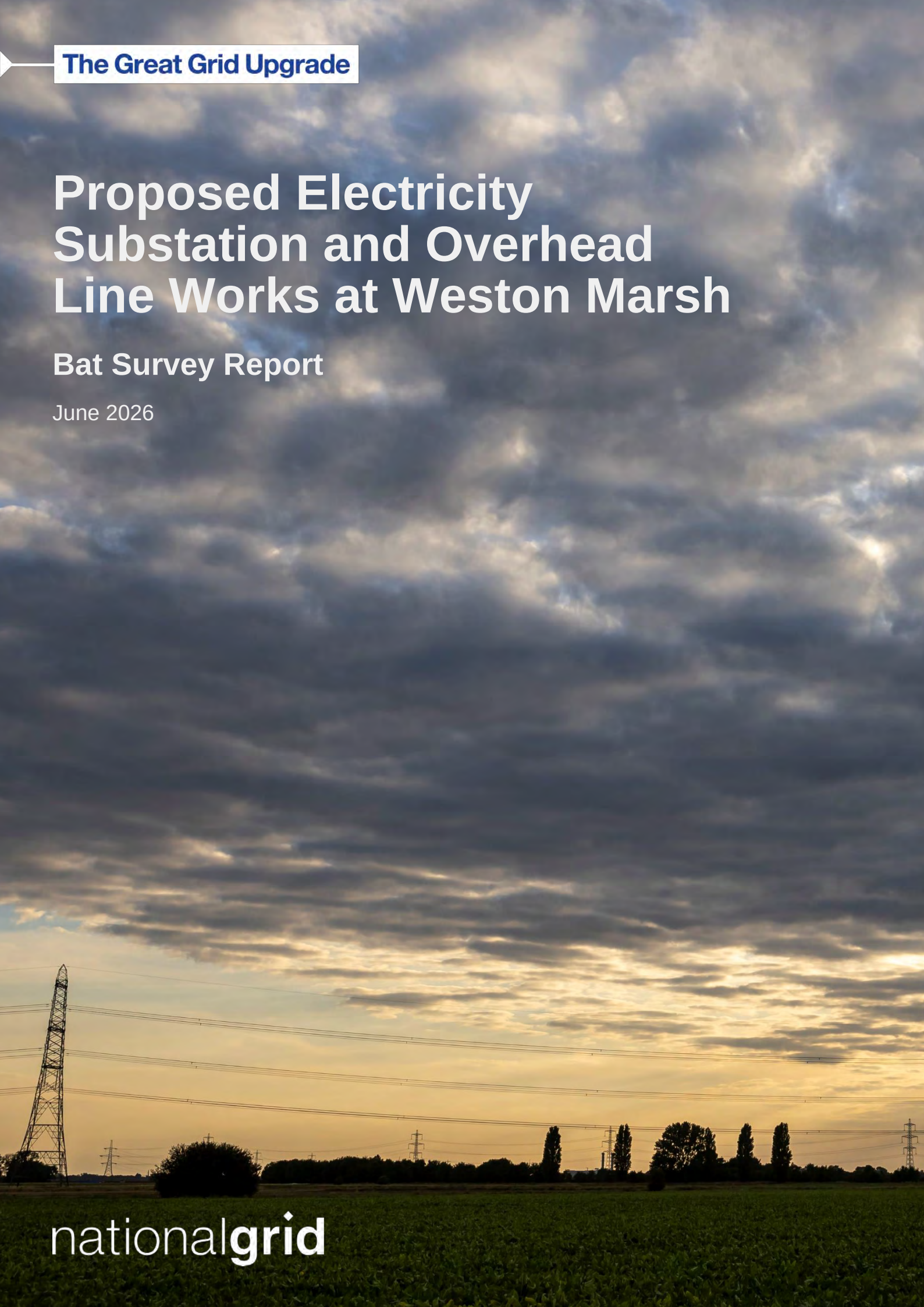
The Great Grid Upgrade

Proposed Electricity Substation and Overhead Line Works at Weston Marsh

Bat Survey Report

June 2026



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Document control

Document Properties	
Organisation	Arup AECOM
Approved by	National Grid
Title	Bat Survey Report
Document Register ID	GWNC-ARU-SS50-XXXXXX-RPT-ES-000008
Data Classification	Public

Version History

Document	Version	Status	Description / Changes
May 2026	1.0	Final	First Issue
June 2026	2.0	Final	Second Issue - minor update to cross references

Contents

1. Introduction

1.1 Overview

1.1.1 This Bat Survey Report has been prepared by National Grid Electricity Transmission plc (National Grid).

1.1.2 National Grid are proposing to undertake works to construct a new electricity substation, new sections of overhead line and modification of existing overhead lines west of the Spalding Tee-Point, in the Weston Marsh area, within the administrative boundary of South Holland District Council (SHDC) in Lincolnshire.

1.2 Summary of the Scheme

1.2.1 In totality, the proposed works consists of four components each planned to be progressed via separate consenting routes. These are summarised in **Table 1.1**.

Table 1.1 Components of the Scheme

Works Required	Consenting Regime
Construction of the new Air Insulated Substation (AIS) – 400kV Weston Marsh Substation A, associated landscaping and environmental mitigation works, drainage, highways and other associated works.	Town and Country Planning Act 1990 (TCPA) (Ref 1) Component referred to as '**Substation Works'**
Construction of new sections of overhead line to connect the new Substation Works into the existing 4ZM overhead line. Removal of a section of the existing 4ZM overhead line. Other associated works.	Section 37 (S37) of the Electricity Act 1989 and deemed consent pursuant to section 90(2) of the Town and Country Planning Act 1990 (Ref 2) Component referred to as '**S37 4ZM Overhead Line Works**'
Construction of a new section of overhead line to connect the existing 2WS overhead line into the Substation Works. Removal of a section of the existing 2WS overhead line. Other associated works.	S37 of the Electricity Act 1989 and deemed consent pursuant to section 90(2) of the Town and Country Planning Act 1990 (Ref 2) Component referred to as '**S37 2WS Overhead Line Works**'
Reconductoring works required on the existing 4ZM overhead line. Two spans of temporary overhead lines.	The Town and Country Planning (General Permitted Development) (England) Order 2015 (Ref 3) and The Overhead Lines (Exemption) (England and Wales) Regulations 2009 (Ref 4) Component referred to as '**Exempt Overhead Line Works'**

1.2.2 The Substation Works will require consent from SHDC under the TCPA.

1.2.3 The S37 4ZM Overhead Line Works and S37 2WS Overhead Line Works (collectively referred to as 'the S37 Overhead Line Works') will require consent from the Secretary of State for Energy Security and Net Zero under S37 of the Electricity Act 1989.

1.2.4 The Exempt Overhead Line works constitute permitted development under Part 15 Class B of the Town and Country Planning (General Permitted Development) (England) Order 2015 and The Overhead Lines (Exemption) (England and Wales) Regulations 2009.

1.2.5 The Scheme Site Boundary, which consists of the land required to construct and operate the Scheme in its entirety, is illustrated on **Figure 1**. The areas of land required to construct and operate each individual component described in **Table 1.1** are also illustrated on **Figure 1**.

1.2.6 The Scheme in its totality is a standalone development to enable connection of the Outer Dowsing Offshore Wind Farm to the national electricity transmission system. Each component stated in **Table 1.1** above is required for the Scheme to fully function as part of the National Electricity Transmission System (NETS).

1.3 Purpose of this Report

1.3.1 This Bat Survey Report has been prepared to inform the required consent applications for the Scheme and has been informed by engagement between National Grid and the relevant consenting authorities.

1.3.2 The assessment considers the Scheme in its entirety. Where the survey findings are associated with specific components of the Scheme as set out in **Table 1.1**, this is clearly identified within **Section 4**. This approach enables the relevant consenting authority to readily identify and consider only those impacts and effects that are associated with the application before them, whilst also maintaining a clear understanding of the Scheme in its wider context.

