



Ecological Impact Assessment

Brailsford Solar PV

BSR Energy

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Contact Details:

Enzygo Ltd. (Bristol Office)
The Byre
Woodend Lane
Cromhall
Gloucestershire
GL12 8AA

tel: 01454 269237
email: derek.allan@enzygo.com
www: enzygo.com

Ecological Impact Assessment

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For:	BSR Energy Ltd.
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Date:	15 th April 2026
Author:	KT Smith MSc BSc (Hons) – Consultant Ecologist
Reviewer:	Chris Schofield MSc BSc (Hons) ACIEEM – Principal Ecologist

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Registered Office: Gresham House, 5-7 St. Pauls Street, Leeds, England, LS1 2JG

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Non-Technical Summary

- i. In April 2025 Enzygo Ltd was commissioned by BSR Energy (the Client) to undertake an Ecological Impact Assessment (EclA) of Land at Brailsford, Ashbourne, DE6 3DA (central grid reference SK 26484 41582), located within the Derbyshire Dales District Council. This study will inform proposals to develop a Solar PV Farm of up to 55MW. This report was updated in February 2026 following an updated site layout and pre-application responses from Derbyshire Dales District Council and Derbyshire Wildlife Trust, and in March 2026 following client comments and to include Ground-level Bat Tree Assessment (GLTA) survey results. This report was also updated in April 2026 following a change in the red line boundary.
- ii. The following key ecological features and associated recommendations have been identified:
- **Impact Risk Zones for Sites of Special Scientific Interest** – (*Site lies within a IRZ for which the LPA are advised the consult Natural England*) – At the discretion of the planning officer the LPA are advised to consult Natural England on the potential for these proposals to impact designated sites, and to confirm the assessment presented here (i.e. that potential impacts on any statutory nature conservation sites can be reasonably discounted).
 - **Wood Lane Local Wildlife Site (LWS)** – (*Wood Lane LWS immediately adjacent to site boundary*) – The final site layout has incorporated the full retention and protection of this Local Wildlife Site and identified the opportunity to significantly enhance and contribute to the wildlife corridor function this site provides. This is to include full protection during the construction phase, a sensitive lighting and drainage strategy, and supplementary landscape planting and commitment to long-term favourable habitat management;
 - **Hedgerow HPI, Lowland Mixed Deciduous Woodland HPI, Traditional Orchards HPI, TPOs and Green Infrastructure** – (*Lengths of Hedgerow HPI found through the site lining site and field boundaries, Lowland Mixed Deciduous Woodland HPI and Traditional Orchards HPI adjacent to the site are considered UK BAP Priority Habitat. Several TPOs within the site, as well as adjacent to the site boundary. All these onsite features contribute to notable Green Infrastructure and wildlife corridor function through the arable landscape*) - The final site layout has been sensitively designed to retain features providing notable green infrastructure and wildlife corridor function, with minor hedgerow losses to allow for site development. The construction phase will implement measures to protect onsite hedgerow and trees and both the construction and operational phases shall implement a sensitive lighting scheme to minimise potential habitat degradation. The landscape scheme is to include significant lengths of new native hedgerow to complement the baseline conditions;
 - **Blue Infrastructure and associated Riparian Fauna** – (*OS maps indicate three ditches within and immediately adjacent top the site boundary, all associated with the eastern part of the site. These were found to be almost entirely dry throughout the 2025 Spring to Autumn season and therefore assessed to provide only significantly minor blue infrastructure function. They do not provide any opportunities for notable riparian fauna such as Otter, Water Vole and White-clawed Crayfish, nor any potential breeding habitat for Great Crested Newt*) – These predominantly dry ditches have been incorporated in the final site layout and are to be retained and protected throughout the construction phase including implementing standard best practice pollution prevention guidance;

- **Bats** – (*Habitats including Hedgerow HPI, woodland, trees and pond provide limited suitable commuting and foraging habitat. Mature trees may be suitable for roosting bats. Further Bat Activity Surveys have identified notable low levels of bat activity at the site, including only a common and widespread species assemblage, no notable commuting routes, and no specific areas of high foraging activity. Ground-level Bat Tree Assessment identified one PRF-I, with all other features assessed as having no potential roosting features*) – A notably sensitive final layout has been designed to fully retain and protect all mature trees which may provide potential for roosting bats, in addition to a retaining and protecting field boundary hedgerow and tree corridors suitable for foraging and commuting bats. Feature assessed as PRF-I (W182) to be cut back under supervision of an Ecological Clerk of Works (ECOW), and bat boxes to be installed as compensation. No significant impact of the Solar proposals on the favourable conservation status of any bat species is anticipated;
- **Badger** – (*Detailed Badger Survey has identified two Outlier Badger setts within the site boundary, and it is assumed the Main Sett(s) associated with these are located in the wider landscape outside of the scope of this survey. Field boundary hedgerows and trees provide suitable corridors of connectivity through the landscape and potential for shelter, refuge and sett creation. The open arable and grassland fields provide suitable foraging habitat*) – the final layout has been designed to incorporate a minimum 30m wide undeveloped protective buffer around the two identified Badger setts, preventing potential damage and disturbance. The proposed boundary fencing is to include strategically located gaps/scrapes at the base to allow Badger to continue to move freely across the area and avoid any potential isolation or fragmentation impacts. Best practice Reasonable Avoidance Measures (RAMs) (e.g. covering pits, safe storage of chemicals, etc) are to be implemented during the construction phase to prevent the accidental injury or killing of Badger which may stray into the construction site. The proposed landscape scheme, including extensive meadow grassland and additional hedgerow and tree planting shall significantly enhance conditions for Badger in the long-term.
- **Breeding, Wintering and Migratory Birds** – (*The open arable cropland and grassland with boundary hedgerows and trees provides general opportunities for breeding and wintering birds. Further Breeding Bird Surveys have identified a common and typical assemblage of species as would be expected considering the site conditions. This includes especially low numbers of notable ground-nesting farmland bird species such as Skylark, and the majority of activity associated with field boundary features. Further Wintering Bird Species have not identified any notably migratory or wintering bird species such as waders and waterfowl. A single mature tree was identified within the PEA as providing potential for nesting/roosting Barn Owl, however, further survey did not identified any evidence of this species, although rough field boundaries provide suitable foraging habitat for this specially protected Schedule 1 bird*) - A sensitive final site layout has been produced which retains boundary hedgerows and trees where the majority of bird activity has been identified. To minimise the risk of disturbance of nesting birds, initial site and vegetation clearance will be undertaken outside of the bird nesting season of March to August (inclusive), with a precautionary approach taken if work must occur within this period. An ecologist will be notified if an active bird's nest is discovered. Given the limited number of breeding territories for farmland birds identified during the Breeding Bird Surveys, the size of the site, and the proposed habitat creation and landscape planting, no further off-site mitigation/compensation is deemed proportionate or justified in this instance;

- **Great Crested Newt** – *(Three ponds onsite and a further 17 ponds identified within a 250m radius of the proposed site. Predominantly open arable fields provide notably poor terrestrial habitat, though hedgerow and tree corridors provide limited shelter, refuge and foraging potential, whilst serving as corridors for potential dispersal. Further survey found the majority of ponds to be entirely dry throughout the Spring/Summer season and therefore assessed as not being potential breeding habitat. However, due to access restrictions to some of the off-site ponds, these could not be surveyed and therefore the presence of GCN on site cannot be completely discounted)* – Due to these access limitations (and as they are likely to remain in future years), it is proposed that the scheme will pursue the District Level Licensing (DLL) approach with appropriate compensation fee paid through the Natural England scheme. No further survey or assessment is required to inform this approach. Notwithstanding, as best practice the construction phase is to implement precautionary measures including Ecological Clerk of Works supervision of the clearance of any suitable habitats;
 - **Common Reptiles and other Notable and Priority Species** – *(The site features native hedgerow, woodland and trees providing limited habitat for foraging, refuge and shelter for Common Reptiles and Priority Species. Further Reptile Surveys did not identify any reptile presence, and further Invertebrate Survey identified as typically common and widespread assemblage as would be expected considering the baseline site conditions)* – The final site layout has been designed to retain and protect field boundary features or with general suitability. Habitats to be cleared in a sensitive manner under the supervision of an ECoW; and,
 - **Invasive Flora** – *(Although no invasive flora has been recorded, considering the size of the site and habitats there remains a low possibility of presence)* – In the event any invasive flora species are identified during development works, an invasive species contractor shall advise on appropriate management, treatment and/or eradication measures.
- iii. Proposals present notable opportunities for biodiversity enhancement in order to provide significant net gains for biodiversity in accordance with national and local policies through providing extensive landscape planting and enhanced opportunities for nesting birds, roosting bats, other priority species, and landscape planting.
- iv. This report has demonstrated that, if the outlined mitigation measures are implemented in full and assuming a sensitive final site layout, no significant residual impact could be expected, and the proposed application will result in ‘no net loss in biodiversity,’ whilst also providing opportunities for ‘biodiversity net gain’ in accordance with NPPF and Local Planning Policy.

1.0 Introduction

1.1 Commission

- 1.1.1 In April 2025 Enzygo Ltd was commissioned by BSR Energy (the Client) to undertake an Ecological Impact Assessment (EcIA) of Land at Brailsford, Ashbourne, DE6 3DA (central grid reference SK 26484 41582), located within the Derbyshire Dales District Council. This study will inform proposals to develop a Solar PV Farm of up to 55MW. This report was updated in February 2026 following an updated site layout and pre-application responses from Derbyshire Dales District Council and Derbyshire Wildlife Trust, and in March 2026 following client comments and to include Ground-level Bat Tree Assessment (GLTA) results. This report was also updated in April 2026 following a change in the red line boundary.
- 1.1.2 Note: Enzygo Ltd are not considered to act as a Principal Designer for any mitigation/enhancement strategies identified within this document in accordance with the Construction (Design and Management) Regulations 2015 (CITB, 2016).

1.2 Proposed Development/Identification of Impacts

- 1.2.1 The proposed development comprises the construction, operation, maintenance and decommissioning of an up to 55MW solar farm with supporting electrical infrastructure to connect the solar farm to the local electricity network.
- 1.2.2 The proposed development will deliver a renewable energy facility that will further enhance the UK's renewable energy capacity, thereby reducing the nation's dependency on fossil fuels, enhancing energy security and contributing to the national carbon emission reduction targets.
- 1.2.3 This EcIA report has been informed by separate PEA reports covering the eastern and western parcels of the site ((ARUP, 2024) and (Enzygo, 2025c)). These PEA reports, further surveys presented here, and consultation with the project Ecologist and other disciplines throughout the project design stage have been used by the Client to determine the final site proposals, including avoiding/mitigating impacts to ecological features. No significant noise, air quality and dust impacts have been identified, with vegetation clearance, lighting and drainage impacts considered.
- 1.2.4 It is confirmed no land outside of the redline boundary will be used as a construction compound etc. during the construction phase. A corresponding zone of influence has been considered (this includes any transboundary effects regardless of administrative areas).

1.3 Aims and Objectives

- 1.3.1 The purpose of this report is to provide biodiversity information which succinctly identifies ecological features on site and within the corresponding zone of influence, confirms potential impacts resulting from the proposals, associated effects to ecological features, outlines proportionate avoidance, mitigation and compensation strategies, and identifies enhancements that can be implemented in accordance with the British Standard for Biodiversity BS42020:2013 (BSI, 2013) to demonstrate 'no net loss in biodiversity' and to 'provide net gains for biodiversity' in accordance with NPPF and Local Planning Policy.
- 1.3.2 This report has been produced with reference to current Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017a), Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018), Guidelines for Ecological Report

Writing (CIEEM, 2017b), Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn) (Collins, 2023), and British Standard BS42020:2013 (BSI, 2013).

1.4 Background/Acknowledgments

Current Application

- 1.4.1 An EIA Scoping Request associated with the current proposals was submitted to Derbyshire Dales District Council (DDDC) in November 2025. A Scoping Opinion (Derbyshire Dales District Council, 2025b) was received from the Development Manager dated 9th December 2025, which included concerns that the ES Chapter should consider the contributions the development could make to local environmental initiatives and identify how the development affects the natural environment to adapt to climate change.
- 1.4.2 A response was received from Natural England (dated 12th November 2025) which provides a summary of advice stating: *“A robust assessment of environmental impacts and opportunities based on relevant and up to date environmental information should be undertaken prior to a decision on whether to grant planning permission”*. Within the Annex of the response, it is specifically identified that the project presents a risk to Mercaston Marsh and Muggington Bottoms Site of Special Scientific Interest (SSSI) and that the submission should include *“a full assessment of the direct and indirect effects of the development on the features of special interest within the SSSI and identify appropriate mitigation measures to avoid, minimise or reduce any adverse significant effects.”*
- 1.4.3 A pre-application response from Derbyshire Wildlife Trust received on 14th January 2026 notes the site is within the Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) for Mercaston Marsh and Muggington Bottoms and the site is adjacent to Wood Lane Local Wildlife Site (LWS), Lowland Mixed Deciduous Woodland Habitat of Principal Importance (HPI) and Traditional Orchard HPI. Green infrastructure including hedgerows and trees are within the site, with some hedgerows potentially considered important under the Hedgerow Regulations Act 1997. It noted that mature trees should be fully assessed to determine if they possess features consistent with veteran tree status. Recommendations for further surveys include GCN, Breeding Bird, Barn Owl, Ground-level Bat Tree Assessment, Badger, White-clawed Crayfish and Otter. Mitigation Brown Hare should also be included. Any off-site strategy for birds following the Breeding Bird surveys will require a S106 agreement.
- 1.4.4 A pre-application response from Derbyshire Dales District Council received on 4th February 2026 notes the same as the above.
- 1.4.5 These consultation responses have been reviewed and information used to inform the assessment presented here.

Surrounding Applications

- 1.4.6 A search of the Derbyshire Dales Borough Council planning website identified several applications both within and close to the site.
- 1.4.7 In February 2015 an application for “*Change of use of land to 1.21mw solar farm and associated infrastructure*” (application reference 15/00526/FUL) was submitted for land in the north of the proposed site. The application included an Extended Phase 1 and Protected Species Assessment (GLM Ecology, 2015). This application was approved with conditions in December 2015.
- 1.4.8 In August 2009 an application for “*Alterations to listed building – conversion of disused outbuildings to office and playroom*” (application reference 09/00516/LBALT) was submitted for a road located in the northeast of the site, though the listed building itself was excluded from the proposed site boundary. No ecological reports were submitted as part of this application. The application was approved with conditions in December 2009.
- 1.4.9 Where available, ecological survey and assessment documents associated with previous applications have been reviewed and details included at the applicable part of this report.

1.5 Local Planning Policy

- 1.5.1 Several plans and policies make up the current Derbyshire Dales District Council Local Plan. The following policies from the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017) are applicable to biodiversity and nature conservation (provided in summary only and the full Local Plan document should be viewed for full details):

- **Policy PD3 Biodiversity and Natural Environment** – The District Council will seek to protect, manage, and where possible enhance the biodiversity and geological resources by ensuring development proposals will not lead to harm of these features. Protected sites including internationally, nationally and locally important sites, ecological networks and the protection and recovery of priority species must be considered. This will be achieved by conserving and enhancing protected sites and not permitting any proposal which would directly or indirectly result in significant harm to geological or biodiversity conservation features, unless it can be demonstrated that there is no appropriate alternative site available, all statutory and regulatory requirements have been satisfied, and appropriate conservation and mitigation measures have been provided.
- **Policy PD4 Green Infrastructure** – The District Council will develop, protect, enhance and secure the long-term management of green infrastructure networks. This will be achieved by ensuring the development does not have a detrimental effect on existing green infrastructure, includes provision for the creation of new or enhancement of existing green infrastructure, and that any green infrastructure development project that could result in adverse effects to a European site is subject to a project-level HRA and appropriate mitigation. Long distance trails should be protected and extended, improving access linkages to the Peak District National Park. Opportunities for the creation of habitats that allow for the mitigation of the effects of climate change, including species migration, establishing links between habitats, and preventing habitat losses in line with Biodiversity Action Plans.
- **Policy PD6 Trees, Hedgerows and Woodlands** – Developments should seek to enhance and expand the district’s tree and woodland resource, where appropriate. Planning permission will be refused for proposals that result in the loss or

deterioration of ancient woodland and the loss of aged or veteran trees, unless the need for, and benefits of, the development in that location clearly outweigh the loss. Trees, hedgerows, orchards and woodland of value should be retained and integrated within development wherever possible. Where the loss is justified, replacement provision will be required utilising indigenous tree species and hedgerows that are sympathetic to the locality of the site and, as a minimum, of equivalent value to the trees and hedgerows to be lost.

- 1.5.2 No further Supplementary Planning Documents (SPDs) or guidance has been identified which is applicable to this assessment.
- 1.5.3 The Local Plan Policy Map for Brailsford indicates that whilst no Local Plan Policy applies to the proposed development, Wood Lane Local Wildlife Site (LWS) runs adjacent to the site boundary in the centre of the site.
- 1.5.4 The Lowland Derbyshire Biodiversity Action Plan (Claylands Area) applies to this development (Lowland Derbyshire Biodiversity Partnership, 2011).
- 1.5.5 In Autumn 2025, the Local Nature Recovery Strategy (LNRS) for Derbyshire (Derbyshire County Council, 2025) was published following a consultation period. This includes the vision for restoring and enhancing nature and biodiversity across the county and includes a Local Habitat Map. This Map shows the locations in which key measures and actions, particularly for habitat creation, management and enhancement, should be focused to have the greatest benefits for nature. The mapping also shows areas that are currently of particular importance for nature and biodiversity, and the areas that could become important in the future. This Strategy has been reviewed and contents used to inform the site layout and landscape plan discussions and details presented within this report.
- 1.5.6 Refer to Appendix L for relevant details of European and National Legislation, and National Planning Policy.

1.6 Site Context

- 1.6.1 The approximately 119.8ha site lies in a rural location to the east of Brailsford, a village in Derbyshire. The A52 that runs through the village lies to the south of site. The site is predominantly comprised of arable fields, with lengths of native hedgerow and lines of trees present along both the site and field boundaries. Occasional parcels of grassland and woodland are interspersed throughout the site. Abutting the site on all aspects is predominantly an extensive network of arable fields, with lengths of hedgerow and occasional parcels of woodland. The wider landscape is predominantly arable with occasional farm buildings, with the built development of Brailsford to the west of the site.
- 1.6.2 The site lies within the Needwood and South Derbyshire Claylands National Character Area (NCA) (Natural England, 2013) which is characterised as *“predominately a rolling plateau that slopes from the southern edge of the Peak District to the valley of the River Trent in the south-west. Also in the south are frequent plantations and ancient woodlands of the former Forest of Needwood. Elsewhere, the extensively hedged and pastoral landscape is dominated by mixed farming and features a dispersed pattern of villages and other settlements. Hedgerow trees also contribute to the wooded character of this NCA. Internationally important wetland habitats that include Chartley Moss and Pasturefields Saltmarsh nature reserves occur in the west of the area. Part of the Derwent Valley Mills World Heritage Site and The National Forest are situated on the eastern side of the NCA. To the north and west respectively are found small parts of the Peak District National Park and Cannock Chase Area of Outstanding Natural Beauty.”*

Figure 1 – Site Area



Image courtesy of Google Image Pro 7.3.7.1094, [Grid Ref: SK 26484 41582]. Imagery date April 2025. Image accessed 10th April 2026.

2.0 Methodology

2.1 Desk Study

2.1.1 Desk study details were obtained from the following sources on the associated dates to provide background on ecological features in the vicinity of the site. In each case the search included the site and the specified area beyond the site boundary based on the expected zone of influence. Candidate and potential designations are considered too as these are also legally protected. The records search included:

- Statutory sites designated or classified under international conventions or European legislation within a 15km radius, statutory sites designated under national legislation (including Marine) within 5km, non-statutory designations, existing EPS Licence applications and Great Crested Newt Pond Survey records within a 2km radius, and Priority Habitat & Ancient Woodland Inventory within a 0.5km radius [Magic Map, 13th November 2025] (DEFRA, 2025);
- Tree Preservation Orders (TPOs) and Biodiversity Conservation Areas within the immediate zone of influence [Derbyshire Dales District Council, 13th November 2025] (Derbyshire Dales District Council, 2025a)
- Waterbodies within a 0.5km radius (Online mapping sources including: Google Maps; Magic Map; and Ordnance Survey Street View, 13th November 2025); and
- Locally designated wildlife sites & any notified Local Biodiversity Action Plan (BAP) Habitats, Legally protected species, any Priority species (which includes: National Biodiversity Species, Local BAP Species, Species of conservation concern and Red Data Book (RDB) species, Birds of Conservation Concern (BOCC), nationally rare and nationally scarce species, and OSPAR Commission list of threatened/declining species) and Invasive species (listed under section 14 of Schedule 9 only) within a 2km radius, and any important hedgerows/veteran trees within the immediate zone of influence [Derbyshire Biodiversity Records Centre (DBRC) (26th August 2025)].

2.1.2 The Data has been edited where relevant to prevent sensitive or confidential records being made public in accordance with Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2023).

2.2 Field Survey

2.2.1 Field Surveys were undertaken on the following dates by the identified staff, all of whom satisfy necessary field survey competencies as stipulated by the Chartered Institute for Ecology and Environmental Management (CIEEM). Weather conditions on the day of survey have been included and where relevant survey/class licence numbers referred to.

Table 1 – Survey Dates and Conditions

Survey	Date	Staff/Licence	Environmental Conditions and Times
Preliminary Ecological Appraisal (Visit 1 of 2)	5 th August 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist at Enzygo Ltd.	Moderate rain and overcast conditions (80% cloud cover), and 21°C with moderate breeze.
Preliminary Ecological Appraisal (Visit 2 of 2)	13 th August 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist at Enzygo Ltd.	Dry and sunny conditions (0% cloud cover), and 30°C with light air.
Bat Activity Surveys	22/05/2025 Spring Transect	KT Smith MSc BSc (Hons) – Consultant Ecologist and Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist	Dry and partly cloudy (20% cloud cover), with a light wind and temperature of 10°C. Sunset: 21:09 Survey time: 21:09 to 23:09
	21/07/2025 Summer Transect	KT Smith MSc BSc (Hons) – Consultant Ecologist and Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist	Dry and overcast (90% cloud cover), with a light wind and temperature of 16°C. Sunset: 21:18 Survey time: 21:18 to 23:18
	25/09/2025 Autumn Transect	KT Smith MSc BSc (Hons) – Consultant Ecologist and Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist	Dry and partly cloudy (25% cloud cover), with a moderate wind and temperature of 12°C. Sunset: 19:00 Survey time: 19:00 to 21:00
Ground-level Bat Tree Assessment	10 th March 2026	KT Smith BSc (Hons), MSc – Consultant Ecologist at Enzygo Ltd, and Ethan Westmerland BSc (Hons), MSc – Assistant Ecologist at Enzygo Ltd. Both under the guidance of Derek Allan MCIEEM MSc BSc [Hons] (Director of Ecology at Enzygo and a licensed bat surveyor (Natural England licence Level 2, 2015-14659-CLS-CLS))	Dry and cloudy (70% cloud cover), moderate wind, and temperature 12 °C.
Badger Surveys	23 rd October 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist at Enzygo Ltd	Dry and partly cloudy (50% cloud cover), with a gentle breeze and temperature of 10°C
	6 th November 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist at Enzygo Ltd.	Dry and cloudy (75% cloud cover), with a light wind and temperature of 15°C
Otter and Water Vole Survey	12 th September 2025	Chris Schofield MSc BSc (Hons) – Principal Ecologist at Enzygo plus H&S assistant	Dry and partly cloudy (25% cloud cover), with a moderate breeze and temperature of 16°C
Breeding Bird Survey	28 th April 2025 Survey 1	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and clear (10% cloud cover), with no wind and temperature of 14°C Sunrise: 5:41 Survey time: 06:00 to 11:00
	6 th May 2025 Survey 2	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 7°C Sunrise: 5:25 Survey time: 05:30 to 10:30
	26 th May 2025 Survey 3	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and partly cloudy (50% cloud cover), with a moderate breeze and temperature of 12°C

Survey	Date	Staff/Licence	Environmental Conditions and Times
			Sunrise: 4:55 Survey time: 05:00 to 10:00
	9 th June 2025 Survey 4 (Dusk)	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 13°C Sunset: 21:30 Survey time: 18:00 to 22:30
	30 th June 2025 Survey 5	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 19°C Sunrise: 4:46 Survey time: 05:00 to 10:00
	11 th July 2025 Survey 6	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and clear (0% cloud cover), with no wind and temperature of 18°C Sunrise: 4:56 Survey time: 05:00 to 10:00
Barn Owl Survey	6 th November 2025	Chris Schofield MSc BSc (Hons) – Principal Ecologist - CL29 Barn Owl Class Licence reference number CL29/00487	Dry and mostly cloudy (75% cloud cover), with a light wind and temperature of 15°C
Wintering Bird Surveys	See Appendix G		
Invertebrate Surveys	See Appendix H		
GCN Habitat Suitability Index (HSI) assessment and eDNA survey	23 rd June 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist plus H&S assistant	Dry and cloudy (75% cloud cover), with a moderate breeze and temperature of 16°C
	30 th June 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist plus H&S assistant	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 27°C
Reptile Surveys	26 th May 2025 Refugia deployed	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor plus assistant	N/A
	13 th June 2025 Survey 1	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 18°C Survey time: 05:00 to 09:00
	15 th June 2025 Survey 2	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 14°C Survey time: 05:00 to 09:00
	16 th June 2025 Survey 3	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and clear (10% cloud cover), no wind and temperature of 15°C Survey time: 05:00 to 09:00
	18 th June 2025 Survey 4	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and clear (0% cloud cover), a light wind and temperature of 16°C Survey time: 05:00 to 09:00
	24 th June 2025 Survey 5	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and cloudy (75% cloud cover), moderate wind and temperature of 16°C Survey time: 05:00 to 09:00

Survey	Date	Staff/Licence	Environmental Conditions and Times
	25 th June 2025 Survey 6	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and partly cloudy (50% cloud cover), a light wind and temperature of 18°C Survey time: 05:00 to 09:00
	29 th June 2025 Survey 7	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and cloudy (75% cloud cover), a light wind and temperature of 19°C Survey time: 05:00 to 09:00

Preliminary Ecological Appraisal

- 2.2.2 In accordance with Guidelines for Preliminary Ecological Appraisal 2nd Edition (CIEEM, 2017a) the Preliminary Ecological Appraisal (PEA) survey included the following.

