 9 – Woodland at TN25

Photo 10 – Mature ash tree with cavity and barn owl roost/nest at TN27

Photo 11 – West Brant Syke at TN29

Photo 12 – Wet ditch, swamp, grassland and scattered scrub at TN30/31

Photo 13 – River Brant at TN32

Photo 14 – Wet drain at TN33

Photo 15 – Semi-improved grassland at TN34

Photo 16 – Swamp and open water at TN35

Photo 17 – Underground structure at TN36

Photo 18 – Woodland at TN37

Photo 19 – Woodland at TN38

Photo 20 – Barn suitable for bats and barn owl at TN39