1.3.3 The purpose of this report is to:

1) Present desk study information of relevance to bats;
2) Identify the presence or likely absence of bats within the Survey Area;
3) Record and map evidence of bats and the species present; and
4) Present the above data in a manner that allows the results to be used to inform an assessment of the relative nature conservation value, including review against the relevant criteria as shown in **Section 4** (Ref 21).

1.4 Structure

1.4.1 This report is structured as follows:

1) Legislative and Policy Framework – This section provides an overview of the legislation, national, regional and local policy relevant to this report.
2) Methodology – This section details the scope of the assessment, study and survey area, data collection that has informed the assessment, and any assumptions and limitations.
3) Baseline and Evaluation – This section details the baseline characteristics of the receiving environment against which the Scheme is assessed.
4) Summary – This section provides a summary of the outcomes of the report.

2. Legislative and Policy Framework

2.1 Overview

2.1.1 Legislation and national policy relevant to the Scheme and this report is described in further detail in the Planning, Design and Access Statement (TCPA application) and the Section 37 Statement (S37 applications). Key legislation and policy specifically relevant to bats is summarised in the following sections.

2.2 Legislation and National Policy

2.2.1 The following wildlife legislation is relevant to bats in relation to the Scheme:

1) The Conservation of Habitats and Species Regulations 2017 (as amended) (Habitats and Species Regulations) (Ref 5);
2) Wildlife and Countryside Act 1981 (as amended) (WCA) (Ref 6);
3) Natural Environment and Rural Communities Act 2006 (NERC) (Ref 7); and
4) Countryside and Rights of Way Act 2000 (CRoW) (Ref 8).

Retained European Legislation and Wildlife and Countryside Act 1981

2.2.2 All bat species and their roosts are legally protected in the UK under the Habitats and Species Regulations (Ref 5) under regulation 43. These regulations implemented the EC Directive 92/43/EEC (the Habitats Directive) (Ref 9), whose protections have been retained in domestic law as at 31 December 2020 through the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (Ref 10). Four bat species relevant to the UK are further listed under Annex II of the Habitats Directive which implies that sites must be designated for their protection. These bat species are barbastelle *Barbastella barbastellus*, lesser horseshoe *Rhinolophus hipposideros*, greater horseshoe *Rhinolophus ferrumequinum* and Bechstein's *Myotis bechsteinii*. Under the WCA (Ref 6), bats and roosts are also protected through the designation of protected areas including Sites of Special Scientific Interest (SSSIs) and by promoting protections for such designated areas.

2.2.3 Taken together, regulation 43 of the Habitats and Species Regulations (Ref 5) and section nine of the WCA (Ref 6) make it illegal to:

1) Deliberately capture or intentionally take a bat;
2) Deliberately or intentionally kill or injure a bat;
3) Be in possession or control of any live or dead bat or any part of, or anything derived from a bat;
4) Damage or destroy a breeding site or resting place of a bat;
5) Intentionally or recklessly obstruct access to any place that a bat uses for shelter or protection;

6) Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection; and

7) Deliberately disturb bats, in particular any disturbance which is likely to:

   a) Impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or

   b) Affect significantly the local distribution or abundance of the species to which they belong.

2.2.4 A bat roost is defined as any structure a bat uses for breeding, resting, shelter or protection. It is important to note that since bats tend to re-use the same roost sites, a bat roost is protected regardless of whether or not the bats are present at a specific point in time.

2.2.5 Schedule 12 of the CRoW Act 2000 (Ref 8) introduced the offence of 'reckless' disturbance of threatened species protected under the WCA. It added extended powers relating to the protection and management of SSSIs as well, including powers for entering management agreements, placing a duty on public bodies to further the conservation and enhancement of SSSIs, increasing penalties for conviction, and appeal processes for the notification, management and protection of SSSIs.

Natural Environment and Rural Communities Act 2006

2.2.6 In addition to the above legislation, seven bat species are listed as being Species of Principal Importance (SPI) for conservation in England under Section 41 of the NERC Act 2006 (Ref 7). The SPI list under Section 41 of the NERC Act 2006 was last updated in November 2022 but is kept under review. These include barbastelle, Bechstein's, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, lesser horseshoe and greater horseshoe. Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of Principal Importance for the conservation of biodiversity in England. The list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act to have regard to the conservation of biodiversity in England when carrying out their normal functions.

European Protected Species Mitigation Licences

2.2.7 Although the law provides strict protection for bats through the above legislation, it also allows this protection to be set aside (derogated) under Regulation 55 of the Habitats and Species Regulations (Ref 5) through the issuing of European Protected Species Mitigation Licences (EPSMLs). Among other purposes, EPSMLs are issued for the purpose of:

1) Preserving public health;

2) Preserving public safety; or

3) For other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.

2.2.8 In accordance with the requirements of part five of the Habitats and Species Regulations (Ref 5), a licence can only be issued where the following requirements are satisfied:

1) There is no satisfactory alternative; and
2) The action authorised will not be detrimental to the maintenance of the population of the species concerned at a 'favourable' conservation status in their natural range.

2.2.9 As defined in Article 1(i) of the Habitats Directive, (Ref 9) conservation status will be taken as 'favourable' when:

1) Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
2) The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
3) There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis.

National Planning Policy Framework

2.2.10 The National Planning Policy Framework (NPPF) was most recently updated in December 2024 (Ref 11) and further amended on 7 February 2025. It is a material consideration for planning decisions. The NPPF establishes a presumption in favour of sustainable development (paragraph 11) as its central principle and requires the planning system to pursue three mutually supportive overarching objectives (economic, social and environmental objectives (paragraph 8)).

2.2.11 Chapter 15 of the NPPF is directly relevant to the receptors identified within this report. Paragraph 187 requires planning policies and decisions to protect and enhance sites of biodiversity value and to minimise impacts on valued habitats and species. Paragraph 193 establishes the key decision-making principles when determining planning applications. These include: where significant harm to biodiversity resulting from a development cannot be avoided through alternative siting, adequately mitigated, or as a last resort compensated for, planning permission should be refused.

2.3 Regional and Local Policy

2.3.0 Regional and local plans or policies relevant to this assessment are as follows:

1) South East Lincolnshire Local Plan 2011 – 2036 (Ref 11):
   a) Policy 28 The Natural Environment: supports protecting, managing and enhancing a high quality, comprehensive ecological network of interconnected designated sites, sites of nature conservation importance and wildlife-friendly greenspace;
   b) Policy 31 Climate Change and Renewable and Low Carbon Energy: notes that all development proposals will be required to demonstrate that the consequences of current climate change have been addressed, minimised and mitigated by (amongst other measures) incorporating measures which promote and enhance green infrastructure and provide an overall net gain in

biodiversity. This policy also stipulates that the development of renewable energy facilities and associated infrastructure will be permitted provided that individually or cumulatively, there would be no significant harm to the natural environment;

2) Lincolnshire Biodiversity Action Plan (3rd edition) (Ref 13) provides the local nature conservation strategy for identifying threats to species within the country and set out the action plans necessary to conserve them. This Local BAP provides context to inform the identification and, or uncommon species within the relevant districts and, or county. It also identifies priorities for conservation and enhancement but confer no particular legislative or policy protection to the species identifies. However, in some cases this is provided through related legislation and local planning. The Lincolnshire BAP lists the following threats to bat species within the county:

    a) Loss of breeding and winter hibernation sites in buildings, old trees and farmyard features, especially old stone farm yard buildings; through decay;

    b) Demolition or conversion of buildings to other uses; or felling trees without suitable mitigation;

    c) Disturbance and destruction of roosts e.g. due to building work;

    d) Reduction in insect prey due to widespread pesticide use and deterioration of water quality has also been shown to affect food supply: contamination from a range of sources including pesticides, oil and fertilisers can affect invertebrate populations;

    e) Loss of feeding and commuting habitats – through reduction in the quality and quantity of hedgerows, mature trees, ditches, ponds and riverside habitats. Continuing loss of permanent pasture is especially concerning for some species;

    f) Widespread confusion over / ignorance of / flouting of the law regarding bats; and

    g) Floodlighting of churches and other buildings causing disturbance.