UK Habitat Classification

- 2.2.3 This assessment has utilised the UK Habitat Classification (UKHab) methodology (UKHab, 2023), as the recommended published method of habitat classification. It has been used to categorise and map the primary habitat types present within the survey area using a standard set of habitat categories, with associated secondary codes/features identified where applicable. Details of current management and habitat condition have also been recorded where appropriate.
- 2.2.4 Each of the main habitats has been described; including details of component plant species abundances (recorded using the DAFOR scale: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare). Additionally, any stands of non-native invasive plant species were recorded. Habitat extents have been visually mapped onto a topographic plan, with approximate location/areas recorded only (a GPS unit has not been utilised to accurately recorded these).

Assessment of possible presence/likely importance for Protected & Priority Species

- 2.2.5 An assessment of the possible presence of protected or priority species, and the likely importance of habitat features present for such species has also been undertaken, particularly where uncommon or specialised habitats are present in accordance with current PEA guidelines (CIEEM, 2017a). However, no specific protected species survey has been undertaken unless listed under additional surveys as below. Any incidental sightings of protected or priority species, or field signs of such species has also been recorded. Species assessed include: Plants & Fungi; Terrestrial/aquatic invertebrates; Fish; Amphibians; Reptiles; Breeding, wintering and migratory birds; Bats (including potential roost sites, foraging and commuting habitats/features), Badger, and Other mammal species.

Preliminary Bat Roost Assessment of Trees

Scoping (non-specialist) survey for roosts: individual trees and groups of trees

- 2.2.6 With reference to current survey guidelines (Collins, 2023) and (BSI, 2015)), a scoping (non-specialist) survey for roosts of individual trees and groups of trees within and immediately adjacent to the site, was undertaken. Each tree was visually inspected from the ground (with the aid of binoculars and a high-powered torch) to identify Potential Roosting Features (PRFs), including checks for the presence of the following features that bats might be able to use:
- Natural holes (e.g. knot holes) arising from naturally shed branches, or branches previously pruned back to the branch collar;

- Man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
- Woodpecker holes;
- Cracks/splits in stems or branches (both vertical and horizontal);
- Partially detached or loose, platy bark;
- Cankers (caused by localised bark death) in which cavities have developed;
- Other hollows or cavities, including butt rots;
- Compression forks with included bark, forming potential cavities;
- Crossing stems or branches with suitable space between for roosting;
- Ivy stems with diameters in excess of 50mm with suitable roosting space behind (or where a roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk);
- Bird and Bat boxes on trees; or
- Other features that offer a place of shelter.

Bat Activity Surveys

- 2.2.7 Three bat activity surveys of the site were undertaken in accordance with current guidelines (Collins, 2023) i.e. as Moderate suitability habitat, one survey per month through the bat activity season). The dusk surveys commenced at sunset and lasted until approximately 2 hours after sunset. In this instance, assessing the levels of activity recorded it wasn't perceived necessary to increase the number of planned surveys during the survey season.
- 2.2.8 In this instance, two transect routes (east and west) were deemed sufficient to cover the site. This was determined during the Preliminary Ecological Appraisal taking account of landscape constraints, topography, location of nearest habitats more likely to be utilised by bats, and the distance a surveyor can walk in a single evening (maximum of 3-5km). The transect sampled the full range of habitats present on site.
- 2.2.9 Each transect route was supplemented by 10 spot counts (labelled 1-10), each of a 3-to-5-minute duration, with the transect route in-between divided into sectors (labelled 1-10). Each survey commenced from a different transect point, and the transect direction varied, in order to gather information on bat usage at different points of the site relative to different times after sunset.
- 2.2.10 During the surveys, the surveyors recorded the time, location, species, and behaviour (i.e. foraging, commuting or swarming) of each bat pass (a single bat pass or a 10sec period of activity recorded as 1). Additional factors, such as, the number of bats, flight height, bat appearance and relative speed, were recorded where observed. The surveyors were equipped with Echo Meter Touch 2 Pro Full spectrum detectors combined with an iPad Pro 9.7. Bat echolocation calls were saved onto the iPad.
- 2.2.11 In accordance with current guidance (Collins, 2023), two static Song Meter SM4BAT FS (Wildlife Acoustics Inc., Concord, MA) automated bat detector units were deployed during each month April to October. The units were placed at ground level, whilst the microphones were

connected approximately 2m from ground height, away from solid objects which may obstruct sound and any source of extraneous noise. The same locations were used each month to allow an assessment of any spatial and temporal variation in bat activity across the site. In each instance, the static detectors recorded for at least 5 consecutive nights, with the detectors automatically switching on 30 minutes prior to sunset and switching off 30 minutes after sunrise (pre-programmed sunset/sunrise times based on location of detector).

Badger Survey

- 2.2.12 A search of the Site and land within a minimum accessible 50m radius was undertaken for signs of Badger activity in accordance with current guidance ((Harris, Cresswell, & Jefferies, 1989) and (Badger Trust, 2023)). This involved a search for the presence of setts, foraging activity (e.g. snuffle holes), latrines, dung pits, prints and trampled pathways. The location of any setts was mapped, and details recorded on the number of entrances and signs of use such as bedding material, fresh spoil and hairs were recorded. The extent of the setts underground has not been mapped as this could extend in any direction up to at least 20 metres.
- 2.2.13 Additionally, any other significant evidence of Badger activity (i.e. territory latrines and runs connecting setts) was mapped. Where relevant, Red Fox (*Vulpes vulpes*) and Rabbit (*Oryctolagus cuniculus*) excavations and associated evidence of activity have also been recorded.
- 2.2.14 No bait marking or other exercises that indicate the territorial range of the Badgers has been undertaken as considering the Site proposals and layout, and the assessment of impacts presented here, it is considered that further assessment of how the territorial boundaries of different badger groups in an area will be affected by the proposals is not required in this instance.
- 2.2.15 No significant Badger latrines were identified indicating the edge of any Badger group territories within or adjacent to the Site. The proposals are not considered to potentially cause any conflict between Badger social groups which would require additional specialist survey such as bait marking to map territorial ranges.

Otter and Water Vole Survey

Otter

- 2.2.16 A detailed search for signs of Otter activity was undertaken in accordance with current guidance (Chanin, 2003). This involved a search for: spraints (droppings) on upstanding rocks in the channel and under bridges; feeding signs (i.e. part-eaten remains of fish, amphibians and crayfish); slides on the river bank; paw prints in mud; and breeding sites (holts), resting places (lay-ups in tree cavities, riverbanks or under overhangs), or couches (i.e. flattened earth or areas concealed by surrounding vegetation).

Water Vole

- 2.2.17 A detailed search for signs of Water Vole activity was undertaken in accordance with current guidance (Strachan & Moorhouse, 2016). This involved a search for: feeding remains (stacks of neatly cut vegetation), latrines (sites regularly used for depositing droppings which act as territory markers); droppings (non-latrine sites); burrows; prints; runs; and sightings of Water Vole.

Breeding Bird Survey

- 2.2.18 The survey methodology employed was the Bird Survey Guidelines for assessing ecological impacts (Bird Survey & Assessment Steering Group, 2025), with modifications made based on the territory mapping system used for the British Trust for Ornithology (BTO) Common Bird Census (Marchant et al. 1983 & 1990), to ensure all habitats within the site were surveyed.
- 2.2.19 A total of six survey repetitions were undertaken during the bird nesting season. During each of the survey visits, a transect was walked through the application site in combination with vantage points/survey stations. Any notable birds observed or heard during the survey were recorded and the location mapped, in addition to a record of behaviour, age and/or sex as appropriate, using the standard BTO species codes and symbols for bird activity. Care was taken at all times to ensure no birds were double counted.
- 2.2.20 Surveys were undertaken between half an hour before sunrise and mid-morning when bird activity is at its highest, with one survey undertaken in the evening to beyond sunset to record species which may be more active at this time of day.

Barn Owl Survey

- 2.2.21 With reference to current survey guidelines (Shawyer, C R, 2011) a single tree in the north of the site identified during the Preliminary Ecological Appraisal (ARUP, 2024) was visually inspected, using ladders to access necessary features, to search for signs indicating the presence or potential presence of Barn Owl nests, such as:
- Potential access points that are 70-80 millimetre diameter as a minimum, or vertical slots of this width;
 - Large dark chamber with a floor area greater than 250 x 250 millimetres;
 - Evidence of white excreta (whitewash);
 - Direct evidence of Barn Owls (sightings, droppings, pellets and feathers); and
 - Evidence of nesting Barn Owls (e.g. droppings, regurgitated pellets, moulted feathers).
- 2.2.22 The type, location and extent of evidence found will be used in combination with professional opinion to determine whether Barn Owls are considered to be roosting and/or breeding on site. Any additional observations made in the evening and early morning (e.g. during the bat surveys) were also recorded.

Great Crested Newt Survey

Habitat Suitability Index (HSI) Assessment

- 2.2.23 Pertinent waterbodies identified by the desk study and through field survey which lie within the site or within an unobstructed 250m radius of the site boundary (i.e. not beyond dispersal barriers such as major roads or development) were subject to Habitat Suitability Index (HSI) Assessments to determine their suitability and potential to support breeding GCN. *Note: it is recognised that current guidance states ponds within a 500m radius of a development should be considered, however for the purposes of this Preliminary Ecological Appraisal it was determined ponds outside of 250m were not currently applicable for the scope of assessment undertaken.*
- 2.2.24 Refer to the appended plan for pond locations.

2.2.25 The HSI is a measure of the suitability of a pond for breeding GCN using a numerical index between 0 and 1. The index is derived from an assessment of the following ten scoring criteria variables known to influence the probability of GCN presence (ARG, 2010)

- Geographical Location;
- Pond area;
- Pond drying;
- Water quality (as indicated by the diversity of aquatic plants and invertebrates);
- Amount of shade;
- Presence of waterfowl;
- Presence of fish;
- Number of other waterbodies within 1 kilometre;
- Quality of surrounding terrestrial habitat; and
- Macrophyte cover (i.e. aquatic and emergent plants).

2.2.26 In addition, where possible the pond depth was recorded, and a photo reference of each waterbody was taken.

eDNA Survey

2.2.27 Environmental DNA (eDNA) survey was undertaken at ponds within an identified potential zone of influence. The survey was carried out in accordance with sampling methods and protocol described within the current standard guidance Appendix 5: Technical Advice Note for field and laboratory sampling of Great Crested Newt (*Triturus cristatus*) environmental DNA (Biggs, 2014).

- Identify 20 locations around the margins of the waterbodies where samples are to be taken. Locations should be evenly spaced and where possible target areas which appear most suitable for GCN egg-laying and open areas most suitable for GCN display behaviours;
- Collect 20 samples of 30ml of pond water using a sample ladle and mix within a Whirl-Pax bag (before each sample is taken the water column should be gently mixed without disturbing the sediment on the base of the waterbody);
- Pipette the mixed water from the Whirl-Pax bag into 6 individual sterile tubes containing 35ml of Ethanol (to preserve the sample) and shake well; and
- The box of preserved samples is then sent off to an approved laboratory at the earliest opportunity to undergo analysis to confirm the presence or absence of GCN DNA within the samples.

2.2.28 At all times the surveyors took measures to avoid the risk of contamination of samples by: changing gloves between the initial sampling and pipetting, ensuring the survey ladle and pipette never touched the ground or other potentially contaminated surfaces, and by ensuring

the waterbody was not entered by the surveyor which may lead to transferring water between waterbodies.

Reptile Survey

Artificial Refugia and Direct Observation Survey

- 2.2.29 Artificial refugia material was set out throughout suitable reptile habitats within the proposed development site. In this instance, this focussed on field boundary habitats, and particularly those in wide rough field margins and arable set-aside adjacent to favourable shelter such as woodland.
- 2.2.30 Current survey guidelines recommend a refuge density of between five and ten refuges per hectare of suitable reptile habitat (Froglife, 1999), however the more traps used the greater the chance of detection. In this instance, considering the vast majority of the site represents unsuitable arable cropland, a total of 200 refugia was considered to provide a suitable trap density. This included 150x torch-on roofing felts 50x50cm in size, and 50x corrugated tin 50x50cm in size. The refugia were numbered and their locations were mapped using GPS to enable recording of reptile distribution and population density. Refugia were laid out across all suitable habitats at the site including field margins and woodland edge.
- 2.2.31 The refugia were left to bed down for a minimum of 2 weeks prior to the first check. During this time, favourable conditions develop at the traps (e.g. suitable humidity and temperature gradient), vegetation beneath dies back, and reptiles have time to discover and become more familiar with them.
- 2.2.32 In accordance with current guidance (Froglife, 1999) the refugia were then checked on seven separate survey repetitions, in order to obtain sufficient data to confirm presence or likely absence and gain an estimation of population size. Surveys were only completed during suitable weather conditions as described by current survey guidelines (Froglife, 1999) (i.e. avoiding particularly windy, rainy or overly hot days/periods).
- 2.2.33 In addition to checking the refugia for reptiles, direct observation of any reptiles within the site not using the utilising traps was also undertaken. This complementary method was undertaken by the surveyor slowly walking, treading as quietly as possible, between traps and observing areas suitable for reptiles. Particular attention was paid to potential basking spots (e.g. open, sunny habitats close to cover) and to listen for rustling of vegetation. Where a suspected reptile was heard but not seen (or only a fleeting glimpse gained) the area was returned to around 10 minutes later to search for any reptile moving back out into a basking spot.
- 2.2.34 The surveyor recorded the location, number, species, and sex of each reptile species encountered. Any other notable wildlife encountered were also recorded. Where reptiles were detected through direct observation (i.e. not at a numbered refugia) these were allocated to the nearest refugia number.
- 2.2.35 The artificial refugia were removed from site upon completion of the survey.
- 2.2.36 No advanced survey techniques such as capture-mark-recapture surveys, or specific survey methodology for Smooth Snake (*Coronella austriaca*) or Sand Lizard (*Lacerta agilis*), was undertaken.

2.3 Assessment

Assessment of Suitability of Features for Roosting Bats

2.3.1 Following the preliminary assessment of trees, based on the signs present, each tree was classified as one of the following categories in accordance with current guidance (Collins, Bat surveys for Professional Ecologists: Good Practice Guidelines (4th edn), 2023).

- None – Either no PRFs in the tree or highly unlikely to be any;
- FAR – Further assessment required to establish if PRFs are present in the tree;
- PRF – A tree with at least one PRF present.

2.3.2 Where PRFs are identified, they are categorised in relation to the suitability for roosting bats based on the following, and to be applied using professional judgement in accordance with current guidance (Collins, Bat surveys for Professional Ecologists: Good Practice Guidelines (4th edn), 2023).

- PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
- PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony.

2.3.3 The decision-making process for any required further tree surveys shall be undertaken in accordance with the flow-chart and different survey approaches presented in Chapter 6 of the Bat Surveys for Professional Ecologist guidance (Collins, 2023).

Bat Activity Survey Data Analysis and Assessment

2.3.4 The audio recordings from the Echo Meters and SM4s were later analysed using Kaleidoscope Pro 4.0.4 UK Analysis Software for Ultrasonic Data. This programme uses UK bat classifiers and auto-ID to determine species of bats recorded. However, in every instance this data was fully reviewed by a bat licensed ecologist (Derek Allan MSc, BSc (Hons) MCIEEM, NE Class 2 Licence Number: 2015-14659-CLS-CLS) to confirm its accuracy, specifically where rarer bat species are recorded, where unidentified files are present, where multiple species are present on a single file, or where the auto-ID match ratio is statistically <0.5 confidence (files of Pipistrelle spp. were not assessed further). Any significant sonograms were saved, as an example of each species identified.

2.3.5 Bat Activity Index (BAI – bat passes per hour) were calculated for each bat species recorded within each spot count/sector/static location and for the site overall. For each spot count/sector/static location, the BAI was calculated by dividing the number of individual species passes recorded at these locations by the total duration data was collected at each location, to give the mean number of passes per hour. For the site overall, the BAI was calculated by dividing the number of individual species passes recorded during the manual and automated surveys by the total duration of each survey, to give the mean number of passes per hour.

2.3.6 The highest BAI (either from the Manual or Static survey) is then combined with values for: national rarity, site/nearby roost potential, and habitat characteristics (calculated as shown below, to give a total score in accordance with current guidance (Wray et al., 2010). The total score is then given a value which is assigned a geographic frame of reference as shown below.

Vagrant bats (those species which are not resident and only recorded as occasional visitors) are simply assessed as vagrants.

Table 2 - Calculation of Foraging/Communing Habitat Score (shown in brackets)

BAI*	National Rarity	Site/Nearby Roost Potential	Habitat Characteristics
Low BAI >0 but <6 (5)	Common (2)	None (1)	Industrial or other site without established vegetation. Absence of linear features (1)
-	-	Small number (3)	Suburban areas or intensive arable land. Un-vegetated fences and large field sizes (2)
Moderate BAI >=6 but <60 (10)	Rarer (5)	Moderate number/not known (4)	Isolated woodland patches, less intensive arable (moderate field sizes) and/or small towns and villages (3)
-	-	Large number of roosts, or close to a SSSI for the species (5)	Large or connected woodland blocks, mixed agriculture (small field sizes with well grown, well connected hedgerows) and small villages/hamlets (4)
High BAI >=60 (20)	Rarest (20)	Close to or within a SAC for the species (20)	Mosaic of pasture (small fields), woodlands and wetland areas with complex network of mature well-established hedgerows (5)

*BAI categories are based on professional judgement in the absence of published guidance.

Table 3 - Categorisation of Bats by National Rarity (England only shown)

Rarity within Range	England
Common (population over 100,000)	Common Pipistrelle Bat (<i>Pipistrellus pipistrellus</i>), Soprano Pipistrelle Bat (<i>Pipistrellus pygmaeus</i>), Brown Long-eared Bat (<i>Plecotus auritus</i>).
Rarer (population 10,000-100,000)	Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>), Whiskered Bat (<i>Myotis mystacinus</i>), Brandt's Bat (<i>Myotis brandtii</i>), Daubenton's Bat (<i>Myotis daubentonii</i>), Natterer's Bat (<i>Myotis nattereri</i>), Leisler's Bat (<i>Nyctalus leisleri</i>), Noctule Bat (<i>Nyctalus noctula</i>), Nathusius' Pipistrelle Bat (<i>Pipistrellus nathusii</i>), Serotine Bat (<i>Eptesicus serotinus</i>).
Rarest (population under 10,000)	Greater Horseshoe Bat (<i>Rhinolophus ferrumequinum</i>), Bechstein's Bat (<i>Myotis bechsteinii</i>), Alcaholic Bat (<i>Myotis alcaholic</i>), Barbastelle Bat (<i>Barbastelle barbastellus</i>), Grey Long-eared Bat (<i>Plecotus austriacus</i>).
*Vagrant species and occasional visitors	Greater Mouse-eared Bat (<i>Myotis myotis</i>), Parti-coloured Bat (<i>Vespertilio murinus</i>), Kuhl's Pipistrelle Bat (<i>Pipistrellus kuhlii</i>), Savi's Pipistrelle Bat (<i>Hypsugo savii</i>), Pond Bat (<i>Myotis dasycneme</i>), Notch-eared Bat (<i>Myotis emarginatus</i>), Northern Bat (<i>Eptesicus nilssonii</i>).

Table 4 – Bat Sites/species Valuation System

Geographic Frame of Reference	BAI Score	Roost Types
Within zone of influence	1-10	N/A
Local	11-20	Feeding Perches (common species), individual bats (common species), small numbers of non-breeding bats (common species), mating sites (common species)
County	21-30	Maternity sites (common species), small numbers of hibernating bats (common and rarer species), feeding perches (rarer/rarest species), individual bats (rarer/rarest)

Geographic Frame of Reference	BAI Score	Roost Types
		species), small numbers of non-breeding bats (rarer/rarest species)
Regional	31-40	Mating sites (rarer/rarest species) including well-used swarming sites, maternity sites (rarer species), hibernation sites (rarest species), significant hibernation sites
National	41-50	Maternity sites (rarest species), Sites of Special Scientific Interest (SSSI)
International	>50	Special Areas of Conservation (SAC)

Badger Assessment

2.3.7 Any identified Badger setts have been classified according to the definitions as stipulated by current guidance (Harris, Cresswell, & Jefferies, 1989):

- **Main Sett** – usually a large number of holes with conspicuous spoil heaps. When active, there will be well-used trampled paths to and from the sett and between entrances. Normally the breeding sett and in continuous use.
- **Annexe Sett** – close to the main sett and usually less than 150m away and connected by well-used paths. They usually have several holes but may not be in use all the time even if the main sett is active.
- **Subsidiary Sett** – often only have a few holes with 3 to 5 the average. Usually at least 50m from the main sett and without well-used paths between or connecting with another sett. Often not continuously active.
- **Outlier Sett** – usually only 1 or 2 holes and often have only a little spoil outside and no obvious paths connecting to other setts. Used only sporadically and when not in use often taken up by fox or rabbit.

2.3.8 Sett entrances are also classified in accordance with the following levels of activity/use (Harris, Cresswell, & Jefferies, 1989):

- **Well-used** – clear of debris and vegetation and obviously in regular-use. May or may not have recent signs of excavation.
- **Partially-used** – not in regular use and may have twigs, vegetation and other debris in and around entrance. Could be taken up by Badger with minimal clearance.
- **Disused** – not been in use for some time and are often partially or completely blocked and could not be used by Badger without significant excavation/clearance. May be a completely collapsed hole with the only evidence a depression in the ground and old spoil heap.

Otter and Water Vole Assessment

2.3.9 An assessment of Otter activity has been made based on the number of Otter signs found using the methods described in current guidance (Chanin, 2003).

2.3.10 An assessment of the level of Water Vole activity has been made according to those results obtained from the field survey. The number of adult females on site was estimated by dividing the number of latrines by six (Strachan & Moorhouse, 2016). The predictive equation developed by Morris et al. (1998) was also used to give an estimate of the total number of Water

Voies that were present on site during the surveys. The predictive equation is $y = 1.48 + 0.683x$ (where y is Water Voies and x is latrines).

Breeding Bird Assessment

- 2.3.11 For the purposes of this assessment the breeding status of observed birds was determined where possible using the BTO breeding evidence criteria as confirmed breeding, probable breeding, possible breeding, or non-breeding.

Table 5 - BTO Breeding Evidence Criteria

Breeding Status	Evidence	Code
Confirmed Breeding	Distraction-Display or injury feigning	DD
	Used Nest or eggshells found (occupied or laid within period of survey)	UN
	Recently fledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g., feeding) is helpful. Be cautious, even if the record comes from suitable habitat	FL
	Adults entering or leaving nest-site in circumstances indicating Occupied Nest (including high nests or nest holes, the contents of which cannot be seen) or adults seen incubating	ON
	Adult carrying faecal sac or food for young	FF
	Nest containing eggs	NE
	Nest with young seen or heard	NY
Probable Breeding	Pair observed in suitable nesting habitat in breeding season	P
	Permanent territory presumed through observing territorial behaviour (song etc.) on at least two different days a week or more apart at the same place or many individuals on one day	T
	Courtship and display (judged to be in or near potential breeding habitat)	D
	Visiting Probable Nest Site	N
	Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby	A
	Brood patch on adult observed examined in the hand, suggesting incubation	I
	Nest building or excavating nest-hole	B
Possible Breeding	Species observed in breeding season in suitable nesting habitat	H
	Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat	S
Non-breeding	Flying-over	F
	Species observed, but suspected to still be on Migration	M
	Species observed, but suspected to be summering non-breeder	U

- 2.3.12 To provide an assessment of the value of the application site for breeding birds, the level of geographic importance has been determined using the widely used adaptation of the criteria defined by Fuller (1980), which provides an assessment of the value of the study site based in the number of breeding bird species detected.

Table 6 - Site Importance Assessment Criteria

Level of Importance	Number of Breeding Bird Species
Local	<25 species
District	25-49 species
County	50-69 species
Regional	70-84 species
National	85+ species

- 2.3.13 An estimate of the number of potential Lapwing (*Vanellus vanellus*) and Skylark (*Alauda arvensis*) territories at the site and immediately adjacent was determined through assessment of the number of individuals detected, territorial behaviours, any confirmed nests (e.g. adults observed entering a nest site, or nest with young heard/seen), and noting where activity was consistently observed across more than one survey (i.e. the presence of a single Skylark on one survey does not necessarily equate to an established breeding territory).
- 2.3.14 Habitats in the study zone were assessed for their suitability for use by notable species on their habitat requirements described in *Bird Monitoring Methods: A Manual of Techniques for Key UK Species* (Gilbert, 1998).

Barn Owl Assessment

- 2.3.15 Based on the field survey results, any structures or trees are first assessed to determine which of the following categories they fall into (Shawyer, C R, 2011):
- Negligible Suitability – no features suitable for Barn Owl;
 - Potential Nest Site (PNS) – possess features of a suitable size and structure to provide a suitable Barn Owl nest site but no evidence of their presence has been recorded;
 - Occupied Breeding Site (OBS) – Presence of adults, young, eggs, egg shells, cushion of pellets, food remains, or juvenile down;
 - Active Roost Site (ARS) – breeding does not occur but Barn Owl is seen or heard regularly, or there is whitewash, regurgitated pellets or moulted feathers. Should be recorded as occasionally used or regularly used, and recorded as a Winter, Spring, Autumn, or Summer roost; or
 - Temporary Rest Site (TRS) – As ARS but evidence much less and only temporarily used.
- 2.3.16 Where applicable, any Potential Feeding and Dispersal Habitat (PFH), or Traffic Accident Black spots (TAB) are also identified.
- 2.3.17 Where evidence is identified, the site is then defined in the following way (Shawyer, C R, 2011):
- Confirmed Breeding – Pair of Barn Owls recorded occupying an OBS during the breeding season or when eggs, egg shells, chicks and/or juvenile down are identified at or near to a OBS;
 - Probable Breeding – A Barn Owl is observed carrying prey into the site, a pair is seen or heard calling during the breeding season or when a collection of ARS, food cache and/or female moulted wing feathers are identified at or near the site; or

- Possible Breeding – An occasionally used Spring or Summer ARS has been identified containing one or more PNS, but where there is no other evidence of breeding.

Great Crested Newt Survey Assessment

- 2.3.18 An assessment of potential impacts to GCN, in the absence of mitigation, has been undertaken in accordance with CIEEM guidelines (CIEEM, 2018). Where potential impacts to GCN are identified, avoidance, mitigation, compensation measures that are proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works are described. In addition, in accordance with the NPPF, opportunities to enhance or create benefits for GCN (and common amphibians) are explored alongside the hierarchy of aforementioned measures.

Dispersal Barriers

- 2.3.19 Features and habitats within and surrounding the Site were assessed to determine if they represent dispersal/fragmentation barriers to GCN. In accordance with current guidance, “barriers to regulate migration and dispersal include roads with high traffic volume, built-up areas, large or fast-flowing rivers, and large expanses of intensively farmed land” (Langton, 2001).

HSI

- 2.3.20 The HSI assessment scores were used to rate the suitability of each waterbody for GCN, following the system shown below.

Table 7 – Pond Habitat Suitability Index (HSI) Categories

HSI Score	Pond Suitability for GCN
<0.5	Poor
0.5-0.59	Below Average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

Reptile Assessment

- 2.3.21 Each survey visit may reveal only a small sample of the reptile population occurring on site, because the proportion of individuals recorded varies according to weather, migration patterns etc. A mechanism known as the Key Reptile Site Register can be used to obtain a basic evaluation of the population size and importance of the site. It has been designed to identify and promote the safeguarding of important reptile sites, with outstanding assemblages being the guiding principle in judging sites. To qualify for the Key Reptile Site Register, the site must meet at least 1 of the following criteria (Froglife, 1999):

- Supports 3 or more reptile species;
- Supports 2 snake species;
- Supports an exceptional population of 1 species (Refer to Table 2.2);
- Supports an assemblage of species scoring at least 4 (Refer to Table 2.2); and
- Does not satisfy any of the above but which is of particular regional importance due to local rarity.

Table 8 - Key Reptile Site Register Population Scores

Species	Low Population (Score 1)	Good Population (Score 2)	Exceptional Population (Score 3)
Adder (<i>Vipera berus</i>)	<5	5-10	>10
Grass Snake (<i>Natrix helvetica</i>)	<5	5-10	>10
Viviparous Lizard (<i>Zootoca vivipara</i>)	<5	5-20	>20
Slow-Worm (<i>Anguis fragilis</i>)	<5	5-20	>20

***Figures in the table refer to maximum number of adults seen by observation and/or under refugia (placed at a density of up to 10 per hectare, by one person in one day).**

- 2.3.22 Potential ecological constraints to development in relation to common reptiles have been identified from desk study and field survey data using current development proposals.
- 2.3.23 Additionally, where necessary the carrying capacity of the chosen receptor has been estimated. This is based on the professional opinion of an ecologist and is not based upon any specific quantitative approach. It takes into consideration the suitability of habitats throughout the receptor, and the likely population size that this could hold, then determines whether the population of reptiles from the donor site could be added to the existing population within the receptor whilst maintaining the conservation status of the species concerned (with or without additional habitat enhancements being undertaken).

Assessment of Potential Development Impacts

- 2.3.24 A level of importance has been assigned to each ecological feature, where sufficient baseline data is available to do so, in accordance with current guidance (CIEEM, 2018). This is defined within a geographical context as follows: International and European; National; Regional; Metropolitan, County, vice-county or other local authority-wide area; River Basin District; Estuarine system/Coastal cell; and Local (plus Negligible where no associated value has been identified). For example, importance of designated sites reflects the geographical context of the designation (where designated sites no longer meet designation criteria and those formally 'de-notified' or where an undesignated site meets published selection criteria must also be considered). When considering habitats and species contextual information about distribution and abundance of that habitat/species in the area must be considered (if the habitat/species status is currently in a degraded or unfavourable condition its potential value should be considered).
- 2.3.25 The assessment then considers potential impacts (both positive and negative) generated during the construction and operational phase of the proposed application. Only impacts that are likely to be significant are considered. Impacts that are either unlikely to occur, or if they did occur are unlikely to be significant, are not considered.
- 2.3.26 Cumulative impacts are then considered where the application meets criteria in accordance with national EIA screening guidance (GOV.UK, 2019), and where agreed with the competent authority during scoping. This takes into consideration existing background levels of threat or pressure, looks at critical thresholds, and assess both additive/incremental and associated/connected impacts and effects.
- 2.3.27 Relevant aspects of ecological structure and function are then considered when determining if identified impacts will have a significant effect upon ecological features. Where necessary, this assessment utilises information from other specialists i.e. air quality, hydrology etc, to determine the level of impact. In accordance with current guidance (CIEEM, 2018) these are

described using the following characteristics, where relevant: positive or negative; extent; magnitude; duration; frequency and timing; and reversibility.

- 2.3.28 The mitigation hierarchy is then explored in accordance with BS42020:2013 (BSI, 2013). This seeks as a preference to avoid impacts, then to mitigate unavoidable impacts, and as a last resort, to compensate for unavoidable residual impacts that remain after avoidance and mitigation measures. Justification has been provided by the client/their planner where the mitigation hierarchy cannot be followed, or for example where compensation is a preferred approach where the competent authority has adopted a County wide strategy i.e. District Level Licensing Schemes (GOV.UK, 2019). In this instance current national Biodiversity Offsetting guidance has also been consulted (GOV.UK, 2019). Additional information has also been provided by the client/their planner where the applicant wishes to demonstrate exceptional circumstances or where they wish to pursue alternative strategies. Any residual impacts following mitigation measures etc are then identified.
- 2.3.29 All mitigation measures follow species specific current best practice guidance and the source has been identified accordingly. Deviation from guidance has been explained by the ecologist and is proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works.
- 2.3.30 It is important that planning decisions are based on up-to-date ecological data, and the specific timeframe over which survey data is considered valid follows general advice (CIEEM, 2019). Additionally, it should be noted that the presence/absence and status of protected species can change seasonally/annually. The age of data should also be assessed separately when considering the submission of an EPS Licence (i.e. Natural England may require data to be from the current season).
- 2.3.31 Local Environmental Records Centres (LERC) issue a licence for use of provided biodiversity data for 1 year only, after which time this should be renewed to validate an application (and reports updated accordingly to incorporate any new records). Following completion of surveys all relevant biodiversity data will be submitted to the relevant LERC and other groups as appropriate.

2.4 Limitations

- 2.4.1 Data held by consultees may not be exhaustive; the absence of evidence does not indicate evidence of absence. Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.
- 2.4.2 Natural England do not hold information of Ancient Woodland less than 2ha in size.
- 2.4.3 Records over 10 years old for transient species (as these are likely to have moved during the interim) and species protected from sale only under the W&C Act 1981 and amendments, are excluded (as these are not relevant to a planning application). Additionally, given the large number of priority species, these have only been included if identified from the desk study and/or habitats recorded on site have been assessed as providing suitable conditions.
- 2.4.4 Geological & landscape sites have only been included within this report where they have biodiversity or nature conservation components to their designation.
- 2.4.5 At certain times of year flora species may be in a state of senescence and are not readily identifiable. However, August represents a favourable time to identify the majority of flora species, and it was possible to easily classify the commonly occurring habitat types. The timing of the habitat surveys is not perceived as a survey limitation.

- 2.4.6 This document does not contain a comprehensive list of botanical species on site. Only plant species characteristic of each habitat and incidental observations of notable plant species were recorded.
- 2.4.7 Derbyshire Dales District Council do not supply information on Important Hedgerows.
- 2.4.8 All areas within the site boundary were fully accessible during all surveys (aside from 2.4.9 below).
- 2.4.9 However, during the Great Crested Newt Surveys, no access to several off-site ponds was able to be agreed and therefore no further Habitat Suitability Index (HSI) assessment or eDNA survey was possible at these ponds. This access limitation has been recognised in this assessment and the proposed precautionary approach to mitigation and licensing.
- 2.4.10 It should be noted that Long-eared Bats echolocate more quietly, and Horseshoe Bat species in particular echolocate more directionally, compared to other bat species and so can sometimes be more difficult to detect and often go unrecorded. Species from the *Myotis* and *Nyctalus* genera are notoriously difficult to distinguish in the field and from recorded sonograms, as there is considerable overlap in their range of echolocation frequencies. Where the species cannot be determined only the genus is stated.
- 2.4.11 Auto ID is intended for use in analysing recordings of single bats in free flight, low clutter environments. On average, more than half of such recordings will result in classifications with 80% accuracy. Recordings of roost emergence, multiple bats, captive bats, bats in high-clutter environments or bat social calls are not suitable for Auto ID and results may not be accurate. Kaleidoscope classification software is not intended to replace expert human analysis, and as such results will contain false positives and false negatives.
- 2.4.12 It is recognised that the static bat detector deployed in the eastern part of the site (SM4 M) registered bat calls in September only, with no recordings throughout the other months. This was thoroughly investigated on several occasions and the detector tested elsewhere and confirmed to be fully operational. The specific location of deployment was also checked and confirmed the microphone was not blocked. The hundreds of monthly Noise files recorded on this detector were also checked and confirmed to not represent bat records which had just not been identified properly. Overall, it is confirmed that the results presented here do represent a fair representation of the bat activity in this area, and the lack of recordings is not due to any equipment malfunction.
- 2.4.13 Although all reasonable effort was made to search all areas of the site and immediate surrounds for evidence of Badger (including Badger setts), due to the size of the site there is a low risk that further Badger setts may have been missed. However, this is limitation has been recognised in the proposed precautionary approach to mitigation (including a pre-commencement updated check and supervision of sensitive site clearance by and Ecological Clerk of Works (ECow)) such that this is not considered an overall significant limitation to this assessment.
- 2.4.14 During the Reptile Surveys, individual numbers of traps were occasionally found to have been removed by members of the public, blown away by the wind, or otherwise lost. Where this occurred, they were replaced by a spare trap of the same type. No significant loss of traps occurred, and this is not considered to represent a significant survey or assessment limitation. It is recognised that one repetition (dated 24th June) was conducted with moderate wind which is sub-optimal for Reptile Surveys. However overall, it is assessed that the suite of reptile surveys was conducted across a range of favourable conditions and time of year sufficient to determine their presence or absence. These sub-optimal conditions on a single occasion only are not considered a significant limitation to the overall impact assessment.

- 2.4.15 No particularly inclement weather conditions were experienced on any other of the surveys to which may have significantly impacted the results gathered.
- 2.4.16 Although no invasive flora has been identified, due to the expansive size of the site and nature of the habitats present, it is possible that stands of invasive flora may have been missed and a precautionary approach is recommended (see Mitigation section).

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3.0 Baseline Ecological Conditions

3.1.1 Ecological features identified by the desk study/field survey are presented below, along with their details and associated ecological value. Refer to appended drawings for the location/extent of ecological features where relevant.

Table 9 – Ecological Features

Ecological Feature	Details	Ecological Importance
Statutory sites designated or classified under international conventions or European legislation		
Bees Nest & Green Clay Special Area of Conservation (SAC) 12.2km north	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: - Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites) Annex II species that are a primary reason for selection of this site: - Great Crested Newt (<i>Triturus cristatus</i>)	European
Gang Mine SAC 13km north	Annex I habitats that are a primary reason for selection of this site: Calminarian grasslands of the Violetalia calaminariae	European
Peak District Dales SAC 13.75km north west	Annex I habitats that are a primary reason for selection of this site: - Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites) - Tilio-Acerion forests of slopes, screes and ravines Annex I habitats present as a qualifying features, but not a primary reason for selection of this site: - European dry heaths - Calminarian grasslands of the Violetalia calaminariae - Alkaline fens - Calcareous and calshist screes of the montane to alpine levels (Thlaspietea rotundifolii) Annex II species that are a primary reason for selection of this site: - White-clawed Crayfish (<i>Austropotamobius pallipes</i>) Annex II species present as a qualifying features, but not a primary reason for site selection: - Brook Lamprey (<i>Lampetra planeri</i>) - Bullhead (<i>Cottus gobio</i>)	European

Ecological Feature	Details	Ecological Importance
Statutory sites designated under national legislation (& Impact Risk Zones)		
Mercaston Marsh and Mugginton Bottoms Site of Special Scientific Interest (SSSI) 310m north	Features marshland on the sides of two shallow valleys which run parallel to each other before joining Mercaston Brook. The variable nutrient-rich and nutrient-poor conditions have led to a mosaic of lowland wetland habitats, comprising tall fen and swamp, marshy grassland and valley mire. This forms the largest and most species-rich marsh in Derbyshire. The site consists of Mercaston Marsh in the west and is predominantly nutrient-rich. Mugginton Bottoms in the east has a flora assemblage more representative of acidic conditions. The site is also known for breeding and wintering Snipe (<i>Gallinago Gallinago</i>).	National
Kedleston Park SSSI 3km east	Kedleston Park is situated 2 km north-west of the edge of the city of Derby in the valley of Cutler Brook, a small tributary of the River Derwent. The site includes three areas of the Park in which ancient fens are concentrated and is coincident in part with a former Mediaeval deer park although the land within the site is now managed in a variety of ways including wood-pasture, high-forest woodland and as a golf course. The main interest of Kedleston Park is the rich and diverse deadwood invertebrate fauna which is primarily dependent upon the large number of mature and overmature beech <i>Fagus sylvatica</i> and pedunculate oak <i>Quercus robur</i> trees which have survived here providing a link through time with the formerly extensive areas of open structured wood-pasture of this part of lowland England. To be capable of supporting highly specialised deadwood invertebrates such as those found at Kedleston trees need to be several hundred years old and furnished with a wide range of small-scale habitats including living and dying wood together with dead wood in every type and stage of decay. Together with the wood-rotting fungi this community of organisms represents a complex system of nutrient recycling rarely found in woodlands today	National
Hulland Moss SSSI 3.9km north	The site is located to the east of Ashbourne in the south of the county, on the junction between Millstone Grit and Bunter Sandstone. It is an example of lowland bog and heath with areas of dry oak <i>Quercus</i> sp. wood and wet alder <i>Alnus glutinosa</i> wood. The flora includes a number of species which are local or rare in lowland Derbyshire. Most other examples of these habitats in the county have been reclaimed for agriculture.	National
Impact Risk Zone (IRZ)	The Impact Risk Zone (IRZ) in which the site lies states the LPA should consult Natural England on the likely impacts of the following development categories: - Infrastructure: Pipelines and underground cables, pylons and overhead cables (excluding upgrades and refurbishment of existing network). Any transport proposal including new or extended footways, cycleways, roads/car parks, railways and waterways (excluding routine maintenance). Airports, helipads and other aviation proposals.	Proposals assessed to meet the criteria for which LPA are advised to consult Natural England (i.e. Rural Non-Residential here)

Ecological Feature	Details	Ecological Importance
	- Minerals, Oil and Gas: Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. - Rural Non-Residential: Large non-residential developments outside of existing settlements/urban areas where the net additional gross internal floorspace is > 1,000m² or the footprint exceeds 0.2ha. - Residential: Residential development of 100 units or more. - Rural Residential: Any residential development of 50 or more units outside existing settlements/urban areas. - Air Pollution: Any development that could cause AIR POLLUTION (including: industrial/commercial processes, livestock & poultry units, slurry lagoons/manure stores). - Combustion: All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion. - Waste: Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management. - Compost: Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. - Discharge: Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream. - Water Supply: Any development needing its own water supply eg remote rural housing that is not connected to a mains water supply, OR large infrastructure such as warehousing/industry where the total net additional gross internal floorspace following development is > 1,000m².	footprint exceeds 0.2ha).
Local Nature Reserves		
No Local Nature Reserves within a 5km radius of the site	-	-

Ecological Feature	Details	Ecological Importance
Other locally designated wildlife sites		
Wood Lane Local Wildlife Site (LWS) Immediately Adjacent	A Green Lane including neutral grassland, bramble scrub, species-rich hedgerow and trees. The noted ecological feature is Hedgerows.	County
Mercaston Hall Farm Field LWS 0.18km east	Features grassland noted for its relatively large population of Wild Daffodil (<i>Narcissus pseudonarcissus</i>). The noted ecological feature is semi-improved neutral grassland.	County
Carr Wood Potential LWS 0.27km south	Area of Lowland Mixed Deciduous Woodland Priority Habitat identified as a Potential LWS.	County
Mercaston Brook Margins LWS 0.35km east	Site encompasses the wetter ground near the brook. Recent management has created a number of ponds amidst the wet grassland and rush-pasture vegetation.	County
Mercaston Hall Farm Meadow LWS 0.4km east	Small wet meadow with ponds supporting a wide variety of species rich to species poor vegetation types including unimproved neutral grassland and mire as well as more improved neutral grassland.	County
Mercaston Mire LWS 0.45km north	Adjacent to Mercaston Marsh and Muggington Bottoms SSSI, this site includes a mosaic of neutral grassland, rush pasture, wet woodland, fen and swamp. The noted ecological features are habitat mosaic, invertebrate assemblage, unimproved neutral grassland, lowland mire and secondary broad-leaved woodland.	County
Trent Trout Farm Stream LWS 0.45km east	Site includes a small stream with marginal and aquatic vegetation. The noted ecological feature is flowing water, rivers and streams.	County
Old Rectory Farm Wet Meadows LWS 0.55km east	Site includes wet meadow and areas of tall herb fen alongside Mercaston Brook. Noted ecological features include lowland mire and lowland swamp.	County
Trent Trout Farm West LWS 0.55km east	The site, situated in the Mercaston Brook valley, supports species rich grassland and a series of fish ponds. The noted ecological features include unimproved neutral grassland and standing open water.	County
Trent Trout Farm East LWS 0.7km east	Site includes a series of ponds used for commercial trout fishery. The noted ecological feature is standing open water.	County
All Saints Churchyard, Muggington LWS 0.8km north east	Includes an area of unimproved acid grassland as the noted ecological feature.	County
Burma Road Lake LWS 0.95km south	Site consists of a small reservoir and surrounding woodland.	County
Black Brook Sand Pit LWS 1.1km north	Supports a range of habitats including standing water, wet woodland, and grassland. The noted ecological features are habitat mosaic, secondary broad-leaved wet woodland and standing open water.	County

Ecological Feature	Details	Ecological Importance
Upper Burrows Farm Grassland LWS 1.2km south	Site consists of four fields that support semi-improved neutral grassland, which is the noted ecological feature.	County
Brailsford Gorse LWS 1.25km north west	Site includes conifer plantation with areas dominated with Common Gorse (<i>Ulex europaeus</i>) and Bracken (<i>Pteridium aquilinum</i>).	County
Brailsford Church LWS 1.4km west	A range of habitats are present including flower-rich grassland, hedgerows, mature trees and a veteran tree. The noted ecological features are unimproved neutral grassland, hedgerow and veteran trees.	County
Brailsford Brook Below the Bridge LWS 1.5km west	Site included a wooded stretch of Brailsford Brook with marginal wet woodland. The noted ecological feature is flowing water, rivers and streams.	County
Brailsford Brook, Ednaston LWS 1.5km west	A section of the brook featuring emergent and aquatic vegetation and wet woodland. The noted ecological features are freshwater crayfish, secondary broad-leaved wet woodland, and flowing water, rivers and streams.	County
Mill Farm Wet Meadows LWS 1.5km west	Includes low-lying land siding Brailsford Brook. The ecological feature is lowland swamp.	County
Brailsford Brook Marsh LWS 1.55km west	Site is adjacent to Brailsford Brook and includes a variety of wetland habitats including wet woodland and lowland swamp. The noted ecological features include lowland swamp, flowing water, rivers and streams, and secondary broad-leaved wet woodland.	County
Muggington Quarry Sandpits LWS 1.6km north-east	Site is noted for its habitat mosaic	County
The Burrows Meadows LWS 1.9km south	Site includes semi-improved neutral grassland as a noted ecological feature.	County
Monk's Pond LWS 1.90km north west	Includes an artificial pond with mixed woodland planation. The noted ecological feature is standing open water.	County
Buck Hazel's Farm Pond Potential LWS 1.9km east	Pond habitat associated with farm complex identified as potential Local Wildlife Site.	County