3. Methodology

3.1 Scope of the Assessment

3.1.1 The scope of the bat surveys has been designed with reference to best practice guidance and Natural England's standing advice.

3.1.2 An evaluation of the potential constraints associated with bats, incorporating both desk-based and field-based data collection, was conducted in accordance with Natural England's standing advice (Ref 14) and established guidelines for best practices published by the Bat Conservation Trust in 2023 (Ref 14) these guidelines are hereafter referred to as 'best practice guidelines'. The methods undertaken are detailed below.

3.2 Study Area and Survey Area

3.2.1 The desk study area (hereinafter referred to as the 'Study Area') for bats is defined as within 2 km of the Scheme Site Boundary (see **Figure 2**).

3.2.2 The Survey Area for bats included all habitat within the Scheme Site Boundary.

3.3 Data Collection

Desk Study

3.3.1 A Desk study was completed as part of the Ecological Impact Assessment (EcIA) (Ref 16) and has been reviewed to inform this report. The aim of the desk study was to help characterise the baseline context of the Scheme and provide valuable background information that would not be captured by site surveys alone.

3.3.2 As part of the desk study, Greater Lincolnshire Nature Partnership (GLNP) were contacted in February 2026 to obtain desk study data within 2 km of the Scheme Site Boundary. The data provided contains records of protected or notable species (including bats) within the Study Area.

3.3.3 Further additional online resources have been utilised to collate desk study data and have included the following

1) The Multi-Agency Geographic Information for the Countryside (MAGIC) website (Ref 17) was used to identify the presence of statutory designated sites designated for bats within 2 km of the Site and the location and details of any granted bat European Protected Species Mitigation Licence (EPSML) applications.

Site Survey

Daytime Bat Walkover

3.3.4 The Daytime Bat Walkover (DBW) survey was conducted between November 2024 and March 2025, where access allowed within the Scheme Site Boundary, to assess the potential for features and habitats within the survey area to support bats, in accordance with Bat Conservation Trust (BCT) guidelines (Ref 14).

3.3.5 The aim of the survey was to undertake a rapid assessment to identify the requirement for further surveys. There were no structures within the Survey Area.

3.3.6 A global positioning system (GPS) was used to accurately record the location of individual trees, treelines, woodlands and structures along with photographs and notes on each feature.

3.3.7 Based on the overall suitability for use as a bat roost, in accordance with best practice guidelines (Ref 14) each woodland/treeline/individual tree/structure was classified as:

1) NONE – no features;
2) FAR – further assessment required; or
3) PRF – potential roost feature.

Ground Level Tree Assessment and Aerial Inspection

3.3.8 Ground-level tree assessment (GLTA) surveys were completed between May 2025 and February 2026. Trees expected to be directly impacted by the Scheme were appraised for their potential to support roosting bats by suitably experienced and licenced ecologists. Due to changes within the Scheme Site Boundary during the survey period, some of the trees surveyed are no longer going to be impacted, but the results are still presented within this report. Due to scheme boundary changes, there is a group of trees at the South of the Scheme Site Boundary which is pending surveys, these surveys will be ongoing in 2026 and provided as an addendum in summer 2026.

3.3.9 The trees surveyed were either those identified as having suitability for roosting during the DBW (i.e. classified as PRF or FAR) or where access was not previously granted.

3.3.10 The surveys comprised an external ground-based visual assessment using close focussing binoculars and a high-powered torch to identify or further inspect PRF's, including:

1) Holes, cankers, cracks, callus rolls, splits, or cavities within trees;
2) Lifted plates of bark; and
3) Crevices under thick-stemmed ivy.

3.3.11 During the assessment a search was also undertaken for any evidence of bat use, including:

1) Presence of any live or dead bats;

2) Bat droppings within a feature, around an entrance to a feature or underneath a feature;

3) Feeding remains;

4) Stains around crevice entrance holes;

5) Scratch marks or smoothly polished surfaces around entrance holes; and,

6) Odours or noise characteristic of bats.

3.3.12 Where features were accessible from ground level, and an ecologist holding the appropriate licence was present, an endoscope assessment of features that could be accessed from ground level was completed, this involved an appropriately licenced Ecologist using an endoscope to fully inspect accessible features for bats in situ or evidence of bats.

3.3.13 Based on the results of the GLTA, trees were categorised as having NONE, FAR, PRF, Negligible, PRF-I or PRF-M suitability for roosting bats in accordance with the criteria detailed in **Table 3.1**. If a confirmed roost was found, this was also noted alongside the roosting suitability.

Table 3.1 Criteria for assessing the suitability of potential roosting features (Ref 14)

Roost Suitability	Description
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.
Negligible	No obvious features likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
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

3.3.14 Any trees that were assessed as FAR and PRF were subject to aerial inspection surveys. Where trees were assessed as PRF-I or PRF-M but not all features could be fully inspected from ground level, they were also then subject to aerial inspection surveys. During the aerial inspection a suitably licenced ecologist climbed the trees using ropes and ladders. Once accessed, the PRFs noted during the GLTA, and any new PRFs noted during the climbing survey, were examined in detail using a bright torch, endoscope or mirror to inspect (where possible) the full extent of the PRF and search for bats or evidence of bat activity as listed in **Paragraph 3.3.11**.

3.3.15 Where necessary, trees were re-categorised following the aerial inspection either as having Negligible, PRF-I or PRF-M suitability for roosting bats.

Quality Assurance

3.3.16 All data collected during DBW, GLTA and aerial inspection surveys was subject to a 3 stage quality assurance (QA) process, QA1 was the surveyors own review of the work confirming that all data had been collected correctly, QA2 was a desk based review of at least 50% of all data collected, and QA3 was the final review by the species lead of 5-10% of all data collected.

3.3.17 If there was an atypical amount of incorrectly collected data identified at QA2 or QA3, then an additional review of the data in question was completed. The data collected within this report was subject to additional QA3, however any issues with data were resolved without the requirement to complete further surveys.

Night-bat Walkover and Static Detector Surveys

3.3.18 Night-bat walkover (NBW) surveys were undertaken in 2024 using one route covering representative habitats within the Survey Area. A holistic approach to assessing bats across all consenting boundaries has been taken due to the mobility of the species and the habitats present. The Survey area comprises mostly low value suitability habitats for foraging and commuting bats as defied in best practice guidelines (Ref 14) and is dominated by open intensively managed arable fields. Potential higher value habitats are present such as hedgerows and lines of trees, which are likely to be retained.

3.3.19 The NBW route is primarily located within the Substation Works Site Boundary but also crosses into the S37 2WS Overhead Line Works Site Boundary, the S37 4ZM Overhead Line Works Site Boundary and the Exempt Overhead Line Works Site Boundary.

3.3.20 The transect route (**Figure 5**) was surveyed in Spring, Summer and Autumn in accordance with best practice guidance (Ref 14). The survey routes were designed to include flight paths or foraging areas within the survey area and between such areas and potential roost sites. NBW, therefore, included sampling representative habitats with the survey area comprising hedges/tree lined, woodland edge, roadside verges and arable field margins.

3.3.21 Each NBW survey involved two surveyors starting at a pre-determined location, which was selected along a potential flight line. Surveyors waited at the pre-determined location from sunset until 30 to 60 minutes post-sunset, depending on detected activity levels. Surveyors then proceeded to walk a pre-determined route, although could deviate from the route or stop to observe bat behaviour. All bat activity encountered whilst walking the route was noted. The direction of the transects was varied during each survey visit to ensure different areas of the NBW were walked at differing times.