Ecological Feature	Details	Ecological Importance
England HPI, Local BAP Habitats, Ancient Woodland, Important Hedgerows, Veteran Trees, TPOs and Conservation Areas		
Lowland Mixed Deciduous Woodland Habitat of Principal Importance (HPI) Adjacent to site boundary	A total of approximately 11.73ha of Lowland Mixed Deciduous Woodland HPI indicated within a 500m radius, with the closest parcel approximately 75m east of the site (DEFRA, 2025).	Local
Traditional Orchards HPI Adjacent to site boundary	A total of approximately 0.51ha of Traditional Orchards HPI indicated within a 500m radius, with the closest parcel immediately abutting the site boundary in the north-east of the site (DEFRA, 2025).	Local
Lowland Fen HPI 350m north	A total of approximately 8.48ha within a 500m radius all located beyond 350m to the north (DEFRA, 2025).	Local
Ancient Woodland	Magic Map (DEFRA, 2025) showed no areas of Ancient Woodland within 500m radius of the site.	Negligible
Tree Preservation Orders 350m west	The Tree Preservation Order map (Derbyshire Dales District Council, 2025a) indicates the trees closest to the site covered by TPOs include DDDCTPO//173/T7, DDDCTPO//173/T8 and DDDCTPO//173/T9, DDDCTPO//173/T10 and DDDCTPO//173/T11, all Pedunculate Oak trees approximately 350-500m west of the site. A woodland parcel 510m west of the site is also covered by TPO DDDCTPO//173/W1. Other trees covered by TPOs are also found near the site, include DDDCTPO/055/T1 (Horse Chestnut (<i>Aesculus hippocastanum</i>)), DDDCTPO/055/T2 (Scot's Pine (<i>Pinus sylvestris</i>)), DDDCTPO/055/T3 (Pedunculate Oak), DDDCTPO/055/T4 (Scot's Pine) and DDDCTPO/055/T5 (Lime (<i>Tilia cordata</i>)), all approximately 550m south of the site.	Negligible
Green/Blue & Aquatic Infrastructure, Dark Zones, and Local Policy		
Green Infrastructure	Whilst the site is largely comprised of areas of arable fields which do not provide any notable green infrastructure function, the lengths of hedgerow, trees and occasional parcels of woodland provide a limited extent of connectivity and wildlife corridor function across the landscape.	Local
Blue Infrastructure	Three dry ditches are present in the eastern part of the site and adjoining the eastern boundary, and all ponds indicated within the redline boundary on Magic Map and OS maps were found to be entirely dry throughout the survey period. It is assessed the dry ditches contribute significantly limited blue/aquatic infrastructure and wildlife corridor function.	Local
Dark Zones	There are no known dark zones across the site. In accordance with the standard guidance specified in the <i>Guidance Notes for Reduction of Obtrusive Lighting</i> (Institution of Lighting Professionals, 2021), the application site likely falls under Environmental Zone E2 Rural – Low district brightness).	N/A

Ecological Feature	Details	Ecological Importance
Habitat Types		
Cereal Crops (c1c) 	The majority site comprises fields of Wheat and Barley cropland. Many fields were found to be recently harvested at the time of survey. Cereal Crops does not represent any UK or Local BAP Priority Habitat. The fields do not represent any strips or blocks that appear to be managed to provide benefits for wildlife and which could represent Arable Field Margin Priority Habitat (Maddock, 2008).	Negligible
Non-cereal Crops (c1d) 	Individual fields of non-cereal crops, predominantly Potato (<i>Solanum tuberosum</i>) are present. Non-cereal Crops does not represent any UK or Local BAP Priority Habitat. As above, the fields represent any strips or blocks that appear to be managed to provide benefits for wildlife and which could represent Arable Field Margin Priority Habitat (Maddock, 2008).	Negligible
Arable Field Margins (c1c)	Areas and margins of set-aside and arable field margins are scattered throughout the site. Species recorded include Bramble, Cocksfoot, Common Hogweed, Common Sorrel, Creeping Buttercup, False Oat Grass, Flax, Hard Rush, Linseed, Meadow Buttercup, Mayweed, Mouse-ear Chickweed, <i>Myosotis</i> sp., <i>Phacelia</i> sp., Reed Canary Grass, Scarlet Pimpernel, Scented Mayweed, Timothy, Tufted Hair-grass, Common Vetch, Hairy Tare, Wild Mustard and Yorkshire fog. Areas at the north of the site which appear to be managed specifically for biodiversity value are assessed to meet the criteria of Arable Field Margin Priority Habitat (Maddock, 2008).	Local

Ecological Feature	Details	Ecological Importance
Other Neutral Grassland (g3c) 	Areas of Other Neutral Grassland are found predominantly in the northern half of the site amongst the extensive network of arable fields. At the time of survey, these areas were typically found to have a low uniformed sward height, limited bare ground cover between 1-5%, cover of bracken <20% and scrub <5% and with no signs of physical damage or invasive non-native plant species identified. Grass species recorded include Yorkshire fog, Common Bent, Perennial Ryegrass, Sweet Vernal Grass, Cocksfoot, Crested Dogtail, Timothy, Soft Brome, Meadow Foxtail, meadow grasses <i>Poa</i> sp., and False Oat Grass. Herbaceous species recorded include Bracken, Broadleaved Dock, Common and Meadow Buttercup, Common Hogweed, Common Spotted Orchid, Common Knapweed, Common Mouse-ear, Common Ragwort, Common Sorrel, Common Vetch, Compact Rush, Creeping Thistle, Common Dandelion, Great Willowherb, Hairy Tare, Lesser Trefoil, Common Nettle, Red Clover, Rosebay Willowherb, Self-heal, Tufted Vetch, White Clover, Wood Avens and Yellow Rattle. Some localised areas show indication of poor drainage and/or seasonal inundation with scattered rushes including Hard Rush and Compact Rush, and scattered Willow saplings. These areas meet Other Neutral Grassland definition criteria, featuring >20% cover of broadleaved herbs and sedges, with cover of Rye-grasses and White Clover (<i>Trifolium repens</i>) <30% and with at least one grass species not sown for intensive agricultural production found abundant on site (Cock's-foot). Other Neutral Grassland does not represent any UK or Local BAP Priority Habitat.	Negligible
Modified Grassland (g4) 	Areas of species-poor grazed pasture Modified Grassland are found predominantly in the southern half of the site, amongst the extensive network of arable fields. These areas were typically found to have scrub cover <20% and bracken cover <5%, with no notable signs of physical damage, and no invasive non-native plant species identified. Most areas were short and featured bare ground cover between 1-10%, and with a species diversity of <6 species per m² on average. Species include dominant Perennial Rye-grass, frequent Bramble and Cock's-foot, occasional Spear Thistle, Common Nettle and Oxeye Daisy, and rare Common Daisy and White Clover. Modified Grassland does not represent any UK or Local BAP Priority Habitat.	Negligible

Ecological Feature	Details	Ecological Importance
Other Broadleaved Woodland (w1g) 	Several small parcels of Other Broadleaved Woodland are found onsite. Species varied somewhat by parcel of woodland but included: Canopy species included Pedunculate Oak, Ash, Sycamore Bird Cherry. Understorey species included Grey Willow, Elder, Hawthorn, Hazel, Holly, Blackthorn and Rowan. Ground flora present included Bramble, Common Nettle, Cleavers, Bracken and Common Ivy (with no specific Ancient Woodland indicators). Other Broadleaved Woodland does not represent any UK or Local BAP Priority Habitat. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017).	Negligible
Other Native Hedgerow (h2a6) 	Lines of Other Native Hedgerow with Trees are present along site and field boundaries throughout the site. Species varied somewhat by length of hedgerow but included: Standard trees included Ash (<i>Fraxinus excelsior</i>), Sycamore (<i>Acer pseudoplatanus</i>) and Pedunculate Oak (<i>Quercus robur</i>). Woody species included Hawthorn (<i>Crataegus monogyna</i>), Holly (<i>Ilex aquifolium</i>), Blackthorn (<i>Prunus spinosa</i>) and Elder (<i>Sambucus nigra</i>). Ground cover present included Bramble, Field Bindweed (<i>Convolvulus arvensis</i>) and Common Nettle. Other Native Hedgerow represents a UK BAP Priority Habitat, though with less than four native woody species identified within a 30m section does not qualify as 'species-rich'. These hedgerows may qualify as 'important' in accordance with The Hedgerow Regulations 1997. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017). Hedgerows are also considered a Primary Priority Habitat in the Lowland Derbyshire Biodiversity Action Plan (Lowland Derbyshire Biodiversity Partnership, 2011). The lines of hedgerow onsite and associated Habitat Parcel References used in the BNG Metric are indicated in the Hedgerow Parcel Reference Map in appendix K.	Local

Ecological Feature	Details	Ecological Importance
Other Native Hedgerow with Trees (h2a6 11) 	Lines of Other Native Hedgerow with Trees are found along site and field boundaries throughout the site. Species varied somewhat by length of hedgerow but included: Standard trees included Pedunculate Oak, Ash and Sycamore. Woody species included Hawthorn, Hazel (<i>Corylus avellana</i>), Blackthorn, Holly, Grey Willow (<i>Salix cinerea</i>), White Willow (<i>Salix alba</i>), Silver Birch (<i>Betula pendula</i>) and Elder Ground cover present included Bramble, Black Bindweed (<i>Fallopia convolvulus</i>), Common Ivy, Other Native Hedgerow represents a UK BAP Priority Habitat, though with less than four native woody species identified within a 30m section does not qualify as 'species-rich'. These hedgerows may qualify as 'important' in accordance with The Hedgerow Regulations 1997. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017). Hedgerows are also considered a Primary Priority Habitat in the Lowland Derbyshire Biodiversity Action Plan (Lowland Derbyshire Biodiversity Partnership, 2011). The lines of hedgerow onsite and associated Habitat Parcel References used in the BNG Metric are indicated in the Hedgerow Parcel Reference Map in appendix K.	Local
Line of Trees (w1g 33) 	Lines of Trees are present onsite, siding the site and grassland field boundaries. The species assemblage included dominant Pedunculate Oak and occasional Ash. Line of Trees represents UK BAP Priority Habitat. Whilst this feature represents a Line of Trees, it meets the definition of Hedgerow Priority Habitat which includes 'a hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide'. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017).	Local

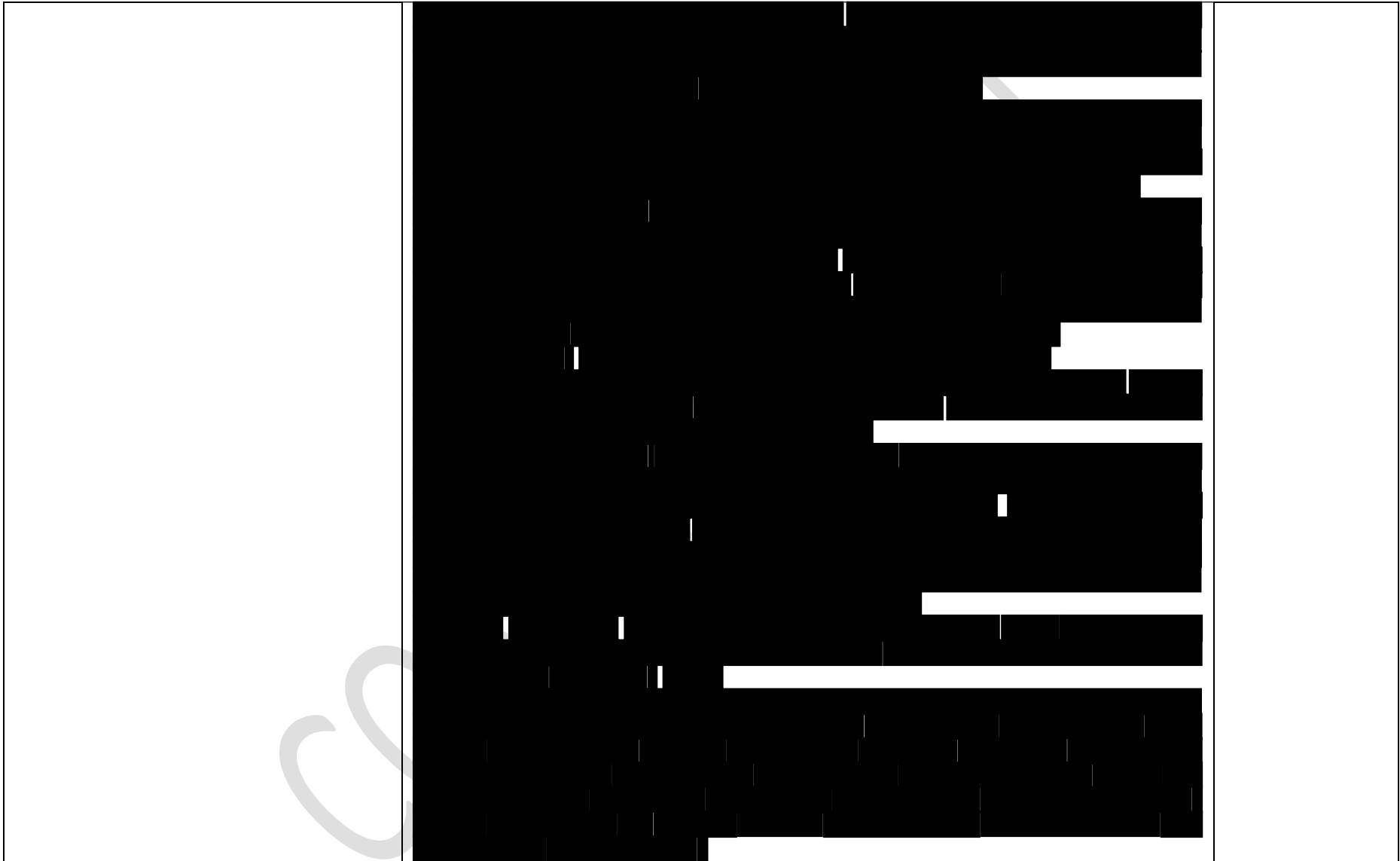
Ecological Feature	Details	Ecological Importance
Dry Ditches (50)	Three ditches are present, which are indicated on Magic Map and OS Maps. These were found to be entirely dry throughout the 2025 summer season with no indication that any significant water levels are held at other times of year. These are assessed to represent Dry Ditches in accordance with UK Habitat Classification (UKHab, 2023). These ditches do not represent any UK or Local BAP Priority Habitat.	Negligible
Legally Protected & Priority Species (& Consultation Zones where applicable)		
Bats	No buildings or structures present within the site providing any opportunities for roosting bats. Mature trees identified onsite may be suitable for roosting bats as they are of a size and age which may feature roosting features such as hollows, cavities or woodpecker holes. Whilst the site is predominantly comprised of arable fields, the areas of grassland, native hedgerow, woodland, trees onsite provide suitable bat foraging and commuting habitat and connectivity across the arable landscape. Ground-level Bat Tree Assessment (GLTA) The GLTA survey has identified 1 x feature (W182 as labelled in the Arb reports (Enzygo , 2025a) and (Enzygo, 2025b)) as PRF-I (i.e. features suitable for individual bats) in accordance with current guidance (Collins, 2023). All other features surveyed were assessed as having no suitable roosting features for bats. Refer to Appendix B and C for maps, photos and further details from the survey. Bat Activity Surveys The surveys have recorded notably low levels of bat activity of a typical and common assemblage of bat species, with a total of seven species recorded. The species recorded comprise Common Pipistrelle (<i>Pipistrellus pipistrellus</i>), Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>), Noctule (<i>Nyctalus noctula</i>), Leisler's Bat (<i>Nyctalus leisleri</i>), Daubenton's Bat (<i>Myotis daubentonii</i>), Brandt's Bat (<i>Myotis brandtii</i>), and Brown Long-eared Bat (<i>Plecotus auritus</i>). Although the activity was notably low for all species, there was spatial variation, with the static detector in the east of the site recording only Common Pipistrelle and only in September and a complete absence of bat recordings in all other months (see Limitations section and confirmation this was not due to any equipment malfunction or poor placement of the detector). No notable high concentrations of recordings or observations of behaviour were made, informing an assessment that there are no notable commute routes or specifically valuable foraging habitats present.	Local

Ecological Feature	Details	Ecological Importance
	The surveys found the following in accordance with assessment criteria (with an appropriate Habitat characteristic score of 3), assessed Local value overall (all species with Local scores and typical species assemblage given habitat types present). It is also considered that the boundary habitats including hedgerow, scrub and woodland edge are those which are of Local value to bats, and central field areas would be assessed as of Negligible to Site level value alone. • Common Pipistrelle Score 14 Local value (BAI 2.67 (low) common species, moderate/unknown number of roosts nearby) and Soprano Pipistrelle Score 14 Local value (BAI 0.25 (low) common species, moderate/unknown number of roosts nearby). Intermittent passes across all habitats, and both species recorded early after sunset indicating likely possible roosts off-site (direction from site unknown). Highest activity level for Common Pipistrelle recorded in May/June indicating potential maternity roosts nearby with those bats foraging at the site. Notably low levels of Soprano Pipistrelle throughout. These Pipistrelle species are typically regarded as edge-feeding species and therefore likely favour the hedgerow and woodland edge although will also forage over low rough grassland habitats. • Noctule Score 17 Local value (BAI 0.25 (low) rarer species, moderate/unknown number of roosts nearby) and Leisler's Bat Score 17 Local value (BAI 0.17 (low) rarer species, moderate/unknown number of roosts nearby). Consistently low levels of activity recorded across all months with no specific peaks in activity. No specific activity recorded indicating any nearby roosts. Both Noctule and Leisler's Bat typically forage high above woodland canopies and therefore are likely associated with woodland parcels rather than being associated with the arable and grassland habitats. • Daubenton's Bat Score 14 Local value (BAI 1.00 (low) rarer species, no evidence of nearby roosts) and Brandt's Bat Score 14 Local value (BAI 0.029 (low) rarer species, moderate/unknown number of roosts nearby). Individual passes only for both species. Slight peak in June for both, which may indicate a nearby maternity roost and specific foraging source available in that month (e.g. an abundance of particular invertebrate prey). No specific early records so no indication of nearby roosts. No other <i>Myotis</i> species recorded. Daubenton's is typically associated with riparian habitats, and Brandt's associated with both woodland and aquatic habitats, and therefore potentially using woodland parcels in small numbers. • Brown Long-eared Bat Score 14 Local value (BAI 0.008 (low) common species no evidence of nearby roosts). Individual passes from August to October only with no particular peak in activity. This is a later emerging species therefore latest of the records	

Ecological Feature	Details	Ecological Importance
	doesn't necessarily mean no roosts nearby. Again, species is typically associated with woodland habitats and therefore likely forages in low number at woodland parcels. Refer to Appendix D for survey data including charts showing temporal variation, and for maps of the results including locations of static detectors and transect routes. Desk Study The local records centre identified numerous records of bat species and roosts within 2km of the site in the last 10 years. Sixteen roost records for Whiskered Bat (<i>Myotis mystacinus</i>), Brown Long-eared Bat (<i>Plecotus auritus</i>), Myotis Bat (<i>Myotis</i> spp.), Brandt's Bat (<i>Myotis brandtii</i>), Natterer's Bat (<i>Myotis nattereri</i>), Common Pipistrelle (<i>Pipistrellus pipistrellus</i>), Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>) and unidentified Pipistrelle species (<i>Pipistrellus</i> spp.). Sightings records for Natterer's Bat, Brown Long-eared Bat, Common Pipistrelle, Soprano Pipistrelle and unidentified Pipistrelle species were identified within 2km of the site in the last 10 years. Magic Map (DEFRA, 2025) identified several European Protected Species (EPS) Licences for Bats within 2km of the site, comprising: • Licence reference EPSM2012-5081 located approximately 500m north of the site for destruction of a resting area for Common Pipistrelle and Natterer's Bat. • Licence reference 2020-47000-EPS-MIT located approximately 500m west of the site for destruction of a resting place for Brown Long-eared Bat, Common Pipistrelle, Soprano Pipistrelle and Whiskered Bat. • Licence reference 2014-5941-EPS-MIT located approximately 700m north of the site for affecting and destruction of a breeding site and destruction of a resting site for Brown Long-eared Bat, Common Pipistrelle and Natterer's Bat • Licence references 2015-11050-EPS-MIT and 2015-11050-EPS-MIT-1, both located approximately 900m east of the site for destruction of a resting place for Brown Long-eared Bat, Common Pipistrelle, Natterer's Bat and Whiskered Bat. • 2018-38316-EPS-MIT located approximately 1.3km south of the site for affecting, damaging and destruction of a breeding place and damaging a resting place for Brown Long-eared Bat, Common Pipistrelle, and Whiskered Bat. • Licence reference 2015-16757-EPS-MIT located approximately 1.9km northwest of the site for affecting, damaging and destruction of a breeding place and destruction of a resting place for Brown Long-eared Bat, Common Pipistrelle and Natterer's Bat • Licence reference 2018-36336-EPS-MIT located approximately 2km southeast of the site for destruction of a resting place for Common Pipistrelle.	
Badger		Local

Ecological Feature	Details	Ecological Importance
	[REDACTED]	
Dormouse	Onsite and boundary woodland and hedgerow provides suitable habitat for Dormouse (<i>Muscardinus avellanarius</i>), though the site is in an area of the County where this species is significantly rare, if not extinct. Whilst a reintroduction programme for Dormouse within the National Forest began in 2023 (Lowland Derbyshire Biodiversity Partnership, 2011) the reintroduction site at Calke Abbey is located approximately 19.74km south east of the site. No records of Dormouse within a 2km radius.	Negligible
Otter and Water Vole	There are no habitats within or immediately adjacent to the site providing any notable opportunities for Otter or Water Vole. The specific Otter and Water Vole Survey undertaken in September 2025 found the drainage ditches to be entirely dry and no evidence of these species present (e.g. no Otter spraints, Water Vole burrows or droppings etc.). These ditches were noted to be almost entirely dry throughout the summer months, and it is assessed will not provide favourable conditions any time of year. No records of Water Vole and three records of Otter within a 2km radius of the site in the last 10 years.	Negligible

Ecological Feature	Details	Ecological Importance
Other Protected Mammals	No evidence of, or specific opportunities for, any other species of protected mammal. No records of any other protected mammal species within a 2km radius.	Negligible
Specially Protected Birds 	[REDACTED]	Negligible
Breeding Birds	[REDACTED]	District



Ecological Feature	Details	Ecological Importance
Wintering and Migratory Birds	Refer to Appendix G for separate Wintering Bird Survey reports (split between eastern and western parts of the site). In summary, a total of 51 species were recorded within the site boundary during the winter bird survey visits between October 2024 and March 2025. These were all common and widespread species, in line with expectations and typical of the habitats present. All the species of conservation interest were considered to be present in numbers that would be significant at a local level or lower Given the site location and habitats present, it is not considered the site provides any potential for significant numbers of notable overwintering and/or migratory species such as waders, waterfowl, geese and swans. As evidenced by the Wintering Bird Surveys, the habitats attract a typical assemblage of birds largely restricted to the field boundary hedgerow, trees and woodland habitats.	Negligible
Common Reptiles	Most of the site is open, disturbed arable cropland and therefore does not provide significant opportunities for Common Reptiles. Additionally, it is noted the site is not directly connected to any optimal reptile habitat such as wetlands or heathland and provides potential for individual numbers of Common Reptiles only. However, the hedgerow, grassland and woodland onsite and adjacent offers limited habitat, whereby Common Reptiles could disperse to the site. Further detailed reptile surveys did not record any reptiles. This provides confirmation that either reptiles are entirely absent from the site or present in such small numbers as not to be detectable through standard survey methods. No records of common reptiles within 2km of the site in the last 10 years.	Local
Great Crested Newt	Field surveys have confirmed there is no potential Great Crested Newt (GCN) habitat on site. Magic Map and OS maps indicate three ponds within the redline boundary, however, all three were found to be entirely dry during the GCN Survey visit in June 2025 with no indication any hold significant water at other times of year. In addition, none of these 'ponds' were found to hold water during the PEA surveys. As indicated on the appended GCN Pond Survey drawing, a total of 20 ponds were identified within a 250m radius during the desk-study based on the Magic Map and OS maps (including the three dry ponds within the site boundary). Note in this instance a 250m radius was deemed appropriate considering the baseline habitat conditions (i.e. largely poor suitability arable land) and the nature of the proposed development works (i.e. typically lower impact Solar development). A summary of the 20 ponds and surveys is outlined below (refer appended drawing for locations): - P1 - Dry	Local

Ecological Feature	Details	Ecological Importance
	- P2 – Dry - P3 – No Survey. Surveyor was denied access by the Landowner. - P4 – Dry - P5 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P6 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P7 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P8 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P9 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P10 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P11 – Dry - P12 - No Survey. Surveyor was denied access by the Landowner - P13 – Dry - P14 – Dry - P15- No Survey. No access arranged and could not attempt on the day. - P16 – Dry - P17- No Survey. No access arranged and could not attempt on the day. - P18- No Survey. No access arranged and could not attempt on the day. - P19- No Survey. No access arranged and could not attempt on the day. - P20 – Dry In summary, ponds were either found to be entirely dry and therefore and no valid Habitat Suitability Index Assessment or eDNA survey possible or could not have access arranged by the relevant off-site landowners. It is assessed that ponds being entirely dry in June 2025 and within the GCN breeding season, is sufficient evidence to confirm that these cannot support successfully breeding GCN which require water retained through the summer months for larvae to develop. Whilst the site is predominantly arable fields providing no notable terrestrial opportunities for GCN, the areas of grassland, woodland and hedgerow offer a limited extent of suitable terrestrial habitat including foraging, refuge and shelter. Natural England GCN Risk Zones indicate the site is split between Amber and Green Risk Zones, (Natural England, 2025). Amber Zones contain main population centres for GCN and comprise important connecting habitat that aids natural dispersal. Green Zones contain sparsely distributed GCN and are less likely to contain important pathways of connecting habitat for this species. It is confirmed the proposed site is within a Natural England-led District Level Licencing (DLL) Scheme.	

Ecological Feature	Details	Ecological Importance
	The local data records centre featured 44 records of GCN within 2km of the site, with closest and majority of these records between 350m and 750m to the west associated with the village of Brailsford. The closest records from 2023 at a pond 350m to the north-west. Magic Map (DEFRA, 2025) found several EPS Licences within a 2km radius of the site: • Licence references 2014-2821-EPS-MIT and 2014-2821-EPS-MIT-1 located approximately 365m west of the site for damage and destruction of a resting place for GCN. • Licence reference 2017-27694-EPS-MIT located approximately 550m west of the site for damage and destruction of a resting place for GCN. • Licence references 2018-37492-EPS-MIT located approximately 695m west for damage and destruction of a resting place for GCN. Class Survey Licence Returns and Pond Surveys for GCN were also identified within a 2km radius of the site, with all Pond Surveys negative for GCN presence, and all GCN Class Survey Returns again to the west associated with Brailsford with the closest 400m from the site boundary with extensive built development between the site and record location.	
Other Protected Herpetofauna	No suitable habitats within or immediately adjacent to the site specifically suitable for other species of protected herpetofauna. No records of other protected amphibian or reptile species within a 2km radius.	Negligible
Protected Fish/Marine	There are no watercourses within the site providing any potential for protected fish species. No records of protected fish/marine species within a 2km radius in the last 10 years.	Negligible
White-clawed Crayfish	No watercourses within the site to serve as potential habitat for White-clawed Crayfish. It is confirmed the ditches indicated on OS Maps and Magic Map in the east of the site were dry for the Summer 2025 season and provided no opportunities to support this species. No records of White-clawed Crayfish within a 2km radius in the last 10 years.	Negligible
Protected Invertebrates	Further Invertebrate Survey have not recorded any protected species present within the site, and no notable opportunities or conditions for any specific protected species (Refer to Appendix H for further details). No records of Protected Invertebrates within a 2km radius in the last 10 years.	Negligible

Ecological Feature	Details	Ecological Importance
Protected Flora	No protected flora species detected during the survey and the site is unlikely to support any species of protected flora. No records of Protected Flora within a 2km radius in the last 10 years.	Negligible
Invasive Flora	No invasive flora species detected during the survey, however, the scale of the site and nature of the habitats present may mean stands of invasive flora have been missed (see Limitations section). Records of invasive flora within a 2km radius in the last 10 years include (but not limited to); Himalayan Balsam (<i>Impatiens glandulifera</i>), Rhododendron (<i>Rhododendron ponticum</i>), Himalayan Cotoneaster (<i>Cotoneaster simonsii</i>), Japanese Knotweed (<i>Reynoutria japonica</i>), Montbretia (<i>Crocsmia aurea x pottsii</i> = <i>C. x crocosmiiflora</i>) and Variegated Yellow Archangel (<i>Lamium galeobdolon subsp. argentatum</i>).	Negligible
Invasive Fauna	No specific opportunities for any invasive species identified and no notable risk the proposals may lead to the spread of invasive fauna in the wild. Records of invasive fauna within a 2km radius in the last 10 years include (but not limited to); American Mink (<i>Neogale vison</i>), Canada Goose (<i>Branta canadensis</i>), Mandarin Duck (<i>Aix galericulata</i>) and Signal Crayfish (<i>Pacifastacus leniusculus</i>).	Negligible
Priority Species	The limited hedgerow, woodland and grassland provide foraging and sheltering opportunities for Priority Species including Common Toad (<i>Bufo bufo</i>) and Hedgehog (<i>Erinaceus europaeus</i>). Open arable and pasture fields provide suitable habitat for Brown Hare (<i>Lepus europaeus</i>). The Invertebrate Survey (refer to Appendix H) found 219 species. Amongst them were eleven Small Heath butterflies (<i>Coenonympha pamphilus</i>) which is a UKBAP species, white spotted pug (<i>Eupithecia tripunctaria</i>) which is nationally threatened, the weevil (<i>Polydrusus formosus</i>), which is a notable species although under-recorded and the bird dropping weevil (<i>Platystomos albinus</i>), which is a notable species. The main importance of the site to invertebrates is reported as the nectar resources, bare ground and the wooded boundaries. Records in the wider area include Hedgehog identified within 2km of the site within the last 10 years.	Local overall (assessed as of Regional value for Invertebrates)

4.0 Assessment and Mitigation

- 4.1.1 Assessment of impacts and the associated ecological effect to identified ecological features are presented below. Ecological features have been screened out where these are of negligible importance, no likely significant impacts have been identified or where impact is unlikely to occur.
- 4.1.2 To clarify, other than the ecological features listed below, there are no perceived potential impacts on any other sites, habitats or species in the wider area. The proposals are of a type, scale and distance that any direct or indirect construction or operational impacts on the other identified ecological features are reasonably discounted. Specifically, no impacts of the proposals have been identified on Bees Nest & Green Clay SAC, Gang Mine SAC and Peak District Dales SAC, with no direct hydrological connection, and no potential impact pathways anticipated through noise, air quality and dust emissions considering the nature of the proposals. As a result, it is considered that a separate Stage 1 Habitat Regulations Assessment (HRA) Screening Report is not necessary in this instance in order to confirm that there are no likely significant effects of the proposals on the qualifying features of these designated sites.
- 4.1.3 In relation to Mercaston Marsh and Muggington Bottoms SSSI, the only identified potential pathway for impact is via drainage considerations, with it highlighted in the separate *NPPF: Flood Risk Assessment & Drainage Strategy* (Enzygo, 2025d) that the “designated site is hydrologically connected to the Site from a flood risk or drainage perspective”. It is confirmed there are no habitats within the application site which significantly complement or contribute to the described interest features of the SSSI (i.e. a mosaic of lowland wetland habitats, comprising tall fen and swamp, marshy grassland and valley mire). It is also noted that breeding and wintering Snipe (*Gallinago gallinago*) are identified as an interest feature within the SSSI citation. However, both the Breeding Bird Surveys (see Appendix F) and Wintering Bird Surveys (see Appendix G) did not identify any Snipe on site. It is therefore reasonably concluded that the proposed development does not represent functionally-linked land (FLL) to the SSSI (i.e. does not provide important habitat for species of interest associated with the SSSI).
- 4.1.4 With the outlined mitigation and compensation measures stated below, it is not considered that any further Phase II surveys would be proportionate or justified in this instance.

Table 10 – Assessment of effect and mitigation measures

Ecological Feature	Impact	Avoidance/Mitigation	Compensation	Significance of Residual Effect
Mercaston Marsh and Muggington Bottoms SSSI and IRZ	Risk of drainage-related damage and degradation through the construction and operational phases <i>Significant, permanent, irreversible impact</i> <i>No further potential pathways for impacts on Mercaston Marsh and Muggington Bottoms SSSI, or other statutory sites in the wider area including Bees Nest & Green Clay SAC, Gang Mine SAC and Peak District Dales SAC,</i>	To minimise the risk of any pollution event causing degradation of the habitat, all construction works will be undertaken in accordance with best practice and the through adoption of the appropriate Environment Agency guidance (refer to updated 2024 Environment Agency guidance “Pollution prevention for business” Pollution prevention for businesses - GOV.UK (www.gov.uk)). This includes appropriate storage of chemicals, controlled refuelling of vehicles, spill kits etc. The operational drainage scheme has been designed to ensure no risk of harm to the wider water environment including the hydrologically connected Mercaston Marsh and Muggington Bottoms SSSI. At the discretion of the planning officer the LPA are advised to consult Natural England on the potential for these proposals to impact designated sites, and to confirm the assessment presented here (i.e. that potential impacts on any statutory nature conservation sites can be reasonably discounted).	None required	No significant effect anticipated
Wood Lane LWS	Risk of direct damage during site clearance and construction phase. <i>Significant, adverse, temporary, irreversible impact.</i> Risk of degradation through drainage and lighting impacts. <i>Minor adverse, permanent, irreversible.</i>	The final site layout has incorporated the full retention and protection of this Local Wildlife Site and identified the opportunity to significantly enhance and contribute to the wildlife corridor function this site provides. During the construction phase potential direct damage of the adjacent LWS habitat will be avoided through erecting and maintaining protection fencing in accordance with BS5837:2012 <i>Trees in relation to design, demolition and construction. Recommendations</i>. Signage stating “Wildlife Area – Keep Out” (or similar) will be fixed to the fencing. All contractors are to be made aware of the purpose of the fencing, and no works are to occur beyond this established boundary, including no storage of materials or machinery. To minimise the risk of any pollution event causing degradation of the habitat, all construction works will be undertaken in accordance with best practice and the through adoption of the appropriate Environment Agency guidance (refer to updated 2024 Environment Agency guidance “Pollution prevention for business” Pollution prevention for businesses - GOV.UK (www.gov.uk)). This includes appropriate storage of chemicals, controlled refuelling of vehicles, spill kits etc.	None required	No significant effect anticipated

		In addition, to avoid potential degradation of this LWS through excessive artificial lighting overspill, a sensitive lighting scheme shall be implemented making use of suitable products such as directional, low-level, capped, screened and/or low-lux lighting.		
Hedgerow HPI, Lowland Mixed Deciduous Woodland HPI, Traditional Orchards HPI, TPOs and Green Infrastructure	Risk of damage and/or degradation of UK BAP Priority Habitat and green infrastructure which provides wildlife corridor function. <i>Significant, adverse, permeant, reversible impact.</i>	The final site layout has been sensitively designed to incorporate the retention of existing hedgerow and boundary mature trees and woodland, which contribute to notable green infrastructure and wildlife corridor function, as well as all TPO trees. Minor losses of hedgerow are planned to allow for site development. Throughout the construction phase these habitats shall be protected in accordance with BS5837:2012 <i>Trees in relation to design, demolition and construction. Recommendations</i>, including installing and maintaining appropriate protection fencing. All contractors are to be made aware of the purpose of the fencing, with signage used where necessary, and no works are to occur beyond this established boundary other than proposed landscape planting, including no storage of materials or machinery. As above, standard best practice pollution prevention guidance and a sensitive lighting scheme are to be implemented to minimise the low risk of degradation of these habitats to a negligible level. As there is no proposed significant loss of hedgerow habitat, it is confirmed that no further detailed hedgerow assessment in accordance with the Hedgerow Regulations 1997 is proportionate or justified in this instance.	Any hedgerow lost to development is to be replaced on at least a 1:1 basis with species-rich native hedgerow.	No significant effect anticipated

Blue Infrastructure and associated Riparian Fauna	Risk of loss and/or degradation of the onsite ditch network during the construction phase. <i>Minor adverse, temporary, reversible impact.</i>	The final site layout has been designed to incorporate the minor ditches. As such, no further surveys for riparian fauna are deemed proportionate or justified. As above, the construction phase is to implement standard best practice measures including pollution prevention measures to ensure no damage or degradation of the wider water environment.	None required	No significant effect anticipated
Bats	Risk of killing/injury and destruction of roosts. <i>Significant, adverse, temporary, irreversible impact.</i> Risk of degradation of suitable bat foraging and commuting habitat. <i>Minor adverse, permanent, reversible impact.</i>	A notably sensitive final layout has been designed to fully retain and protect all mature trees which may provide potential for roosting bats, in addition to a retaining and protecting field boundary hedgerow and tree corridors suitable for foraging and commuting bats. No significant impact of the Solar proposals on the favourable conservation status of any bat species is anticipated. Following the GLTA Survey it is confirmed no further surveys or Natural England EPS licence is required to inform the arboricultural works of the proposed trees and hedgerows, or progress of the associated wider development. However, in accordance with Table 6.3 of The Bat Survey Guidelines (Collins, 2023), appropriate compensation will be provided for all PRFs in advance of impacts, and a Preliminary Working Method Statement must be followed. In this instance, considering the associated number of PRFs, and the number of mature trees which are to be retained and protected and are suitable for locating bat roost boxes, it is recommended that a total of 2 compensatory bat boxes are provided in advance of tree works to be situated at the retained trees. The bat boxes should be fixed high up on trees in locations where a clear flight path is provided, and away from major sources of human disturbance and artificial lighting. Locations which face onto suitable foraging and commuting habitat are preferred, maximising the chance that these boxes will be discovered and taken up by bats. We recommend installing the Schwegler 2F Universal Bat Box or similar. Where surveys have been assessed trees as of low or negligible risk of supporting roosting bats it should be noted that due to the transient nature of bat roosts it is possible that crevice-dwelling bats (e.g. Pipistrelle), could utilise unidentified roosts beyond the date of the surveys. The contractor(s) should therefore be advised to carry out all tree works with care and vigilance for bats and follow this precautionary working method statement. For features assessed as providing PRF-Is, best practice guidelines do not require further survey work, but each of these trees must be felled using soft-felling techniques under the supervision of an Ecological Clerk of Works (ECoW) which includes, but is not restricted to:	None required	No significant effect anticipated

		• A pre-works inspection will be undertaken by a suitably qualified ecologist of any mature trees to be felled, conducted immediately prior to the commencement of works. This will comprise a ground-level inspection and close inspection at height where tree conditions allow; • Again, prior to the commencement of works, compensatory bat boxes will be installed at suitable locations on retained trees to provide alternative roost opportunities to replace those associated with trees to be lost. An ecologist can advise on suitable trees and locations as required; • When removing trees with PRF-Is, and where bats have been confirmed absent through the pre-works investigation, a section-felling approach will be undertaken including cutting around any hollows/cavities; • This involves removing parts of the tree in sequence, rather than being felled in one, with each limb lowered to the ground and inspected by a licensed ecologist with an endoscope; • Tree limbs are to be left on the ground for a period of 24 hours to allow any bats present the chance to escape; • Then removed/chipped immediately. In the unlikely event any bats are discovered or suspected: • If the roost is still on/in the tree and bats are not injured, seek advice from Natural England or a suitably experienced ecologist. If help is not available, allow bats to fly out of harm's way; • If the timber is felled, the roost is not exposed, and the bats are not injured, seek advice from Natural England or a suitably experienced ecologist. If advice is not readily available, position the roost off the ground, and allow bats to relocate of their own accord; • If the roost has been exposed, contact Natural England or a suitably experienced ecologist; and • Note the date, locality, type of tree, situation in tree and bat species if known. No further specific mitigation/compensation measures or surveys are necessary in respect of roosting bats and the proposed tree felling.		
Badger	Risk of killing/injury of Badger commuting across construction site.			



	<i>Significant adverse, permanent, reversible impact.</i> Potential significant loss of breeding bird habitat, including for notable ground-nesting farmland birds. <i>Significant adverse, permanent, reversible impact.</i> Risk of disturbance of nesting birds during construction phase. <i>Minor adverse, temporary, irreversible impact.</i> (no significant loss of habitat).	Recent research (Copping, 2025) has identified the benefits of solar farms in arable-dominated landscapes, indicating increased bird species-richness compared to control sites, particularly Solar sites with varied habitat present including meadow grassland, hedgerows and trees, as will be present here. As a result, it is confirmed the proposals are anticipated to have a positive impact on the majority of farmland bird species. Whilst research indicates that Solar development is unsuitable for nesting Skylark, with it theorised that this species is deterred by close spacing of arrays removing the wide-open field of view favoured by this species (Peschel, 2019), given the significantly low number Skylark and Lapwing breeding territories identified during the Breeding Bird Surveys, the large size of the site, and the proposed habitat creation and landscape planting, specific off-site mitigation/compensation for farmland birds is not deemed proportionate or justified in this instance. To avoid an offence being committed in respect of nesting birds, vegetation clearance works should be planned to be conducted outside of the bird nesting season (March to August inclusive) where possible. If it is necessary to undertake these works during the bird nesting season, a precautionary approach should be taken. If an active bird's nest is found, an ecologist should be contacted for advice on the appropriate actions.		
Great Crested Newt	Risk of injury/killing GCN during the construction phase. <i>Unlikely, significant, adverse, temporary, irreversible impact.</i>	Due to the access limitations experienced at off-site ponds (and as they are likely to remain in future years), it is proposed that the scheme will pursue the District Level Licensing (DLL) approach with appropriate compensation fee paid through the Natural England scheme. See appendix I for the GCN Map. No further survey or assessment is required to inform this approach. Notwithstanding, as best practice the construction phase is to implement precautionary measures including Ecological Clerk of Works supervision of the clearance of any suitable habitats.	None required	No significant effect anticipated

Common Reptiles	Low risk of killing/injury of Common Reptiles during the construction phase. <i>Minor adverse, temporary, irreversible impact.</i>	Although further surveys did not identify any reptile presence, it is possible that individual numbers may be present. As such, the construction phase will implement a series of best practice precautionary measures to further minimise the risk of killing/injury of common reptiles during the construction phase. See appendix J for the Reptile Survey Map. Furthermore, any removal of suitable habitat, such as rough field boundaries (i.e. not applicable to open arable cropland areas), will be performed in an ecologically sensitive manner, undertaken by an ECoW. In each instance, an ecologist will check any potential habitats/refugia immediately prior to clearance. Vegetation will be cut/felled to a height of 0.15m to encourage any wildlife present to move outside of the working area. The cut habitats and any remaining refugia habitats will be checked again be an ECoW prior to stripping any stumps or topsoil.	None required	No significant effect anticipated
Other Priority Species	Low risk of killing/injury priority wildlife during the construction phase. <i>Minor adverse, temporary, irreversible impact.</i>	As above, implement best practice precautionary measures to minimise the risk of accidental injury/killing of any priority wildlife such as Hedgehog found during the construction phase. As with Common Reptiles, removal of vegetation which provides notable cover and refuge will be performed in an ecologically sensitive manner, undertaken by an ECoW. In each instance, an ecologist will check any potential habitats/refugia immediately prior to clearance. Vegetation will be cut/felled to a height of 0.15m to encourage any wildlife present to move outside of the working area. The cut habitats and any remaining refugia habitats will be checked again be an ECoW prior to stripping any stumps or topsoil.	None required	No significant effect anticipated
Invasive Flora	Low risk of works causing the spread of invasive flora in the wild <i>Minor, adverse, temporary, reversible impact</i>	In the event any invasive flora (i.e. those species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), is discovered during site works, an invasive species contractor will be contacted for advice on appropriate treatment and eradication to ensure it is not spread in the wild.	None required	No significant effect anticipated

5.0 Enhancement and Monitoring

- 5.1.1 Opportunities for biodiversity enhancement (above and beyond those required to mitigate for any identified impacts) have been determined through consideration of: Ecological Features identified on site and within the zone of influence; Historical records of protected species/habitats present within the locality; National and Local planning policy including National and Local Biodiversity habitats/species; Local Development Plans including consideration of Green/Blue Infrastructure Resource; Consultation with third parties/stakeholders where applicable; and Other influencing factors such as underlying Geology/Hydrology, intended operational activities, and existing disturbance activities within the locality. This makes specific reference to Biodiversity Net Gain, Good practice principles for development (CIEEM, IEMA, CIRA, 2019).
- 5.1.2 In accordance with the local and national policy and the Environment Act 2021 there is a requirement to demonstrate at least a +10% biodiversity net gain, and a BNG calculation i.e. DEFRA metric, is to be provided. It is confirmed that no River MoPRh condition assessment survey is required in this instance considering the baseline habitats (i.e. nature of the dry ditch habitat)
- 5.1.3 Additional biodiversity enhancements will include the following and will provide additional benefits to wildlife and biodiversity, and which are not accounted for in the DEFRA Metric which deals with areas of habitat only and not point specific enhancements such as bird and bat boxes. The specific location and details of the proposals can be detailed within a Biodiversity Enhancement Strategy (BES) in accordance with BS42020:2013 or detailed on Landscape Plans as appropriate.

Table 11 – Additional Enhancement

Ecological Feature	Additional Enhancement
Landscape Planting	The final landscape planting scheme has been designed to incorporate a range of native species and species which are known to be of value to wildlife and which are suitable to the site location and conditions. Planting has been focussed on a linear design to provide enhanced habitat connectivity and wildlife corridor function across and around the site, including complementing and contributing to existing value provided by existing hedgerows and woodland. This specifically includes notable additional focus and planting on land adjacent to Wood Lane LWS which runs through the centre of the site, and which will result in a significant wildlife/nature corridor through the arable farmland dominated landscape.
Roosting Bats	To provide enhancement opportunities for roosting bats the development is to incorporate provision of bat roost boxes at suitable mature trees. The boxes should be positioned 2.5 to 5 metres above ground level, away from major sources of human disturbance and artificial lighting and should face onto suitable foraging and commuting habitats (e.g. new landscape planting). Note it is not proposed to provide additional bird boxes as in rural locations such as this these can encourage common generalist species outcompeting and displacing more specialist farmland species. The extensive landscape planting shall provide notably enhanced conditions for farmland birds.

Ecological Feature	Additional Enhancement
Deadwood Hibernacula	It is recommended that informal deadwood hibernacula are created to provide enhanced refuge, shelter and hibernation opportunities for a range of wildlife including small mammals, common amphibians and invertebrates. The woody arisings from any required scrub clearance would provide suitable materials for the creation of these piles rather than any requirement to import materials from off-site.

- 5.1.4 No post-determination monitoring is perceived necessary. To comply with guidance set out in BS42020:2013, a Construction Environment Management Plan (CEMP) which includes consideration of biodiversity can be produced prior to the commencement of construction activities, including site clearance works. A Landscape and Ecological Management Plan (LEMP) will also be produced prior to operation of the site. A Habitat Management and Monitoring Plan (HMMP) may also be requested to secure long-term habitat creation/enhancement.

6.0 Conclusion

- 6.1.1 This report has demonstrated that, if the outlined mitigation measures are implemented in full then no significant residual impact could be expected, and the proposed application will result in 'no net loss in biodiversity,' whilst also providing opportunities for 'biodiversity net gain' in accordance with NPPF and Local Planning Policy.