3.3.22 Surveyors carried full spectrum bat echolocation detectors (Batlogger M) to determine which species were present. In accordance with survey guidelines (Ref 14), dusk surveys commenced at sunset and continued for at least two hours after sunset. The time, location, numbers, species (where possible) and direction of flight were recorded for each bat pass, which is defined as a discrete burst of echolocation heard, or bat activity observed, during the survey. Echolocation of calls detected were analysed with specialist software (BatExplorer) to verify bat calls. Survey visits were conducted in this way where weather conditions allowed, with surveys scheduled to avoid nights with cold (sunset temperature <10°C), wet or windy conditions.

3.3.23 The direction of surveys, date and weather conditions are outlined below in **Table 3.2**.

Table 3.2 Results of DBW survey

Season	Date	Direction	Weather
Spring	20/05/2024	Clockwise	12°C and a light breeze throughout the survey. Dry at the start of the survey, very light rain at the end of the survey but bats were still active.
Summer	17/06/2024	Anti-clockwise	17°C at the start of the survey, dropping to 15°C by the end. Light air, dry and scattered cloud throughout.
Autumn	22/10/2024	Clockwise	10°C at the start of the survey, dropping to 6°Cby the end. Light air increasing to a light breeze by the end of the survey. Dry and clear skies throughout.

3.3.24 In addition to the NBW surveys, three automated full spectrum static bat detectors (SM4BAT and Anabat Swift) were deployed. One on the NBW and two others located at key foraging and commuting routed identified through a desk-based habitat mapping exercise (0). The detectors were placed across the Scheme in representative habitats to record bat activity over a longer period of time (i.e. a minimum of five nights per month). The locations of the static detectors are presented on **Figure 5**.

3.3.25 It is noted that the static detectors each sit within a different consenting boundaries as shown in **Table 3.3**, due to the mobility and ranges of bat species, it is likely that the bat species recorded across these three detectors would be present across all consenting boundaries, as such the data has been analysed collectively, rather than per consenting boundary.

Table 3.3 Static Locations in Reference to the Consenting Boundaries

Static Location	Consenting Boundary
SL53	Substation works S37 4ZM Overhead Line Works
SL54	Substation works
SL75	Substation works S37 4ZM Overhead Line Works

3.3.26 All microphones were located at least one metre above the ground on trees, so they were clear of vegetation between the adjacent habitats and the microphone. All detectors were set on default settings to record in zero-crossing format. The static detectors were set up to records bat calls from sunset to sunrise for the recommended minimum of five consecutive nights per month April-October inclusive (see deployment dates and weather conditions in **Appendix B**). This is more than the

minimum recommended number of survey deployments for low suitability habitat, to make sure sufficient baseline data was collected.

3.3.27 Weather conditions were recorded using the temperate log files on each static detector and rain/wind conditions were recorded at the nearest weather station using the Time and Date online resource (Ref 18). Weather data was taken into consideration in the analysis. Where any prolonged period of strong wind >25 mph or rain was experienced, the static detectors were left for longer on site to obtain sufficient data during the optimum weather conditions for bat activity.

Sound Analysis

3.3.28 A three stage Quality Assurance (QA) process was in place for the sound analysis for both NBW survey data and static survey data. For both survey types QA1 was confirmation the surveys had gone ahead, the correct data had been collected and saved in the correct place.

3.3.29 For the NBW data, all recordings were analysing in full spectrum using the BatExplorer software. QA2 was a full review of all data collected on each survey, each sound file where bat activity had been recorded was assigned a species label. QA3 comprised a check of 5-10% of all calls identified in QA2.

3.3.30 For the static detector survey data, all recordings were analysed in full spectrum format using Kaleidoscope Pro, an automated analysis software. QA2 then followed the Auto ID and during this stage the calls (excluding feeding buzzes and social calls) were manually checked according to the following specification:

1) 5% of common pipistrelle and soprano pipistrelle calls;
2) 10% each of *Myotis* calls, *Nyctalus* calls, brown long-eared bat calls;
3) All records of serotine bats;
4) All records of Nathusius' pipistrelle;
5) All records on Annex II species;
6) All records that lack species identification after auto ID, i.e. 'no ID' calls; and
7) 5-10% of noise records

3.3.31 Following QA2, 5-10% of all calls identified were checked again during the QA3 process.

3.3.32 For both the NBW and static detector surveys if during QA2 (statics only) or QA3 if there was an atypical amount of incorrectly identified calls, then an additional review of the data in questions was completed.

Data Analysis

3.3.33 The transect data was described in relation to species, number of passes (and where possible the number of bats), observed behaviour, temporal and spatial trends. The static bat detector data collected was analysed to determine the total number of passes for each species or species group (depending on the level of identification possible from the recordings made) and then used to derive a metric – the Bat Activity Index (BAI) for the bat activity at each survey location.

3.3.34 The analyses provide an indication of:

1) Seasonal variation in species activity and composition at each survey location;
2) Relative levels of bat activity across the Survey Area; and
3) Potential roosting sites, important foraging areas and commuting routes.

Bat Activity Index

3.3.35 The BAI values were calculated by averaging the total number of bat passes per hour for each static bat detector unit at each location per month. The term 'pass' is defined as a single file made up of bat pulses of a single species i.e., this may be one bat in a recorded sound file or many bats in a single file.

3.3.36 Limited guidance is available on what constitutes low to high bat activity on a Site, based on number of passes. As such, a relative scale was used that follows the protocol used by the Mammal Society Ecobat tool (Ref 19) where:

1) Low activity: 0-20th percentiles;
2) Low to moderate activity: 21st – 40th percentiles;
3) Moderate activity: 41st-60th percentiles;
4) Moderate to high activity: 61st-80th percentiles; and
5) High activity: 81st-100th percentiles.

3.3.37 For NBW data, relative bat activity levels were described to aid the discussion. No guidance is available on what constitutes low, moderate or high bat activity based on number of passes during a NBW surveys (based on a transect survey time of 2 to 3 hours). As such a relative scale was used based upon professional experience in this report where:

1) Very low activity is up to five passes per survey
2) Low activity is six to 25 passes per survey;
3) Moderate activity is 26 to 99 passes per survey; and
4) High activity is 100 passes or more per survey.

3.3.38 Reference to surveyors' observations, including numbers of individual bats seen, flight routes and behaviour and detectability of individual species are also made to inform the overall evaluation.

3.4 Assumptions and Limitations

Desk Study

3.4.1 Information obtained during the desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, lack of records for a particular species does not necessarily mean that a species does not occur in the Study Area. Likewise, the presence of records of species does not automatically mean that these will still occur within the area of interest or are relevant in the context of the Scheme.

Daytime Bat Walkover

3.4.2 Access was not granted to all areas within the Scheme for this assessment, therefore only areas that were accessible during November 2024 to March 2025 were subject to DBW surveys. These areas were accessible for GLTA surveys in 2026 and therefore this limitation is not deemed to impact the baseline in this report.

Further Bat Tree Surveys

3.4.3 There are a group of trees in the South of the Substation Works Site Boundary that are expected to be removed for an access track, these trees have not yet been surveyed. They will be surveyed during 2026 and the results will be provided in an addendum.

3.4.4 Bat emergence surveys will continue in 2026 and the results will be provided in an addendum report.

Night-bat Walkover and Static Detector Surveys

3.4.5 Due to access constraints, flooding and crop growing the NBW route was altered slightly for the summer survey, however the area covered is still deemed to collect sufficient data. The alteration to the NBW can be seen on **Figure 5**.

3.4.6 The static detectors were not all deployed within the same year. This was due to combination of land access, change in scope (increase from seasonal deployments to monthly) and failed detectors requiring re-deployment. The landscape did not change between the two years as such it is not considered that this will have influenced the baseline data collected.

3.4.7 Single static detectors in June (SL53) and July (SL54) did not contain any data due to the detectors failing to record on Site. This is not deemed to have significantly altered the baseline collected as monthly data was being collected to provide additional data above what would be required in line with guidance and there is data for all locations from each of the three seasons.