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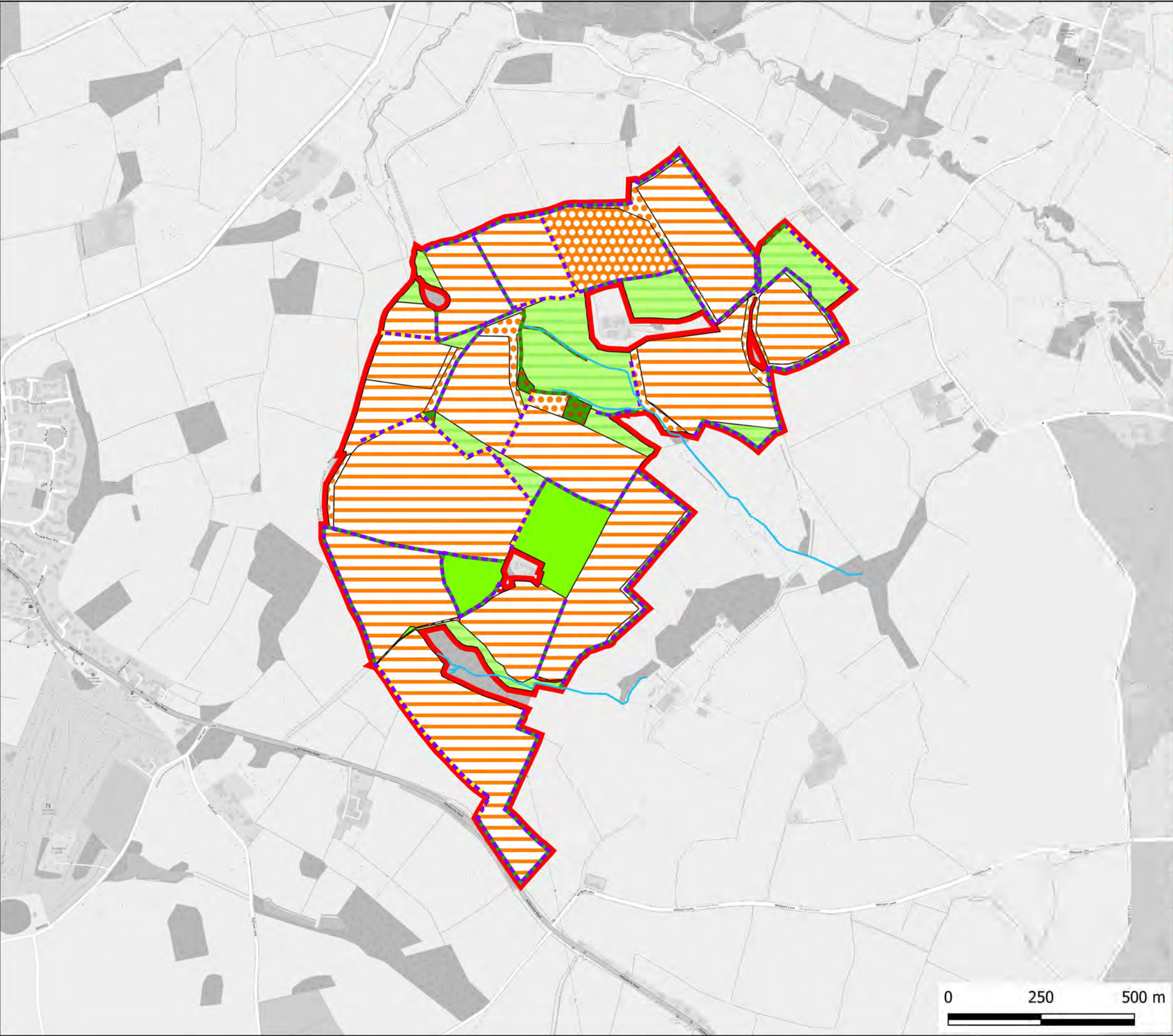
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Drawings – UK Habitat Classification Survey and Desk Study Map



- Key:**
- Redline Boundary
 - Dry Ditch
 - Other native hedgerow (h2a6)
 - Other native hedgerow with trees (h2a6, 11)
 - Line of Trees (33)
 - Other Broadleaved Woodland, Line of Trees (w1g, 33)
 - Arable field margins (c1a)
 - Cereal crops (c1c)
 - Non-cereal crops (c1d)
 - Other neutral grassland (g3c)
 - Modified grassland (g4)
 - Artificial unvegetated - unsealed surface (u1c)
 - Other broadleaved woodland (w1g)

P05	10/04/26	Redline/Habitats Amended	LB	KS	KS
P04	26/11/25	RLB/Habitats Amended	SD	CS	CS
P03	22/09/25	Habitat Areas Added	SD	CS	CS
Rev	Date	Description	DRA	CHK	APP

Project
Brailsford Solar and BESS

Client
BSR Energy

Drawing Title
UK Habitat Classifications Map

Scale	Date	Status
1:10,000 @ A3	26/08/25	Preliminary

DWG No.	Revision
SHF3087016-ENZ-XX-XX-DR-Z-0001	P05

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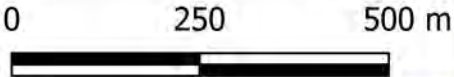
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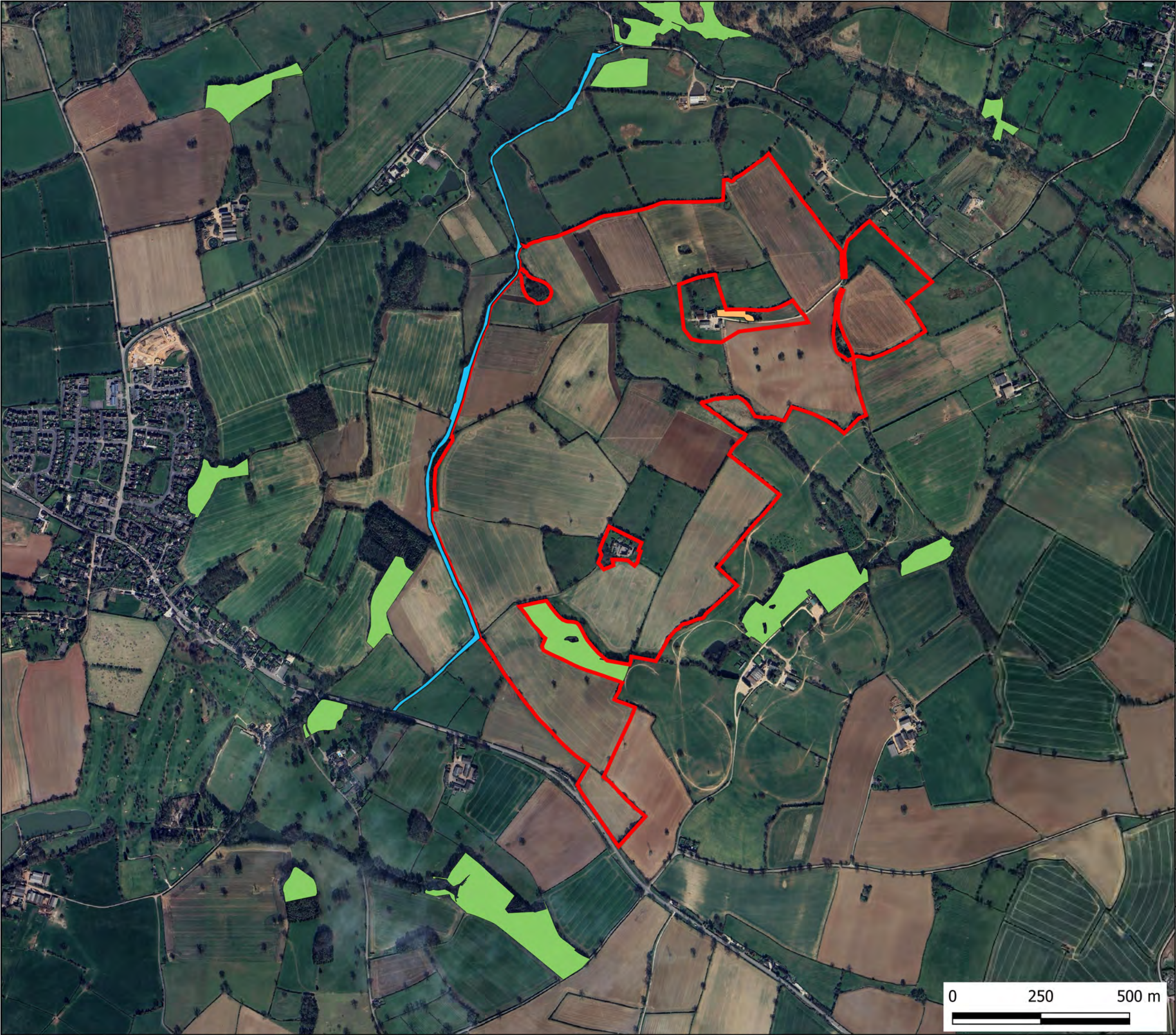
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@enzygo
enzygo.com
hello@enzygo.com





Key:

- Redline Boundary
- Traditional Orchards
- Wood Lane Local Wildlife Site
- Lowland Mixed Deciduous woodland

P03	15/04/26	Redline Updated	LB	KS	KS
P02	13/11/25	Redline/Habitats Amended	SD	CS	CS
P01	22/09/25	Preliminary Issue	SD	CS	CS
Rev	Date	Description	DRA	CHK	APP

Project
Brailsford Solar PV

Client
BSR Energy

Drawing Title
Desk Study Map

Scale	Date	Status
1:10,000 @ A3	22/09/25	Preliminary

DWG No.	Revision
SHF3087016-ENZ-XX-XX-DR-Z-0001a	P03

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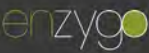
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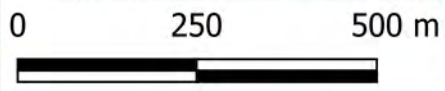
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Appendix A – Proposed Site Layout

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File References:

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Wildpark

Temporary Construction Compound

Site Compound Enlarged View

Pond

The figure is a technical site plan for a solar installation. The main map shows several large rectangular areas filled with blue hatching, representing solar panels. These are arranged in rows and separated by narrow paths or access roads. A red outline delineates the overall project boundary. To the left, there's a yellow area labeled 'Temporary Construction Compound'. Below it, a green area is labeled 'Wildpark'. At the bottom right, a blue area is labeled 'Pond'. A scale bar at the top right indicates distances from 0 to 400 units. A north arrow points upwards. In the bottom right corner, there is an inset titled 'Site Compound Enlarged View' which provides a more detailed look at a specific part of the site, showing various structures and equipment like 'Harmonic Filter & Reactor', 'Comms & Welfare', 'Spares Container', and 'Generator'. This inset also shows a road and a pond.



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Key:

-  Site Boundary
-  Fence
-  Solar Arrays
-  Site Compound Hardstand
-  DNO Access Track
-  Internal Access Roads
-  POC Cable
-  POC
-  132kV NGED Overhead Line
-  11kV NGED Overhead Line
-  Public Right of Way
-  CCTV Cameras
-  PV Inverter
-  Aux LV Room
-  CSS

 Red Line Area (Approx): 119.8HA

35 and 35a The Maltings
Lower Charlton Trading Estate,
Shepton Mallet,
Somerset, BA4 5QE
United Kingdom

E:info@britishrenewables.com
T:01458 224900
W:www.britishrenewables.com

Scale: 1:8000 @A3

Issue Notes:

Moved DNO access away from existing track

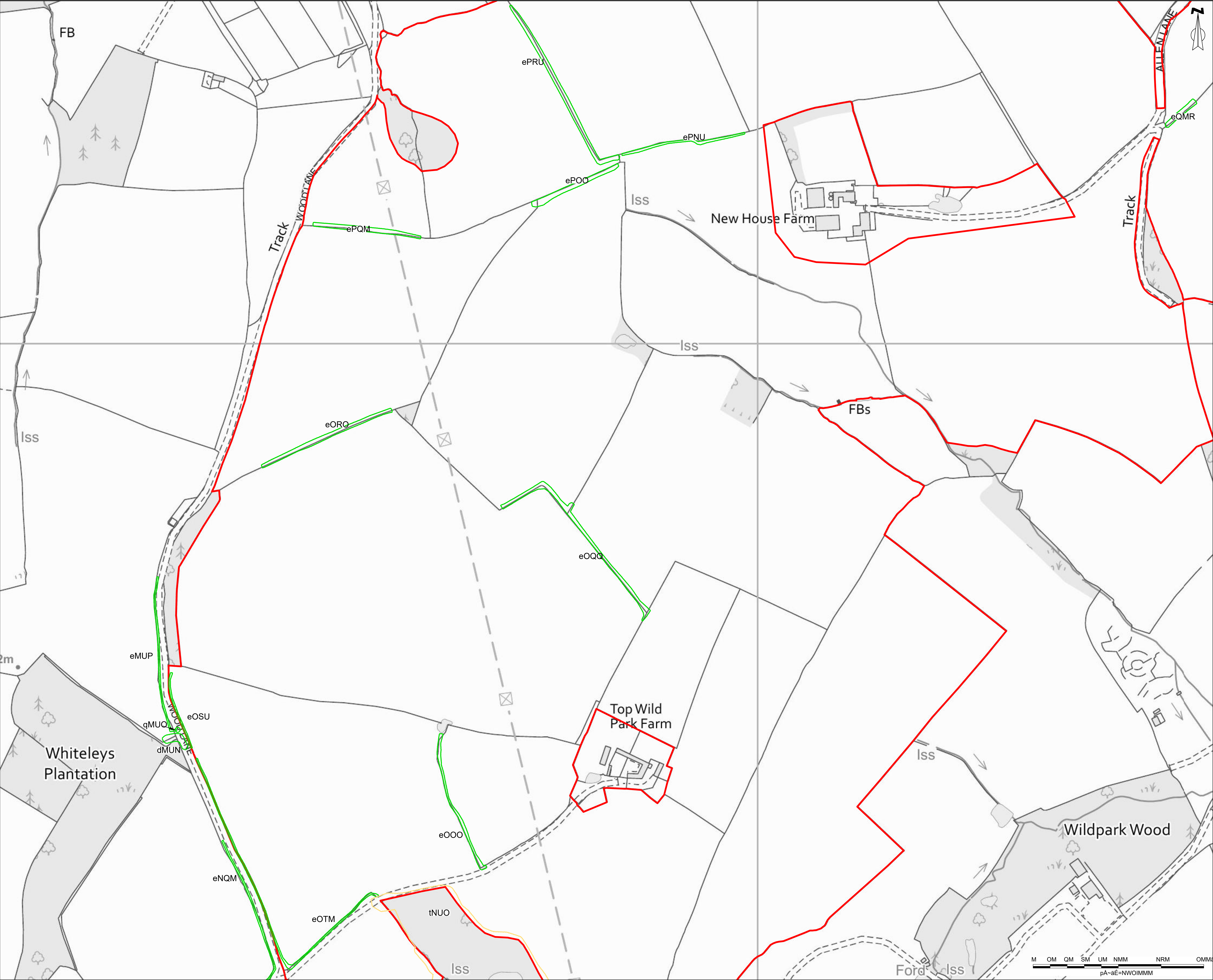
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Drawing Status: Approved Issue: 07

British Solar Renewables

Appendix B – Ground-level Bat Tree Assessment Map

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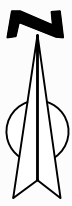
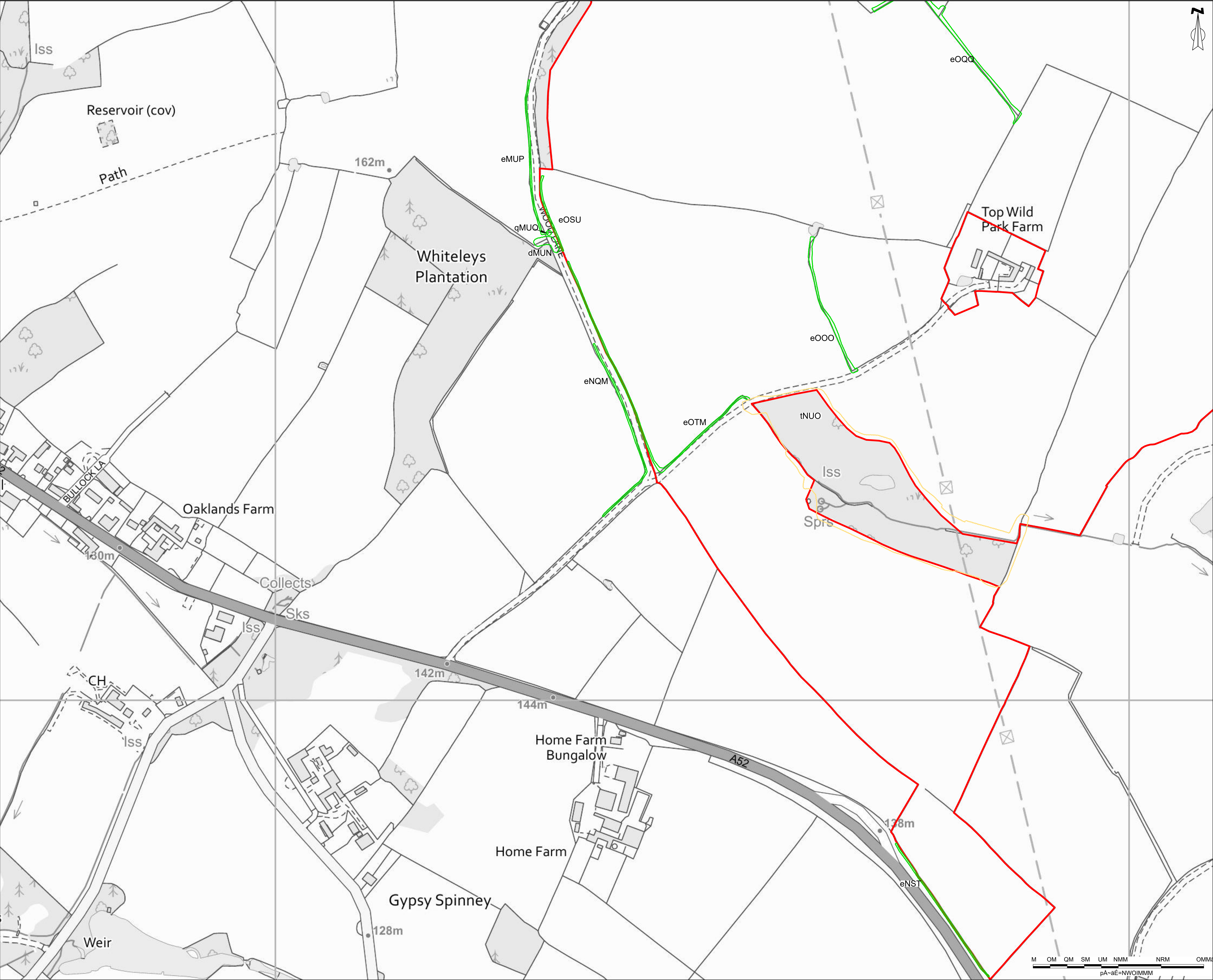
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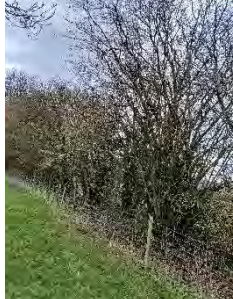
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Appendix C – Ground-level Bat Tree Assessment Survey Results

Reference (Taken from Arboricultural Survey Schedule (Enzygo , 2025a))	Description	Photographs	Feature Description	Suitability Assessment	Further Nocturnal Survey Required?
G081	Woodland edge group of trees - Willow, Elm, Ash, Hawthorn and Elder		To be cut back to facilitate access (Enzygo, 2025b) No potential roosting features noted	None	No
T082	Tree – Ash (Semi-mature)		To be cut back to facilitate access (Enzygo, 2025b) No potential roosting features noted	None	No
H083	Hedgerow - Sycamore, Hazel, Hawthorn and Blackthorn		To be cut back to facilitate access (Enzygo, 2025b) No potential roosting features noted	None	No
H140	Hedgerow - Blackthorn, Hazel, Maple. Hawthorn and Elder		Short section to be removed to allow for development (Enzygo, 2025b) No potential roosting features noted	None	No
H167	Hedgerow - Holly, Blackthorn, Hawthorn, Hazel and Elder		Short section to be removed to allow for development (Enzygo, 2025b). No potential roosting features noted	None	No

Reference (Taken from Arboricultural Survey Schedule (Enzygo , 2025a))	Description	Photographs	Feature Description	Suitability Assessment	Further Nocturnal Survey Required?
W182	Woodland Group – Willow, Alder, Oak, Hawthorn, Ash, Cherry, Willow and Rowan		Lift canopy over new permanent access road (Enzygo, 2025b) Dense ivy on stem.	PRF – I	No
H222	Hedgerow - Elder, Holly, Blackthorn, Hawthorn		No potential roosting features noted	None	No
H244	Hedgerow - Oak, Blackthorn, Holly, Ash, Hawthorn, Hazel, Maple and Elder		Short section to be removed to allow for development (Enzygo, 2025b). No potential roosting featured noted	None	No
H252	Hedgerow – Willow, Blackthorn, Hazel, Oak and Ash		Short section to be removed to allow for development (Enzygo, 2025b). No potential roosting featured noted	None	No
H268	Hedgerow - Sycamore, Hawthorn, Ash and Blackthorn		Short section to be removed to allow for development (Enzygo, 2025b). No potential roosting features noted	None	No

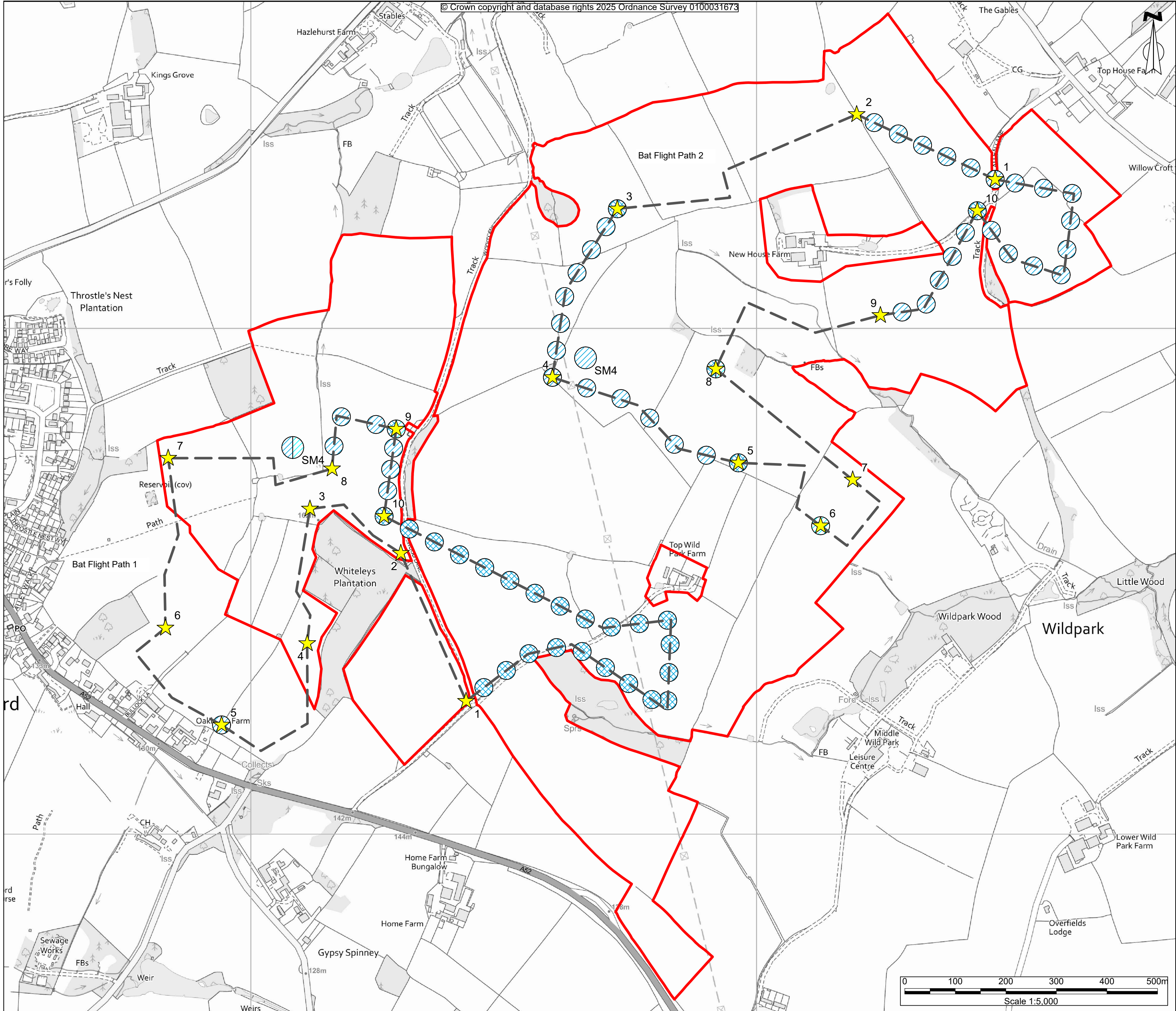
Reference (Taken from Arboricultural Survey Schedule (Enzygo , 2025a))	Description	Photographs	Feature Description	Suitability Assessment	Further Nocturnal Survey Required?
H270	Hedgerow – Ash, Blackthorn, Hazel and Hawthorn		Short section to be removed to allow for development (Enzygo, 2025b) No potential roosting features noted	None	No
H318	Hedgerow - Elder, Oak, Hawthorn, Hazel and Maple		Short section to be removed to allow for development (Enzygo, 2025b). No potential roosting features noted	None	No
H322	Hedgerow – Blackthorn, Oak, Hawthorn and Hazel		Short section to be removed to allow for development (Enzygo, 2025b). No potential roosting features noted	None	No
H340	Hedgerow – Blackthorn, Elder, Hazel and Hawthorn		Short section to be removed to allow for development (Enzygo, 2025b) No potential roosting features noted	None	No
H358	Hedgerow – Holly, Oak, Hazel, Hawthorn and Elder		Short section to be removed to allow for development (Enzygo, 2025b). No potential roosting features noted	None	No

Reference (Taken from Arboricultural Survey Schedule (Enzygo , 2025a))	Description	Photographs	Feature Description	Suitability Assessment	Further Nocturnal Survey Required?
H405	Hedgerow – Blackthorn, Hawthorn and Hazel		Short section to be removed to allow for development (Enzygo, 2025b). No roosting noted potential features	None	No

CONFIDENTIAL

Appendix D - Bat Activity Survey Maps and Data

CONFIDENTIAL



KEY:

- Site Boundary
- Flight Path
- Spot Counts
- SM4
- PIPPYG High BAI >=60
- PIPPYG Moderate BAI >=6 but <60
- PIPPYG Low BAI >0 but <6
- PIPPIP High BAI >=60
- PIPPIP Moderate BAI >=6 but <60
- PIPPIP Low BAI >0 but <6
- PIP NAT High BAI >=60
- PIP NAT Moderate BAI >=6 but <60
- PIP NAT Low BAI >0 but <6

P01	12/11/25	Issued for comment / approval	SD	CS	CS
Rev	Date	Description	DRA	CHK	APP

Project
Brailsford Solar and BESS

Client
BSR Energy

Drawing Title
Bat Activity Results (Pippistrellus)

Scale 1:5000 @ A2	Date 12/11/25	Status Preliminary
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DWG No.
SHF3087016-ENZ-XX-XX-DR-Z-0011

Revision
P01

Bristol
01454 269 237

Manchester
0161 413 6444

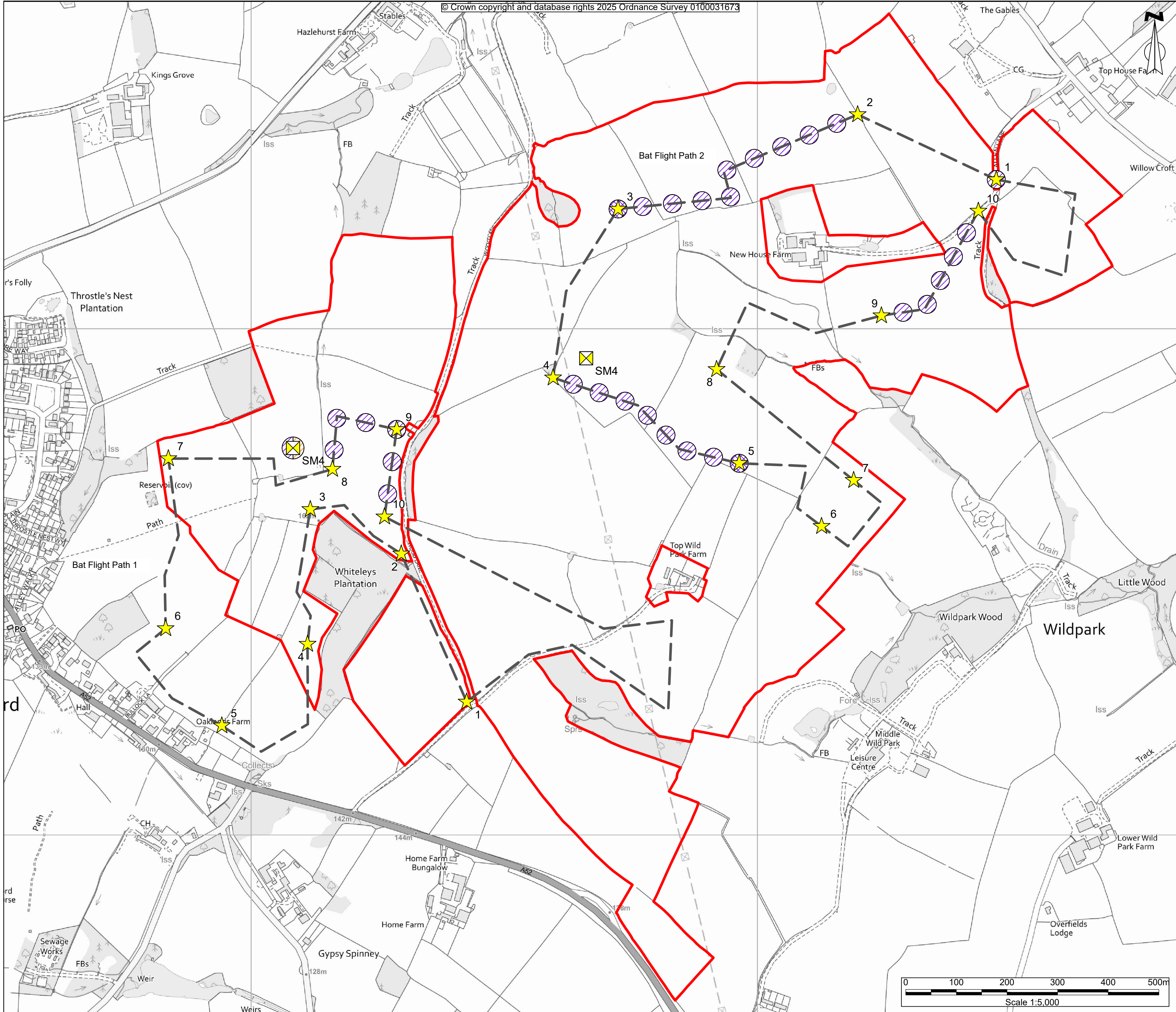
Sheffield
0114 321 5151

Cardiff
02920 023 700

Cambridge
01799 542 473

Belfast
07377673948

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KEY:

- Site Boundary
- Flight Path
- Spot Counts
- SM4
- MYODAU
 - High BAI >=60
 - Moderate BAI >=6 but <60
 - Low BAI >0 but <6
- MYONAT
 - High BAI >=60
 - Moderate BAI >=6 but <60
 - Low BAI >0 but <6
- MYOMYS
 - High BAI >=60
 - Moderate BAI >=6 but <60
 - Low BAI >0 but <6
- MYOALC
 - High BAI >=60
 - Moderate BAI >=6 but <60
 - Low BAI >0 but <6
- MYOBRA
 - High BAI >=60
 - Moderate BAI >=6 but <60
 - Low BAI >0 but <6
- MYOPEC
 - High BAI >=60
 - Moderate BAI >=6 but <60
 - Low BAI >0 but <6

P01	13/11/25	Issued for comment / approval	SD	CS	CS
Rev	Date	Description	DRA	CHK	APP

Project
Brailsford Solar and BESS

Client
BSR Energy

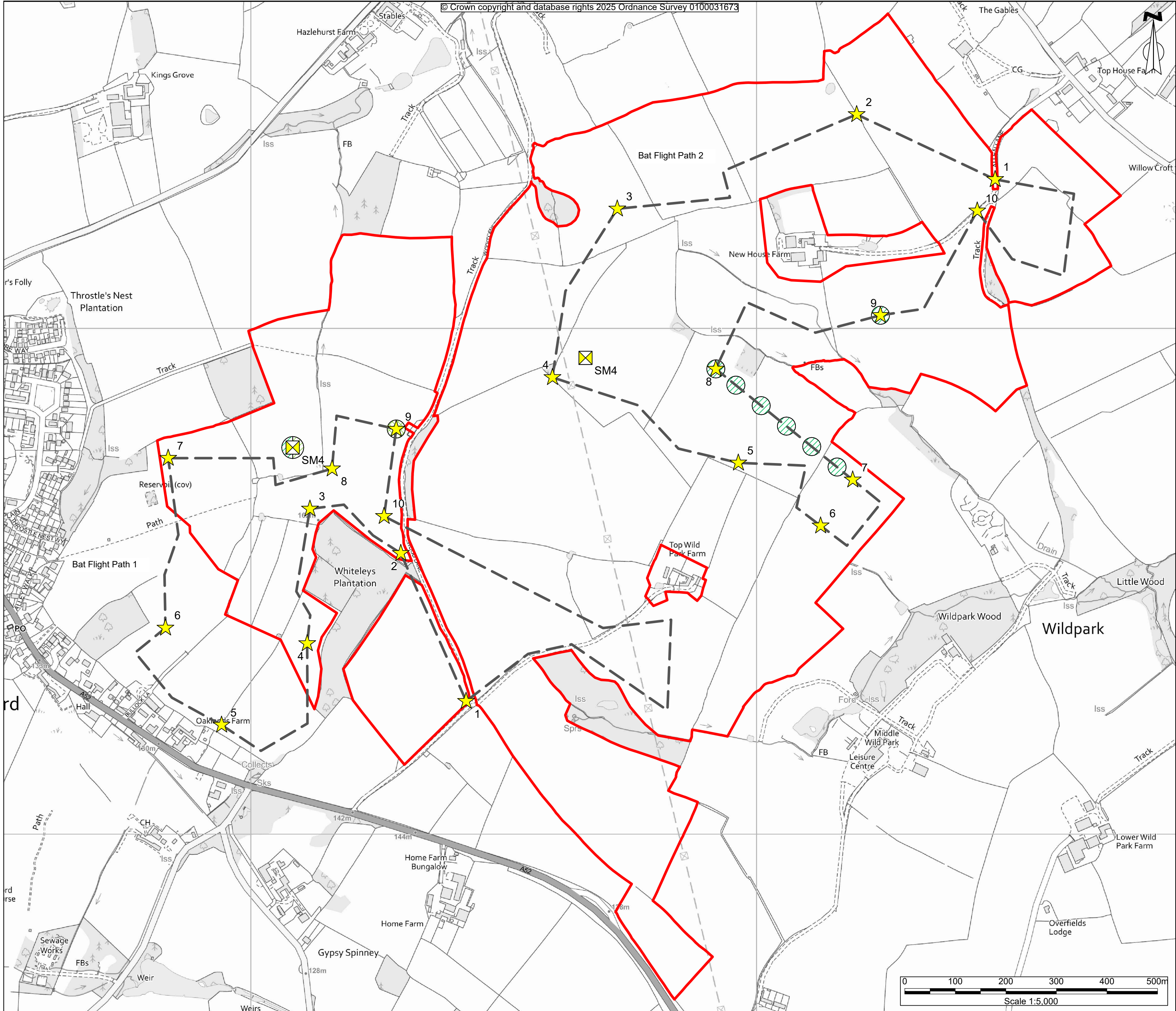
Drawing Title
Bat Activity Results (Myotis)

Scale 1:5000 @ A2	Date 13/11/25	Status Preliminary
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DWG No. SHF3087016-ENZ-XX-XX-DR-Z-0013	Revision P01
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Bristol 01454 269 237	Cardiff 02920 023 700
Manchester 0161 413 6444	Cambridge 01799 542 473
Sheffield 0114 321 5151	Belfast 07377673948

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KEY:

- Site Boundary
- Flight Path
- Spot Counts
- SM4
- EPTSER High BAI >=60
- EPTSER Moderate BAI >=6 but <60
- EPTSER Low BAI >0 but <6
- NYCLEI High BAI >=60
- NYCLEI Moderate BAI >=6 but <60
- NYCLEI Low BAI >0 but <6
- NYCNOC High BAI >=60
- NYCNOC Moderate BAI >=6 but <60
- NYCNOC Low BAI >0 but <6

P01	12/11/25	Issued for comment / approval	SD	CS	CS
Rev	Date	Description	DRA	CHK	APP

Project
Brailsford Solar and BESS

Client
BSR Energy

Drawing Title
Bat Activity Results (Nyctalus)

Scale 1:5000 @ A2	Date 12/11/25	Status Preliminary
-----------------------------	-------------------------	------------------------------

DWG No.
SHF3087016-ENZ-XX-XX-DR-Z-0012

Revision
P01

Bristol
01454 269 237

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02920 023 700

Cambridge
01799 542 473

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[illegible]

Spot Count/				Number of passes																		
Date	Transect	Sector	hrs	mins	RHIFER	RHIHIP	NYCNO	NYCLEI	EPTSER	BARBAI	PIPPIP	PIPPYG	PIP NAT	PLEAUR	PLEAUS	MYODA	MYON#	MYOM	MYOAL	MYOBR	MYOBE	VAGRAI
25/09/2025	1	8	0.0833	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	1	8-9.	0.1167	7	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-
25/09/2025	1	9	0.0833	5	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	1	9-10.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	1	10	0.0833	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	1	10-1.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	1	0.0833	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	1-2.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	2	0.0833	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	2-3.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
25/09/2025	2	3	0.0833	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	3-4.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	4	0.0833	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	4-5.	0.1167	7	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	5	0.0833	5	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	5-6.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	6	0.0833	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	6-7.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	7	0.0833	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	7-8.	0.1167	7	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	8	0.0833	5	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	8-9.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	9	0.0833	5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	9-10.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	10	0.0833	5	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
25/09/2025	2	10-1.	0.1167	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total					12.0000	0	0	3	2	0	0	32	3	0	0	0	12	0	0	0	0	0
Bat Activity Index (BAI)						0.00	0.00	0.25	0.17	0.00	0.00	2.67	0.25	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

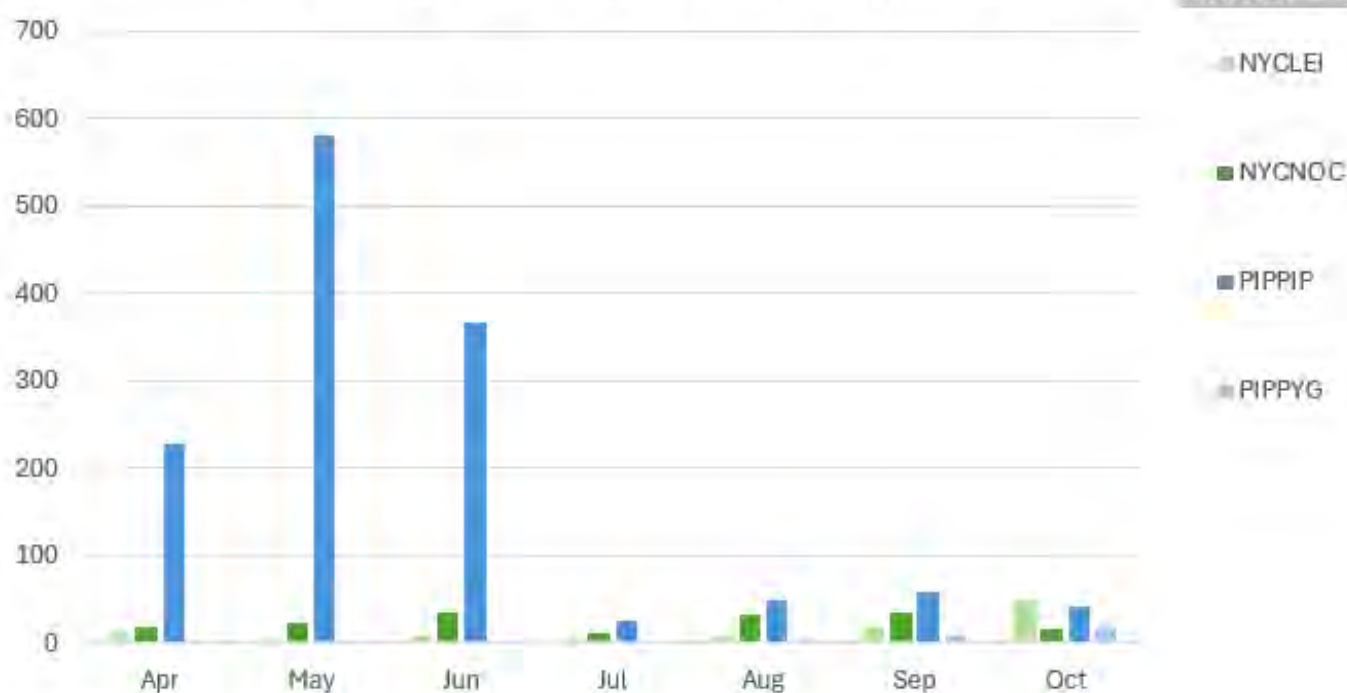
Number of passes Static Detectors																					
SM4																					
Date	Transect	location	hrs	RHIFER	RHIHIP	NYONOC	NYCLEI	EPTSER	BARBAR	PIPPIP	PIPPYG	PIPNAT	PLEAUR	PLEAUS	MYODAU	MYONAT	MYOMYS	MYOALC	MYOBRA	MYOBEC	VAGRAN
25 -30 Apr 2025	1	M - East	57.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-5 and 22-28 May 2024	1	M - East	99.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-24 and 26-30 Jun 2025	1	M - East	196.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-11 Jul 2025	1	M - East	80.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7-13 and 26-30 Aug 2025	1	M - East	114.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-16 Sep 2025	1	M - East	143.00	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-
1-11 Oct 2025	1	M - East	137.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25 -30 Apr 2025	2	Q - West	57.00	-	-	19	11	-	-	229	1	-	-	-	1	-	-	-	-	-	-
1-5 and 22-28 May 2024	2	Q - West	99.00	-	-	24	5	-	-	580	1	-	-	-	1	-	-	-	-	-	-
2-24 and 26-30 Jun 2025	2	Q - West	196.00	-	-	34	8	-	-	367	-	-	-	-	14	-	-	-	48	-	-
1-11 Jul 2025	2	Q - West	80.00	-	-	11	5	-	-	25	1	-	-	-	-	-	-	-	-	-	-
7-13 and 26-30 Aug 2025	2	Q - West	114.00	-	-	32	9	-	-	50	4	-	3	-	1	-	-	-	-	-	-
2-16 Sep 2025	2	Q - West	143.00	-	-	36	19	-	-	59	8	-	7	-	1	-	-	-	-	-	-
1-11 Oct 2025	2	Q - West	137.00	-	-	16	48	-	-	42	18	-	3	-	3	-	-	-	-	-	-
Total			1652.00	0	0	172	105	0	0	1364	33	0	13	0	21	0	0	0	48	0	0
Bat Activity Index (BAI)				0.000	0.000	0.104	0.064	0.000	0.000	0.826	0.020	0.000	0.008	0.000	0.013	0.000	0.000	0.000	0.029	0.000	0.000

DATE ▾

Count of AUTO ID*

SM4 Q - West - *Pipistrellus* and *Nyctalus* sp.

AUTO ID* ▾



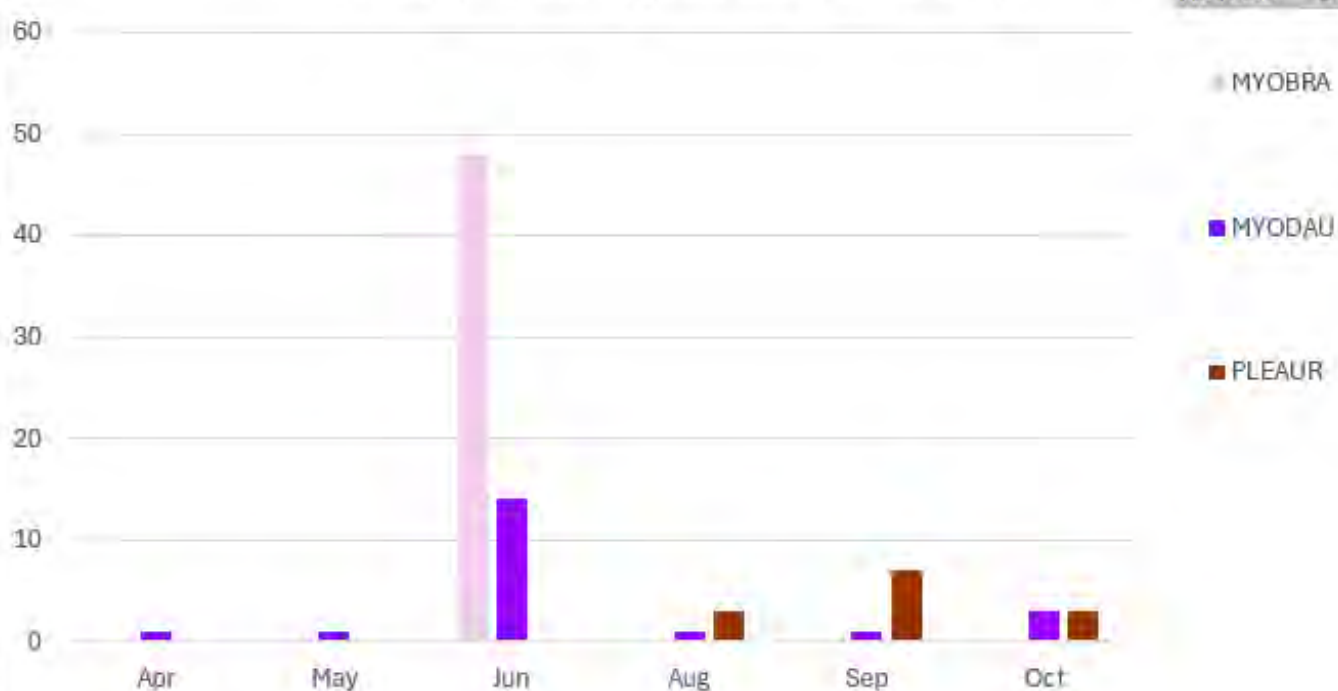
Months (DATE) ▾

DATE ▾

Count of AUTO ID*

SM4 Q - West - *Myotis* and *Plecotus* sp.

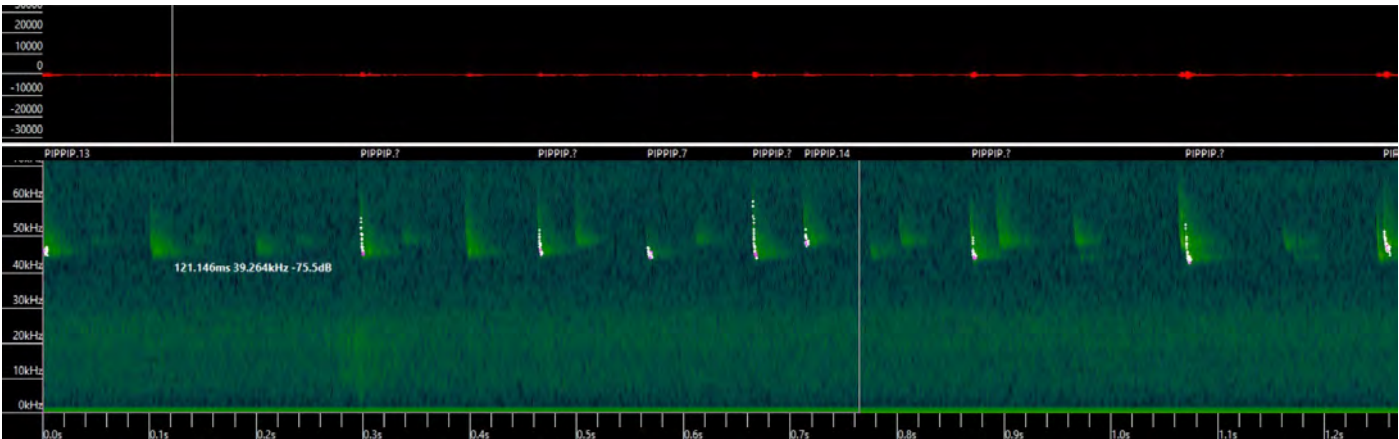
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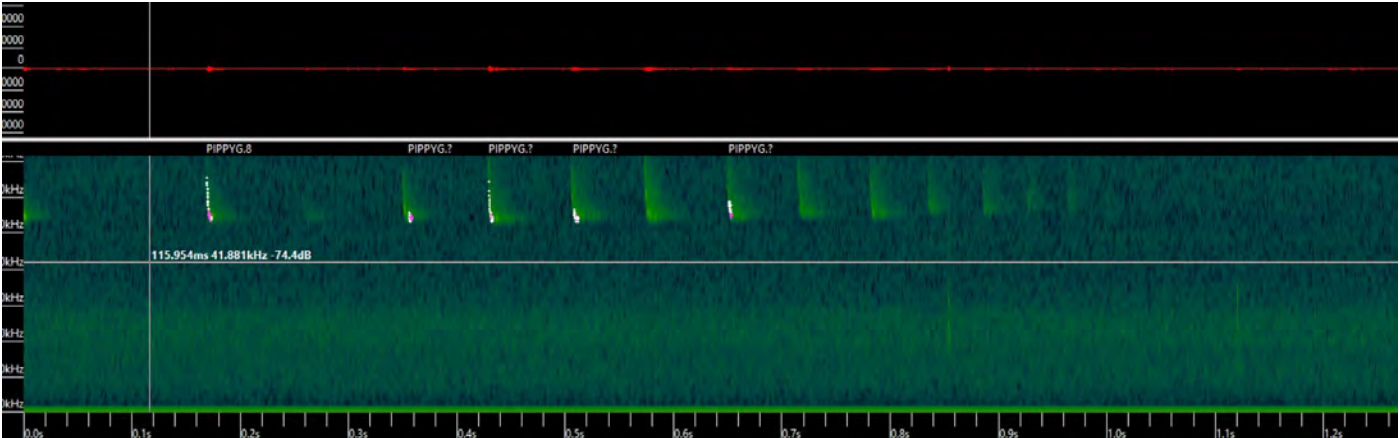
Months (DATE) ▾