3.4.8 The overnight temperatures in April dropped below the optimal temperature for bat activity. This is typical of this time of year, and it has been noted in this report that lower numbers of bats were recorded during April due to this.

Data Interpretation Limitations

3.4.9 It is accepted that *Myotis* genus bat species are difficult to identify with any degree of certainty from echolocation alone, therefore these species are often aggregated as '*Myotis* species'. This aggregation, where undertaken, does not affect the evaluation of the results of activity surveys. Noctule, Leisler's *Nyctalus leisleri* and serotine *Eptesicus serotinus* can be difficult to separate therefore *Nyctalus* or *Nyctalus/Eptesicus* has been used, unless identification is certain. Common pipistrelle *pipistrellus pipistrellus*, Nathusius' pipistrelle *Pipistrellus nathusii* and soprano pipistrelle *Pipistrellus pygmaeus* can be difficult to separate, therefore Pipistrelle species has been used, unless identification is certain.

3.5 Biodiversity Importance

3.5.1 A hierarchical geographical approach used to assign biodiversity importance (i.e., sensitivity) of any bat roosts, and bat foraging and commuting habitat associated with the Scheme is based upon the Chartered Institute for Ecological and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessments (Ref 20), and in the CIEEM Bat Mitigation Guidelines (Ref 21) and using professional judgement. For further details on the methodology used to determine biodiversity importance, please refer to the tables presented in **Appendix C** of this report.

3.5.2 Reference has also been made, where required to:

1) Natural England Joint Publication JP025: A Review of the Population and Conservation Status of British Mammals (Ref 22);
2) NERC Act Section 41 list of species of principal importance (Ref 7);
3) Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-Care and Ecology Professionals (Ref 23); and
4) The Sate of the UK's Bats 2017: National Bat Monitoring Programme Populations Trends (Ref 24).

4. Baseline and Evaluation

4.1 Results

Desk Study

4.1.1 There are no international statutory sites designated for bats within 30 km of the Scheme Site Boundary. There are no national statutory sites designated or bats within 10 km of the Scheme or relevant non-statutory sites within 2 km of the Scheme.

4.1.2 The desk study returned nine records of bats roosts within the Study Area associated with soprano pipistrelle, Daubenton's bat, pipistrelle species, brown long-eared, and unknown bat species. Only one of these records falls within the Scheme Site Boundary, specifically within the Substation Works Site Boundary, for an unknown bat roost from 2016.

4.1.3 The desk study also returned 28 bat activity records within the Study Area relating to common pipistrelle, soprano pipistrelle, Daubenton's bat, pipistrelle species, brown long-eared and unknown bat species. None of these records fall within the Scheme Site Boundary.

4.1.4 There are no EPSML returns for bats within 2 km of the Scheme.

Site Survey

Daytime Bat Walkover

4.1.5 The results of the DBW survey are presented in detail in **Appendix B** (1) of this report. An initial assessment of 60 features (e.g. trees, lines/groups of trees and woodland) was carried out as illustrated on **Figure 3**.

4.1.6 In summary, during this initial assessment of 60 features it was found; 18 were recorded as having no features suitable for roosting bats (NONE), three as further assessment required* (FAR) (*only if impacts cannot be avoided) and 39 have potential roost features (PRF) that could be suitable for roosting bats.

4.1.7 Any trees that were assessed as FAR or PRF were then subject to GLTA assessment and aerial inspection if it was expected that they would be impacted by the Scheme. Trees along existing access routes were not subject to further surveys as it is assumed that these will not be impacted. Results are split per consenting boundary in Scheme Component .

Table 4.1 Results of DBW survey

Scheme Component	NONE	FAR	PRF
Substation Works Site Boundary	3 individual trees 1 line of trees	1 individual tree	10 individual trees
S37 Overhead Line Works Site Boundaries	4 individual trees 2 lines of trees		1 line of trees 6 individual trees
Substation Works Site Boundary and S37 2WS and S37 4ZM Overhead Line Works Site Boundaries*	2 lines of trees		
Exempt Works Site Boundary	1 individual tree 2 lines of trees 1 group of trees		5 individual trees
Outside of boundary	2 lines of trees	1 individual tree 1 line of trees	17 individual trees

* this row only includes trees that fall within the overlapping boundaries, not a summary of trees within both boundaries

Ground Level Tree Assessment and Aerial Inspection

4.1.8 A GLTA of 196 features and aerial inspection of 20 of these features was carried out. **Figure 4** shows the PRF-I and PRF-M trees within or immediately the Scheme Site Boundary. Of the 196 features, 128 are anticipated to be impacted by proposed works, 13 of the trees to be impacted have suitability to support roosting bats.

4.1.9 In summary, of the 196 features subject to GLTA; 13 were recorded as PRF-I suitability for roosting bats, 13 as PRF-M suitability for roosting bats 14 as negligible suitability for roosting bats and 160 had no suitability to support roosting bats.

4.1.10 Only trees within the Scheme Site Boundary and have potential to support roosting bats are showing in **Table 4.2** below and are illustrated on **Figure 4**.

4.1.11 All features, other than those confirmed as negligible or none from the GLTA, were subject to a climbing survey where safe to do so. During the process of survey scoping, the red line boundary changed, meaning that some of the trees climbed are now not expected to be impacted. Of the 20 trees subject to aerial inspection; one was recorded as negligible, 13 were recorded as PRF-I suitability for roosting bats and six as PRF-M suitability for roosting bats.

4.1.12 No confirmed roosts have been recorded within the Scheme boundary, however surveys will be ongoing in 2026 as eight trees to be impacted require further emergence surveys, these results will be presented in an addendum report.

Table 4.2 Results of GLTA surveys showing only PRF-I and PRF-M trees within the Scheme Site Boundary

Tree ID	Climbing Survey Complete	Bat Roost Suitability	Impacted	Substation Works	S37 2WS	S37 4ZM	Exempt Works	Further Survey Notes – to be completed in 2026
T119	No	PRF-M	Yes	✓			✓	Emergence surveys
T121	Yes	PRF-I	No				✓	N/A
T172	No	PRF-M	Yes	✓			✓	Emergence surveys
T183	Yes	PRF-I	No				✓	N/A
T273	Yes	PRF-M	No				✓	N/A
T304	No	PRF-M	Yes	✓			✓	Emergence surveys
T327	No	PRF-M	Yes	✓			✓	Emergence surveys
T346	No	PRF-M	Yes	✓			✓	Emergence surveys
T410	No	PRF-M	Yes	✓			✓	Emergence surveys
T466	No	PRF-M	No		✓	✓		N/A
T503	No	PRF-I	Yes	✓			✓	No climb required – fully endoscoped from the ground
T542	No	PRF-M	Yes	✓			✓	Emergence surveys
T627	Yes	PRF-I	No		✓	✓		N/A
T926	Yes	PRF-M	Yes		✓	✓		N/A
T1073	No	PRF-M	Yes	✓			✓	Emergence surveys
T1131	No	PRF-I	No		✓	✓		N/A
T2758	No	PRF-M	No		✓			N/A
T2764	Yes	PRF-I	No		✓			N/A
T2692	Yes	PRF-I	No		✓			N/A
T2696	Yes	PRF-I	No		✓			N/A

Tree ID	Climbing Survey Complete	Bat Roost Suitability	Impacted	Substation Works	S37 2WS	S37 4ZM	Exempt Works	Further Survey Notes – to be completed in 2026
T2691	Yes	PRF-M	No		✓			N/A
T2661	Yes	PRF-I	No	✓				N/A
T2743	Yes	PRF-I	No	✓				N/A
T2915	Yes	PRF-I	Yes				✓	N/A
T2923	Yes	PRF-I	Yes				✓	N/A
T2952	Yes	PRF-I	Yes				✓	N/A

Night-bat Walkover and Static Detectors Surveys

Night-bat Walkover Summary

4.1.13 Three transect surveys were completed in 2024 to provide representative coverage of the habitats within the Scheme Site Boundary.

4.1.14 Species recorded during the bat transect comprised at least three species: common pipistrelle, soprano pipistrelle, pipistrelle species (either soprano or common), and *Myotis* species.

4.1.15 Bat activity is shown on **Figures 6-8** of this report.

Spring

4.1.16 Activity levels were moderate on the Spring survey with a total of 81 bat passes being recorded during the survey. Common pipistrelle was the most frequent bat recorded with 58 passes, with a lower number of passes of soprano pipistrelle (21 passes) and occasional passes (<10 passes) of pipistrelle species. Activity was mainly recorded along lines of trees around the edge of arable fields as illustrated on **Figure 6**.

Summer

4.1.17 Activity levels were moderate on the summer survey with a total of 27 bat passes being recorded during the survey. Common pipistrelle was the most frequent bat recorded with 25 passes and occasional passes (<10 passes) of soprano pipistrelle. Activity was mainly recorded along lines of trees and along roads as illustrated on **Figure 7**.

Autumn

4.1.18 Activity levels were high on the autumn survey with a total of 150 bat passes being recorded during the survey. Common pipistrelle was the most frequent bat recorded with 116 passes, with a lower number of passes of soprano pipistrelle (34 passes).

Activity was mainly recorded along the roads to the West and South of the NBW route, along with some areas of lines of trees as illustrated on **Figure 8**.

Static Bat Detector Summary

4.1.19 Full results of the static bat detector surveys are provided in **Appendix B** (3) of this report with static detector locations presented on **Figure 5**.

4.1.20 A total of 95 nights of data were analysed from 3 static detectors located across the Scheme, resulting in 14,051 passes of bats. Species recorded on the static bat detectors comprised at least eight species: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Daubenton's bat, *Myotis* sp., noctule, Leisler's bat, brown long-eared or barbastelle *Barbastella barbastellus*.

4.1.21 A summary of the BAI from the static bat detector surveys is presented in Table 4.3 and Image 4.1 and Image 4.2. Static SL74 in September has the highest BAI with 78 passes per hour recorded, with common pipistrelle the most abundant species with a total of 4220 passes over the five nights. This is located on a line of trees in the centre of the Scheme Site Boundary. High activity was also recorded in July at this location.

4.1.22 The lowest activity was recorded at SL74 in April where zero bat passes were recorded, SL53 also had low activity in April where only 1 bat pass was recorded across the five nights. These results are in line with the drop in nighttime temperatures, which are typical of that time of year. SL53 also had low activity in July and September, the static was located on a pole adjacent to a ditch which had been identified as a potential connecting feature between the farmhouse to the west and the wider landscape.

4.1.23 Out of a total of 14,051 passes (**Image 4.2**), common pipistrelle has the highest number of passes, with a total of 12,035 passes, followed by soprano pipistrelle (1394 passes) and pipistrelle species (143 passes). Lower number of passes (<1% of the total) were recorded of Nathusius' pipistrelle (91 passes), noctule (40 passes), Leisler's bat (37 passes), *Myotis* species (18 passes), brown long-eared (12 passes), Daubenton's bat (6 passes), *Nyctalus* species (4 passes) and barbastelle (1 pass).

Table 4.3 Summary of Bat Activity Index (BAI) from static bat detector surveys

Month	SL53		SL54		SL74	
April	0.02	Low activity	0.69	Low – moderate activity	0.00	Low activity
May	6.73	Moderate activity	59.93	High activity	3.40	Low – moderate activity
June	0.21	Low activity	36.28	Moderate - high activity	8.58	Moderate - high activity
July	2.36	Low – moderate activity	16.87	Moderate - high activity	44.77	High activity
August	6.52	Moderate activity	24.00	Moderate - high activity	3.56	Moderate activity

September	0.30	Low activity	1.44	Low – moderate activity	77.64	High activity
October	0.02	Low activity	0.69	Low – moderate activity	7.92	Moderate activity

Image 4.1 Pie chart of all species recorded across all static bat detector surveys

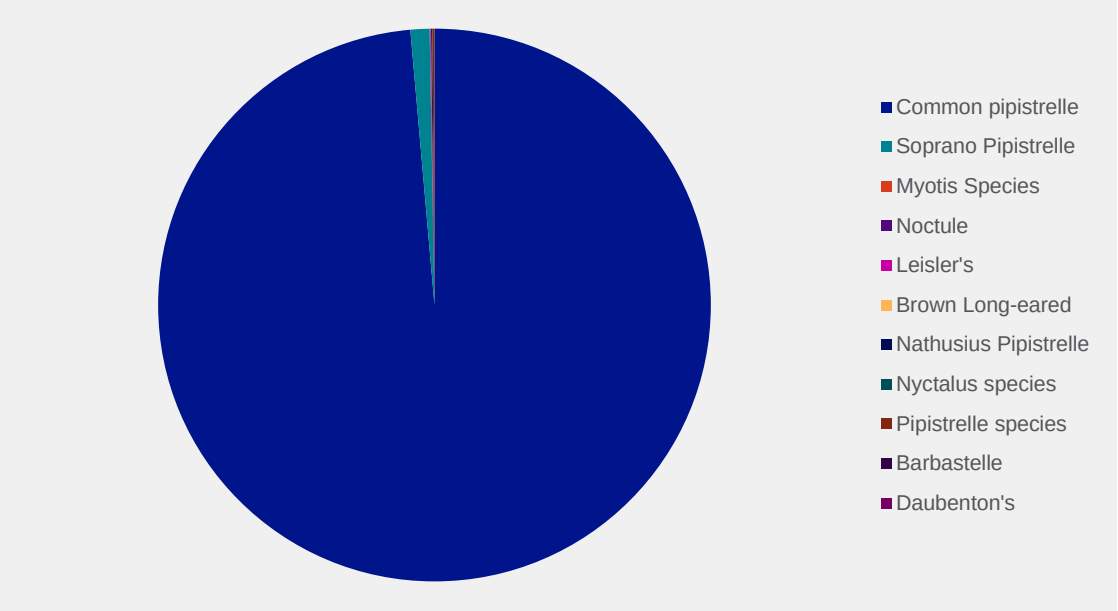
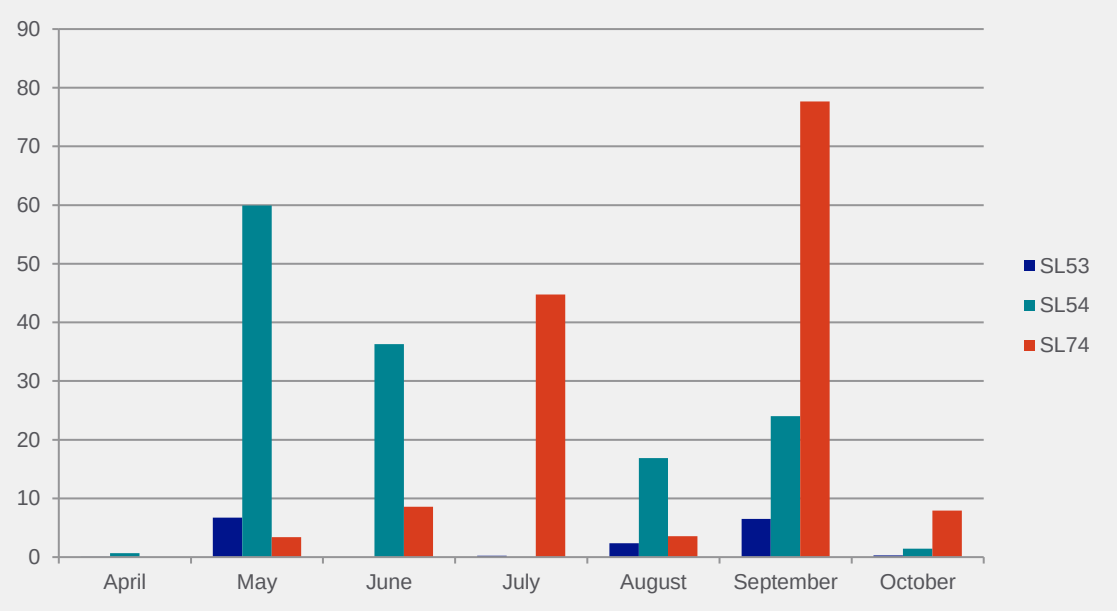


Image 4.2 Graph showing BAI per month and location from the bat static detector surveys



4.2 Nature Conservation Evaluation

Introduction

4.2.1 An evaluation of the biodiversity importance of bat species in relation to the Scheme in terms of potential roosts, foraging and commuting habitats is described below.