Sonograms

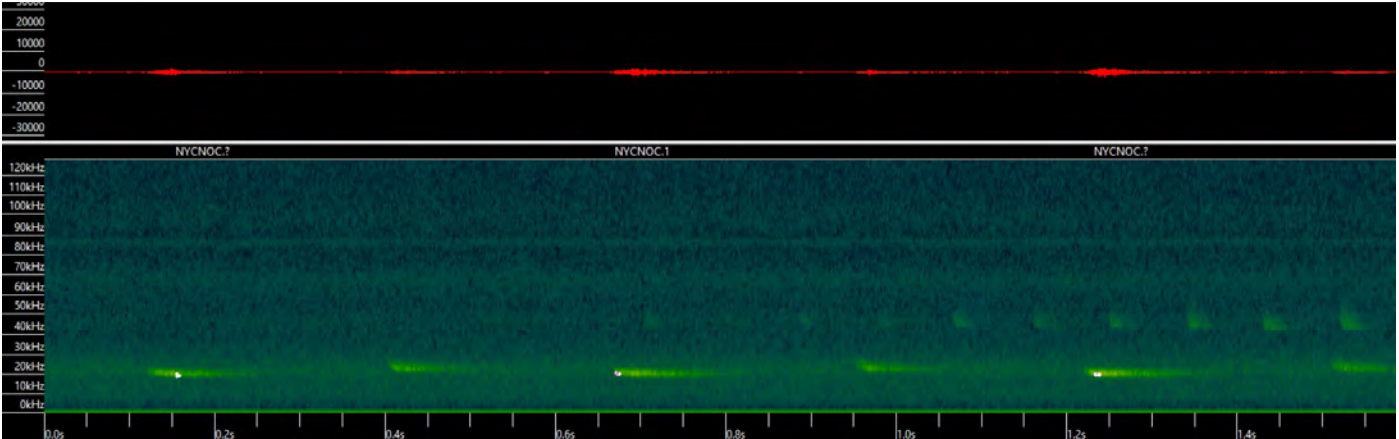
Common Pipistrelle



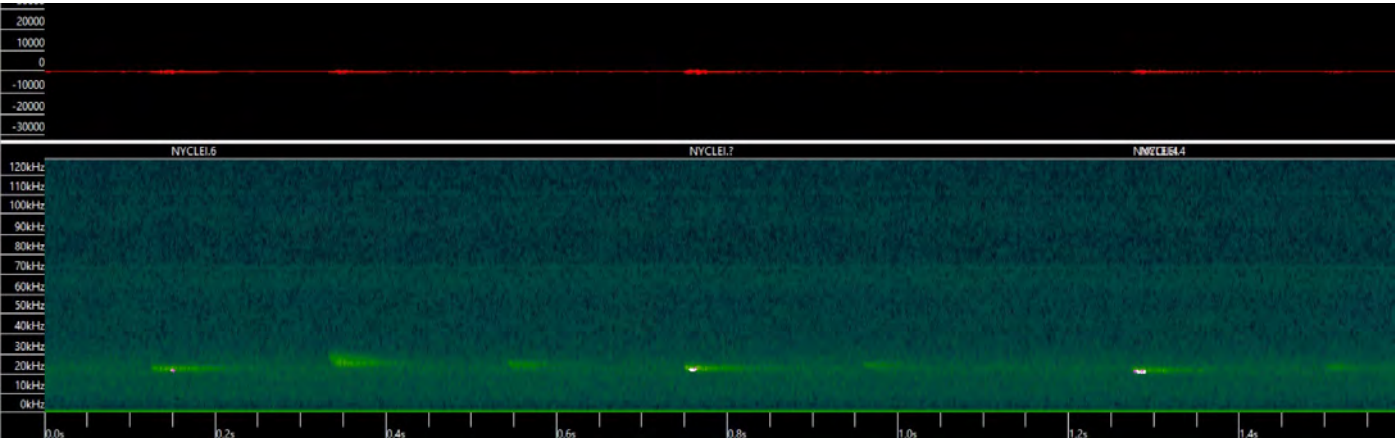
Soprano Pipistrelle



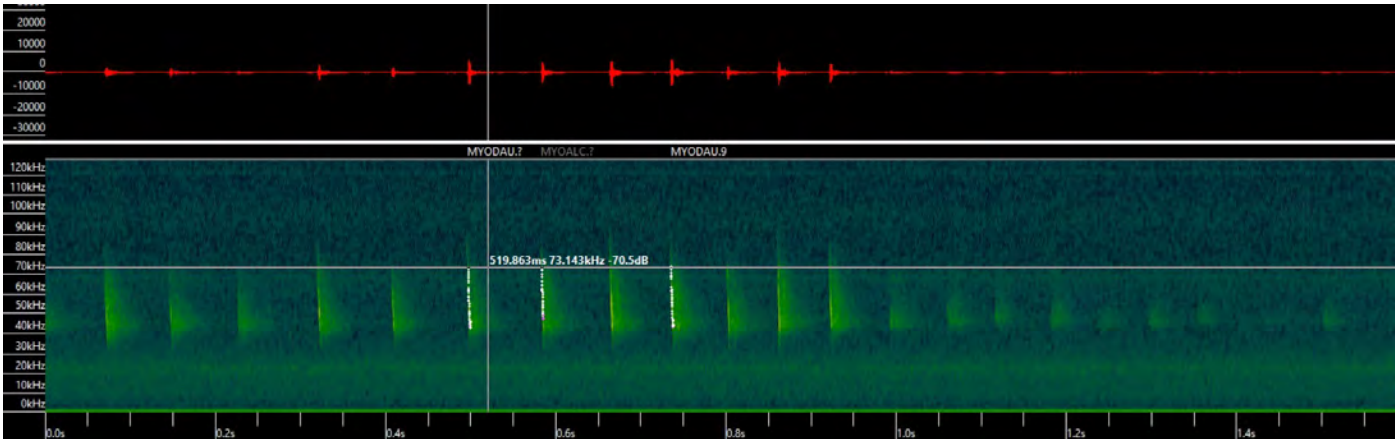
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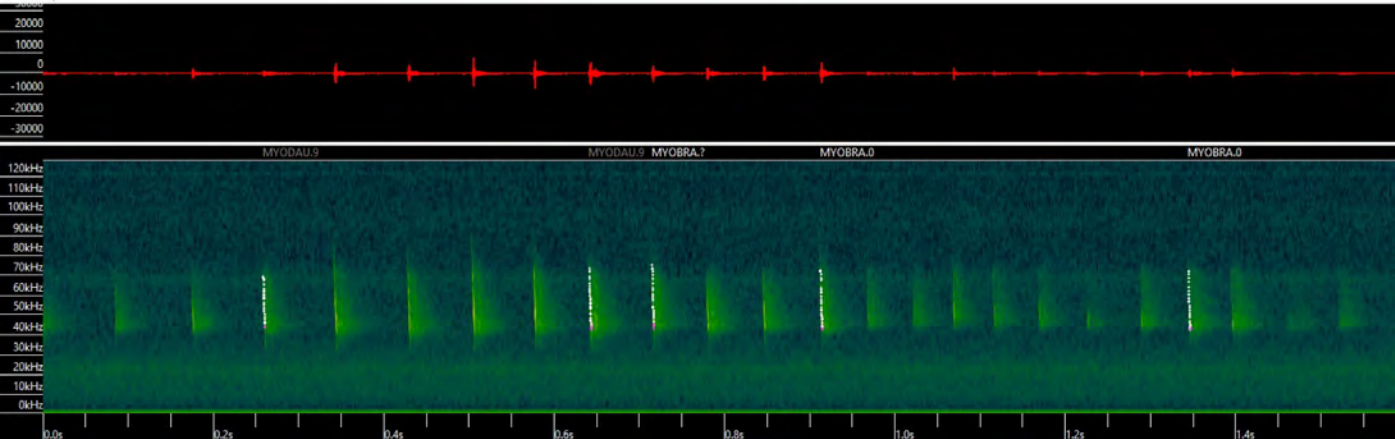
Leisler's Bat



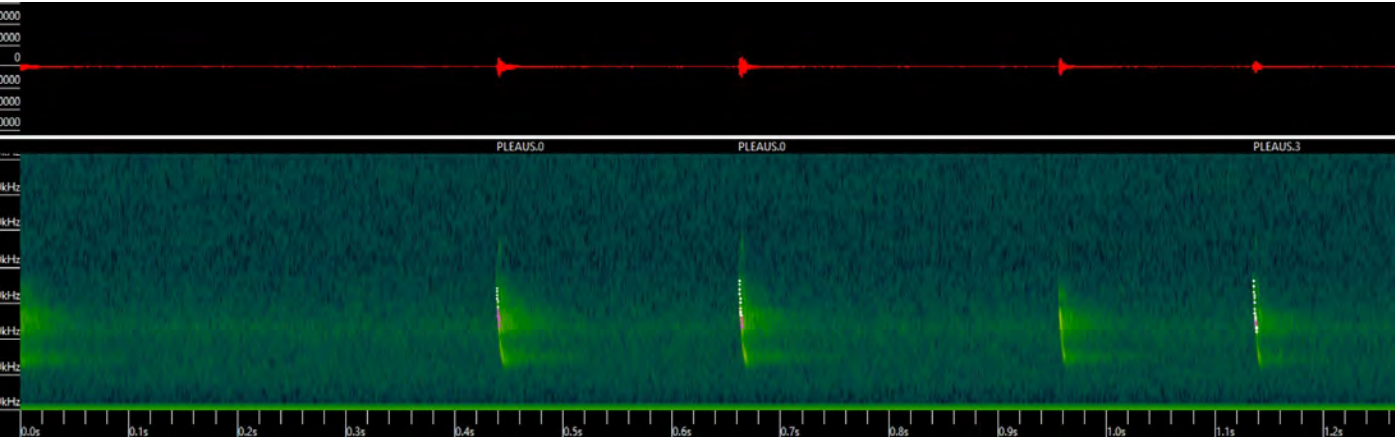
Daubenton's Bat



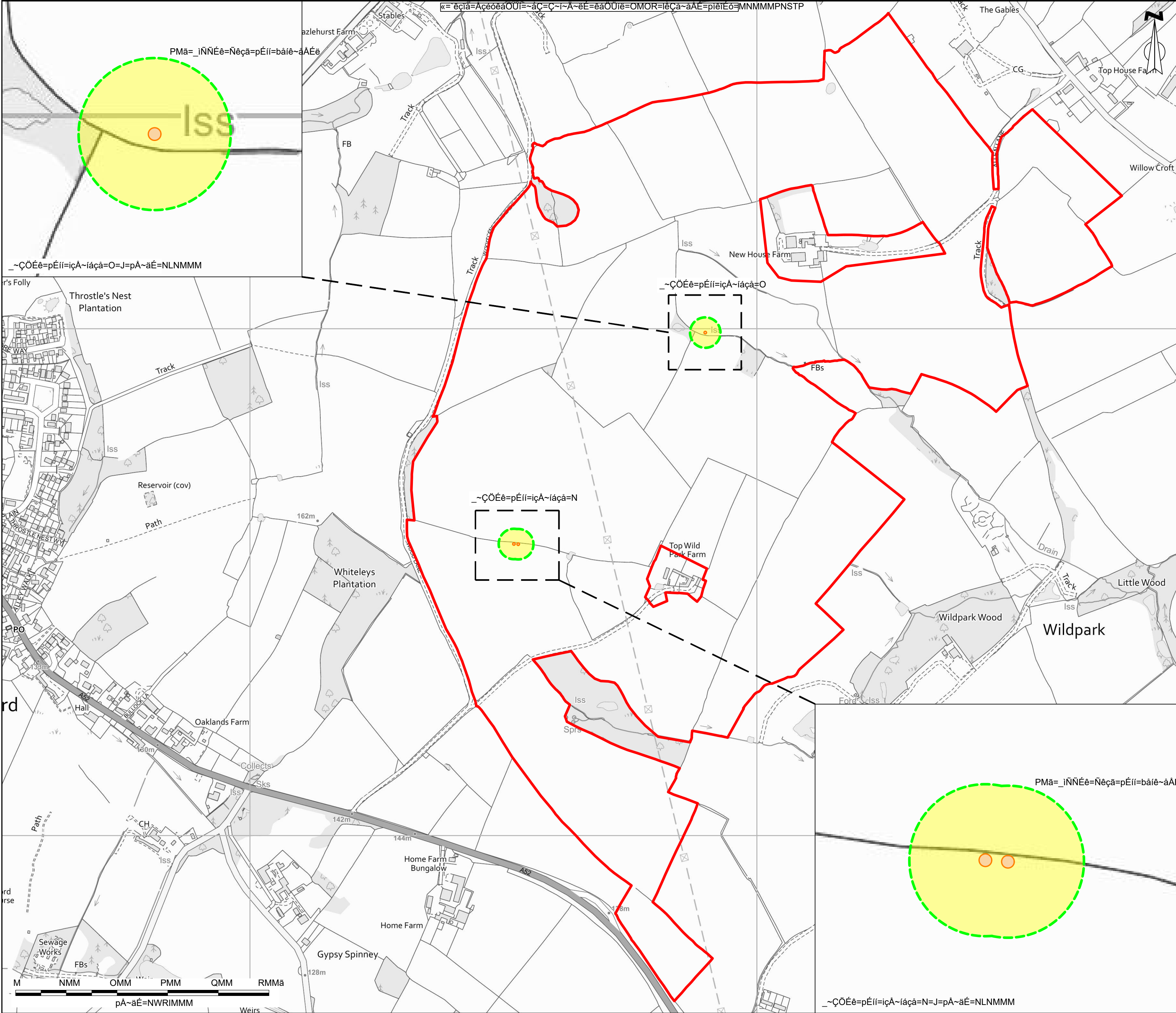
Brandt's Bat



Brown Long-eared Bat



CONFIDENTIAL



KEY:

- páíÉ=_çlàÇ~éó
- _~ÇÖÉê=pÉíi=içA~íáçãè
- PMã=_iÑÑÉê=Ñêçã=pÉíi=báíê~ãÁÉê

mMFNRLMQLOS	oÉÇããáÉ=_çlàÇ~éó=réÇ~iÉÇ	i_	hp	hp
mMCNPLNNLOR	páíÉ=_çlàÇ~éó=réÇ~iÉÇ	pa	`p	`p
mMMVLNMLOR	feèiÉÇ=Ñçê=Açããáí=L~ééêçí~ã	pa	`p	`p
oÉi	a~iÉ	aÉãÁéáéíáçã	ao^	`eh`^mm

Project

_ê~ããêÑçêÇ=pçã~ê=~ãÇ=_bpp

Client

_po=báÉêÖó

Drawing Title

_~ÇÖÉê=pièiÉó

Scale	Date	Status
NWRMMM=[]=^	QVLNMLOR	mêÉããããã~éó

DWG No.

pecPMUTMNSJbkWJuuJuuJaoJwJMMNMM

Revision

01

Bristol

01454 269 237

Manchester

0161 413 6444

Sheffield

0114 321 5151

Cardiff

02920 023 700

Cambridge

01799 542 473

Belfast

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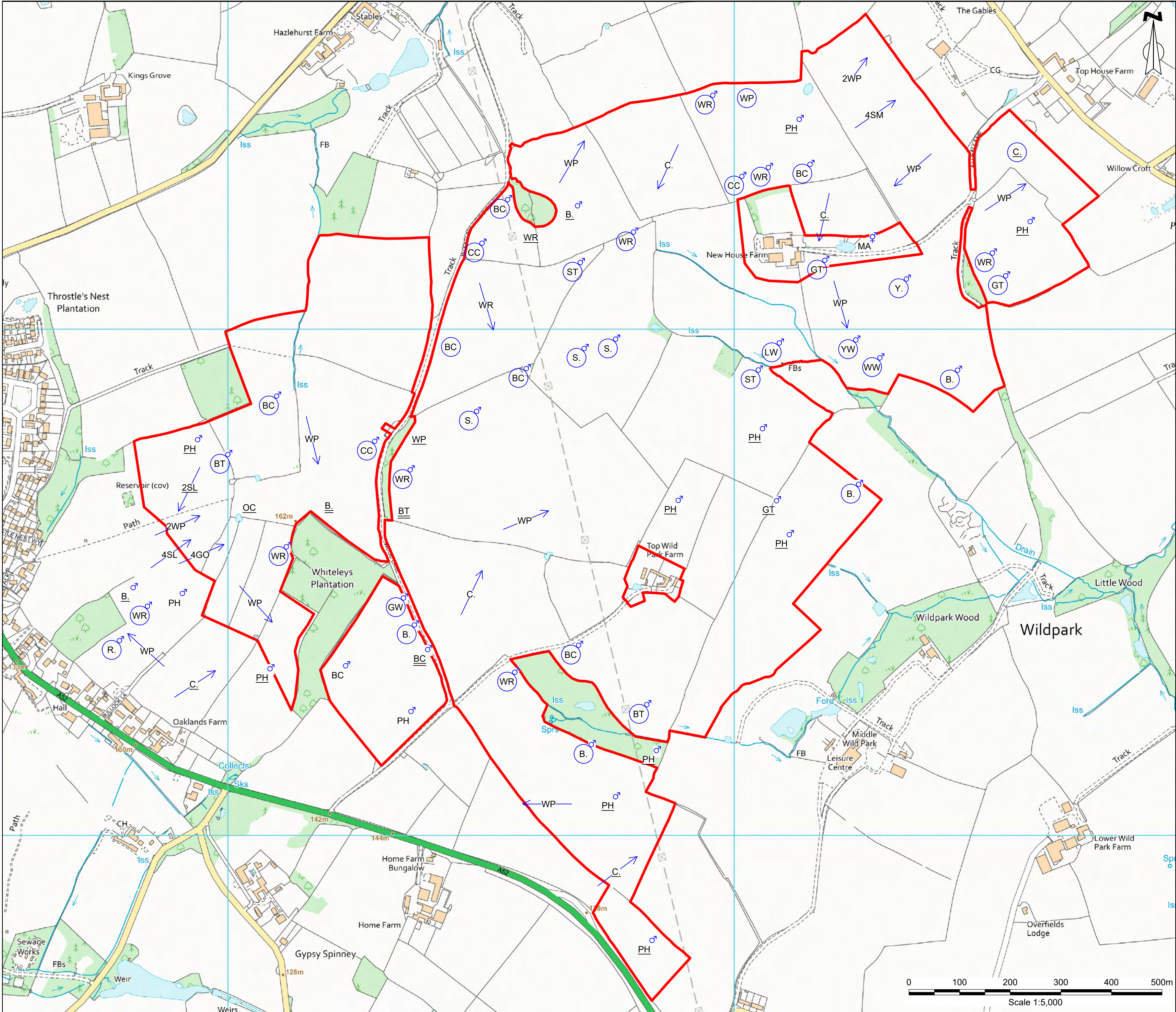
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Appendix F – Breeding Bird Survey Maps and Data

CONFIDENTIAL



KEY:

- Site Boundary
- Singing
- Calling
- Alarm Calling
- Aggressive Encounter
- Flight Direction
- Female
- Male
- Registration - Same Bird
- Registration - Different Bird
- Registration - Probably Same Bird
- Occupied Nest
- Occupied Specially Provided Nest
- Bird carrying food
- Survey Vantage Point
- Camera Trap Point

P02	12.11.25	Site Boundary Updated	SD	CS	CS
P01	14.08.25	Issued for comment / approval	LB	CS	CS
Rev	Date	Description	DRA	CHK	APP

Project
Brailsford Solar and BESS

Client
BSR Energy

Drawing Title
Breeding Bird Survey (28.04.25)

Scale 1:5000 @ A2	Date 13.08.25	Status Preliminary
-----------------------------	-------------------------	------------------------------

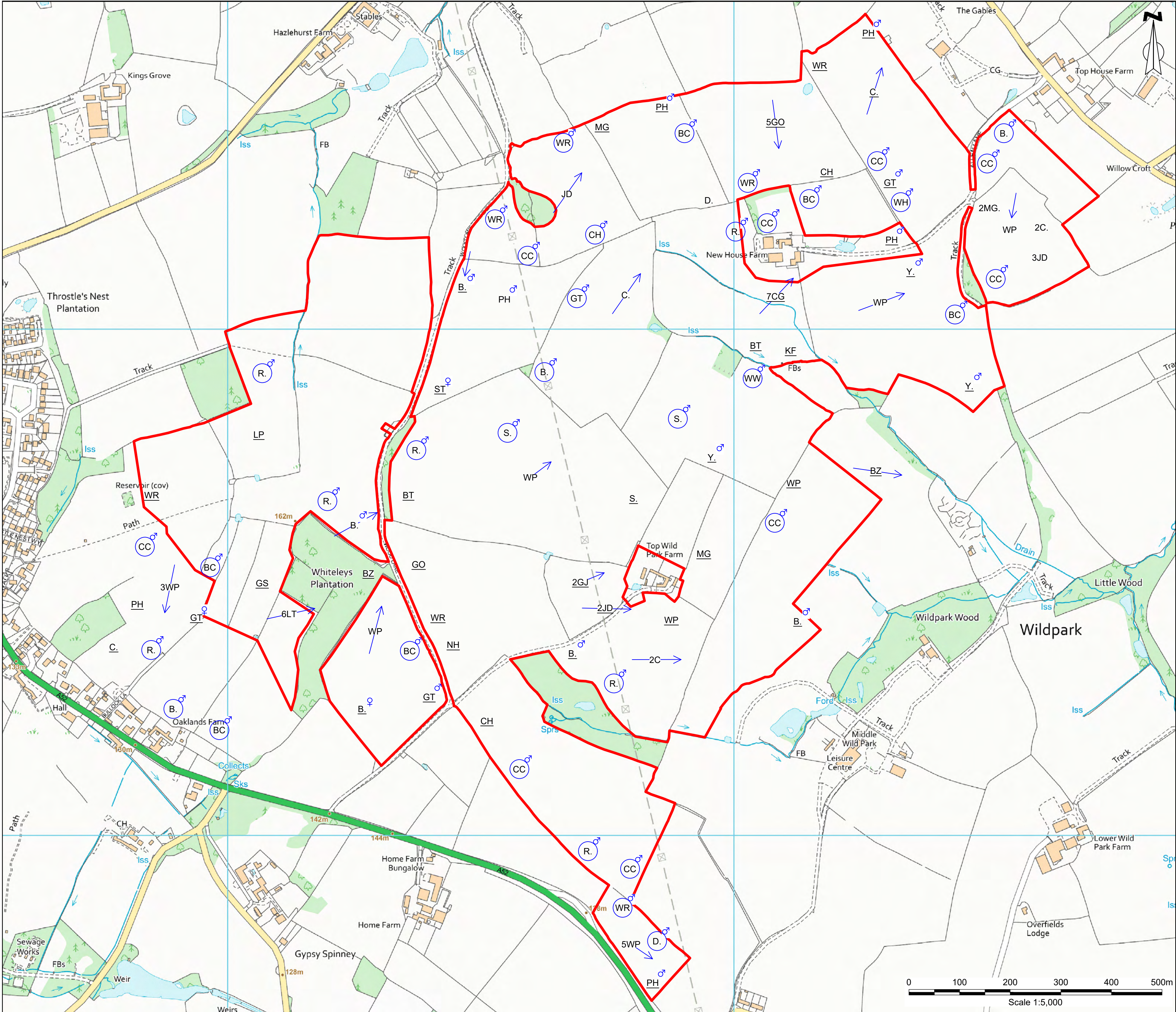
DWG No. SHF3087016-ENZ-XX-XX-DR-Z-0002	Revision P02
--	------------------------

Bristol
01454 269 237
Manchester
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Sheffield
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KEY:

- Site Boundary
- Singing
- Calling
- Alarm Calling
- Aggressive Encounter
- Flight Direction
- Female
- Male
- Registration - Same Bird
- Registration - Different Bird
- Registration - Probably Same Bird
- Occupied Nest
- Occupied Specially Provided Nest
- Bird carrying food
- Survey Vantage Point
- Camera Trap Point

P02	12.11.25	Site Boundary Updated	SD	CS	CS
P01	14.08.25	Issued for comment / approval	LB	CS	CS
Rev	Date	Description	DRA	CHK	APP

Project

Brailsford Solar and BESS

Client

BSR Energy

Drawing Title

Breeding Bird Survey (06.05.25)

Scale	Date	Status
1:5000 @ A2	13.08.25	Preliminary

DWG No.	Revision
SHF3087016-ENZ-XX-XX-DR-Z-0003	P02

Bristol
01454 269 237
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Sheffield
0114 321 5151

Cardiff
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Cambridge
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Belfast
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hello@enzygo.com