Designated Sites

4.2.2 There are no international statutory sites designated for bats within 30 km of the Scheme. There are no national statutory sites designated or bats within 10 km of the Scheme or relevant non-statutory sites within 2 km of the Scheme.

Roosts

4.2.3 The desk study returned records of at least five bat species (roosting or activity records or not specified) occurring with the Study Area in the last ten years, including common pipistrelle, soprano pipistrelle, Daubenton's bat, pipistrelle species and brown long-eared.

4.2.4 Within the Scheme Site Boundary the species that have been recorded constitute a single unknown bat roost from 2016. However, the grid reference provided for this record is a 1 km grid square reference. As such, the record may fall outside of the Scheme Site Boundary, but as a majority of this grid square falls within the Scheme Site Boundary, a precautionary approach has been taken and it has been included. Due to the habitats present within the Scheme Site Boundary and the species detected during the activity surveys, it is assumed that this roost is a small day roost of a common species.

4.2.5 There are no EPSML for bats in the Study Area.

4.2.6 The GLTA and aerial inspection surveys identified a total of 26 trees within the Scheme Site Boundary with roost suitability (PRF-I/PRF-M). These trees mostly form tree lines or are within hedgerows along field boundaries.

4.2.7 No roosts were found within the Scheme during the Site surveys. However, surveys are ongoing in 2026 and results will be provided in an addendum report.

Commuting and Foraging Habitats

4.2.8 Species recorded during the activity surveys (combined NBW and static bat detectors) in 2024 and 2025 comprised at least eight species: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Daubenton's bat, *Myotis* sp., noctule, Leisler's bat, brown long-eared and barbastelle.

4.2.9 Biodiversity importance of foraging and commuting bats is based on species rarity, estimate numbers/activity level, presence of nearby roosts, type/complexity of commuting/foraging features and reliance on these habitats. This also considers the lower detectability on bat detectors of species such as brown long-eared bat, and Myotis bats compared to species such as common and soprano pipistrelle and noctule (Ref 25).

4.2.10 The surveys identified a range of activity (including foraging and commuting) predominantly along trees lines and roads within the Scheme. The habitats within the

Scheme are largely arable areas and are considered to be of **Local Importance** to bats.

4.2.11 **Table 4.4** below has been calculated based on the parameters provided in the bat mitigation guidelines (Ref 21) more information can be found in **Appendix C**.

Table 4.4 Summary of Conservation Importance of Bats

Species	Importance of Roosts	Importance of Commuting and Foraging Habitat (summary of justification)	Importance of Assemblage
Widespread: Common pipistrelle Soprano pipistrelle Brown long-eared bat	A single unknown bat species roost was returned on the desk study data that is assumed to be within the Scheme Site Boundary. It is likely that this is a small day roost of a common species. **Local importance**	The habitats in and around the scheme boundary meet the definition of 'low potential value' for bats as defined in Collins 2026 (Ref 14). There is high reliance on linear habits by common pipistrelle as demonstrated by regular use by larger numbers of bats; moderate reliance on habits by soprano pipistrelle as shown by regular use by smaller numbers of bats; and low reliance on habitats by brown long-eared, Daubenton's, noctule, Leisler's, nathusius pipistrelle and barbastelle as demonstrated by limited evidence or irregular use generally by a small number of bats. Within the Scheme itself, the field are large, however the treelines and field margins provide good connectivity to the surrounding habitat, including the River Welland to the West of the Scheme. Taking the above into account, combined with the species assemblage recorded within the Scheme boundary, the habitats within the Scheme are of **Local Importance** to commuting and foraging bats.	1 point per species Score 3 for this part of the assemblage (of a maximum of 3)
Widespread in many geographies but not a abundant in all: Daubenton's bat Noctule	No evidence or records of roosts for Daubenton's bat or noctule.		2 points per species Score 4 for this part of the assemblage (of a maximum of 10)
Rarer of restricted distribution: Leisler's bat Nathusius' pipistrelle	No evidence or records of roosts for Leisler's bat or Nathusius' pipistrelle.		3 points per species Score 6 for this part of the assemblage (of a maximum of 9)
Rarest Annex II species and very rare: Barbastelle	No evidence or records of roosts for barbastelle.		4 points per species Score 4 for this part of the assemblage (of a maximum of 4)
Overall score: Assemblage score 17/26 = 65.4% meets threshold for **Regional Importance**			

4.2.12 Although **Table 4.4** calculates the bat assemblage to be of 'regional' importance this score is inflated due to the recording of barbastelle during the automated detector surveys. Barbastelle was recorded on one occasion at SL74 in October. Studies have shown that barbastelle have a preference for foraging habitats with a high moth biomass, for example, woodland edges, treelines, hedgerows and woodland rides (Ref 26). There is minimal habitat within the Scheme Site Boundary that represents the favourable foraging habitat of barbastelle, and due to the nature of agricultural land present, any suitable habitat is fragmented with limited connectivity.

5. Summary

5.1 Desk Study

5.1.1 The desk study returned records of at least five bat species occurring within the Study Area in the last ten years, including common pipistrelle, soprano pipistrelle, Daubenton's bat, pipistrelle species and brown long-eared.

5.1.2 Within the Scheme Site Boundary the species that have been recorded include a single unknown bat roost from 2016. However, the grid reference provided for this record is a 1 km grid reference, and so the record may fall outside of the Scheme Site Boundary. Given that a majority of this grid square falls within the Scheme Site Boundary, a precautionary approach has been taken and it has been included. Due to the habitats present within the Scheme Site Boundary and the species detected during the activity surveys, it is assumed that this roost is a small day roost of a common species.

5.2 Site Survey

DBW, GLTA and Aerial Tree Inspection

5.2.1 There are 13 PRF-I and PRF-M trees within the Scheme Site Boundary. It is expected that all of these will be impacted by proposed works.

5.2.2 Trees along the proposed access routes are not to be impacted.

5.2.3 No structures were found within the scheme boundary during the DBW survey.

5.2.4 No confirmed bat roosts have been found within the Scheme boundary. However, surveys are ongoing in 2026.

5.2.5 There is a group of trees in the South of the Substation Works Site Boundary that is expected to be removed for an access track, these trees have not yet been surveyed. They will be surveyed during 2026 and the results will be provided in an addendum.

5.2.6 Bat emergence surveys will continue in 2026 and the results will be provided in an addendum report.

Night-bat Walkover and Static Detector Surveys

5.2.7 The NBW and static detector surveys combined recorded at least eight species: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Daubenton's bat, Myotis sp., noctule, Leisler's bat, brown long-eared or barbastelle.

5.2.8 The surveyed identified a range of activity (including foraging, commuting and social calling) and this was mostly focused on the roads and lines of trees within the Scheme Site Boundary.

5.2.9 The habitats within the Scheme are largely arable areas and are considered to be of **Local Importance** to bats.

5.2.10 Whilst the bat assemblage score meets the threshold for **Regional Importance**, a single barbastelle pass on SL74 in October is skewing results due to the high score given to Barbastelle in the calculation provided, and it is determined that overall the bat assemblage would only meet the threshold for **County Importance.** It is likely that barbastelle are under-recorded within Lincolnshire as they have been recorded at other locations during bat surveys undertaken to inform the Grimsby to Walpole DCO application, although these are outside of the Scheme Site Boundary and have not been included within this report.

References

Ref 1 Town and Country Planning Act 1990 [online]. Available at: https://www.legislation.gov.uk/ukpga/1990/8/contents [Accessed 1 April 2026].

Ref 2 Electricity Act 1989 [online]. Available at: https://www.legislation.gov.uk/ukpga/1989/29/contents [Accessed 1 April 2026].

Ref 3 Town and Country Planning (General Permitted Development) (England) Order 2015 [online]. Available at: https://www.legislation.gov.uk/uksi/2015/596/contents [Accessed 1 April 2026].

Ref 4 The Overhead Lines (Exemption) (England and Wales) Regulations 2009 [online]. Available at: https://www.legislation.gov.uk/uksi/2009/640/contents [Accessed 1 April 2026].

Ref 5 The Conservation of Habitats and Species Regulations 2017 [online]. Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents/made [Accessed 1 April 2026].

Ref 6 Wildlife & Countryside Act 1981 [online]. Available at: https://www.legislation.gov.uk/ukpga/1981/69 [Accessed 1 April 2026].

Ref 7 Natural Environment and Rural Communities Act 2006 [online]. Available at: https://www.legislation.gov.uk/ukpga/2006/16/contents [Accessed 1 April 2026].

Ref 8 Countryside and Rights of Way Act 2000 [online]. Available at: https://www.legislation.gov.uk/ukpga/2000/37/contents [Accessed 1 April 2026].

Ref 9 European Council (EC) (1992). Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. EC, Brussels [online]. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31992L0043 [Accessed 1 April 2026].

Ref 10 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. [online]. Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111176573 [Accessed 1 April 2026].

Ref 11 Ministry of Housing, Communities and Local Government (2024). National Planning Policy Framework [online]. Available online: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf [Accessed 31 March 2026].

Ref 12 South East Lincolnshire Council Joint Strategic Planning Committee (2011-2036) South Eat Lincolnshire Local Plan [online]. Available at: https://southeastlincslocalplan.org/media/21941/South-East-Lincolnshire-Local-Plan-2011-2036/pdf/Local-Plan-text-March-2019.pdf?m=1720710748483 [Accessed 1 April 2026].

Ref 13 Lincolnshire Biodiversity Action Plan. (2012-2020) 3rd edition [online]. Available at: https://www.nelincs.gov.uk/wp-content/uploads/2016/02/201110-LincolnshireBAP-3rd-edition.pdf [Accessed 1 April 2026].

Ref 14 Natural England. Bats: advice for making planning decisions. Website [online]. Available at: https://www.gov.uk/guidance/bats-advice-for-making-planning-decisions [Accessed 31 March 2026].

Ref 15 Collins, J. (editor) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation trust, London.

Ref 16 National Grid (2026). Proposed Electricity Substation Works at Western Marsh. TCPA Ecological Impact Assessment.

Ref 17 Multi-Agency Geographic Information for the Countryside (MAGIC) website [online]. Available at: https://magic.defra.gov.uk/ [Accessed 31 March 2026].

Ref 18 Time and Date (2026). Weather Data [online]. Available at: https://www.timeanddate.com/weather/@2637265/historic [Accessed 31 March 2026].

Ref 19 The mammal Society (2017). Ecobat. Available at: https://ecobat.mammal.org.uk/ [Accessed 31 March 2026].

Ref 20 Chartered Institute of Ecology and Environmental Management (CIEEM) (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland v1.3 [online]. Available at: https://cieem.net/resource/guidelines-for-ecologicalimpact-assessment-ecia/ [Accessed 31 March 2026].

Ref 21 Reason, P.F. and Wray, S. (2025). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2. Chartered Institute of Ecology and Environmental Management, Ampfield.

Ref 22 Mathews, F., Kubasiewicz, L. M., Gurnell, J., Harrower, C. A., McDonald, R. A. and Shore, R. F. (2018). Natural England Joint Publication JP025: A Review of the Population and Conservation Status of British Mammals. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage.

Ref 23 Andrews, H. (2018). Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-Care and Ecology Professionals.

Ref 24 Bat Conservation Trust (2017). The State of the UK's Bats: National Bat Monitoring Programme Populations Trends.

Ref 25 Barataud, M. 2015. Acoustic ecology of European bats. Species Identification and Studies of Their Habitats and Foraging Behaviour. Biotope Editions, Mèze; National Museum of Natural History, Paris (collection Inventaires et biodiversité), 340 p

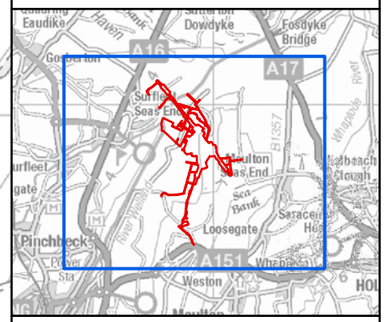
Ref 26 Matt Zeale and Natural England. 2024. Definition of Favourable Conservation Status for Barbastelle bat. RP2974. Natural England.

Figures

Figure 1 Scheme Site Boundary

N

LEGEND



Legend

- Scheme Site Boundary
- Substation Works Site Boundary
- S37 OHL Works Site Boundary
- Exempt Overhead Line Works Site Boundary
- S37 - 4ZM - OHL Works Site Boundary
- S37 - 2WS - OHL Works Site Boundary

Rev	Date	Description	GIS	Chk	App
A	05/05/2026	First Issue	DF	EW	KA

nationalgrid

Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 1 SCHEME SITE BOUNDARY

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Figure 2 Bat Desk Study Data

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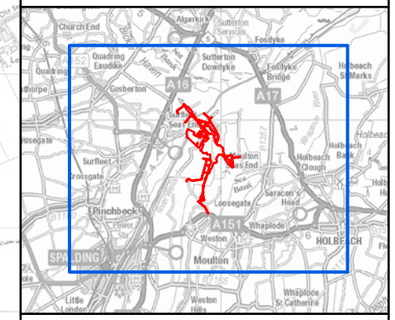

Legend

- Scheme Site Boundary
- Scheme Site Boundary - 2km Buffer

Sighting

- Bat
- Common Pipistrelle
- Daubenton's Bat
- Pipistrelle
- Soprano Pipistrelle

Rev	Date	Description	GIS	Chk	App
A	24/03/2026	First Issue	DF	EW	KA

nationalgrid

Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 2 DESKTOP STUDY

Creator:	Date:	Checker:	Date:	Approver:	Date:
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Figure 3 Daytime Bat Walkover Results

N

Woad Farm

Roseliegh House

Marsh Drove

Ppg Sta

Willow

Wragg Marsh House

28

29

30

31

Old Three Tuns Farm

Sea Bank

Sugar Lees Farm

Elder

Elder

Elder

Lord's Drain

The Spinney

Wragg Marsh

Dike

Ppg Sta

Surfleet Bank

School House

Marsh Road

Vernatt's Bridge

N.T.L. Sluice

Crowtree Farm

Bottom Yard

Reservoir

Welland House Farm

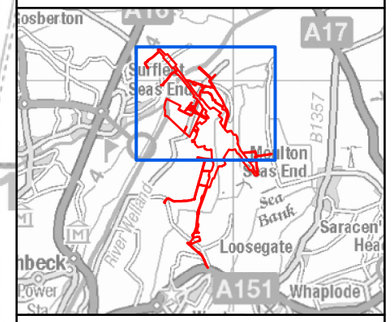
Pickmere

Weston Marsh

Cro

0 100 200 300 400 500
m

LEGEND



Legend

Scheme Site Boundary

Individual Tree - DBW Suitability

None

FAR

PRF

Line of Trees - DBW Suitability

None

FAR

Group of Trees - DBW Suitability

None

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Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 3 DAYTIME BAT WALKOVER RESULTS

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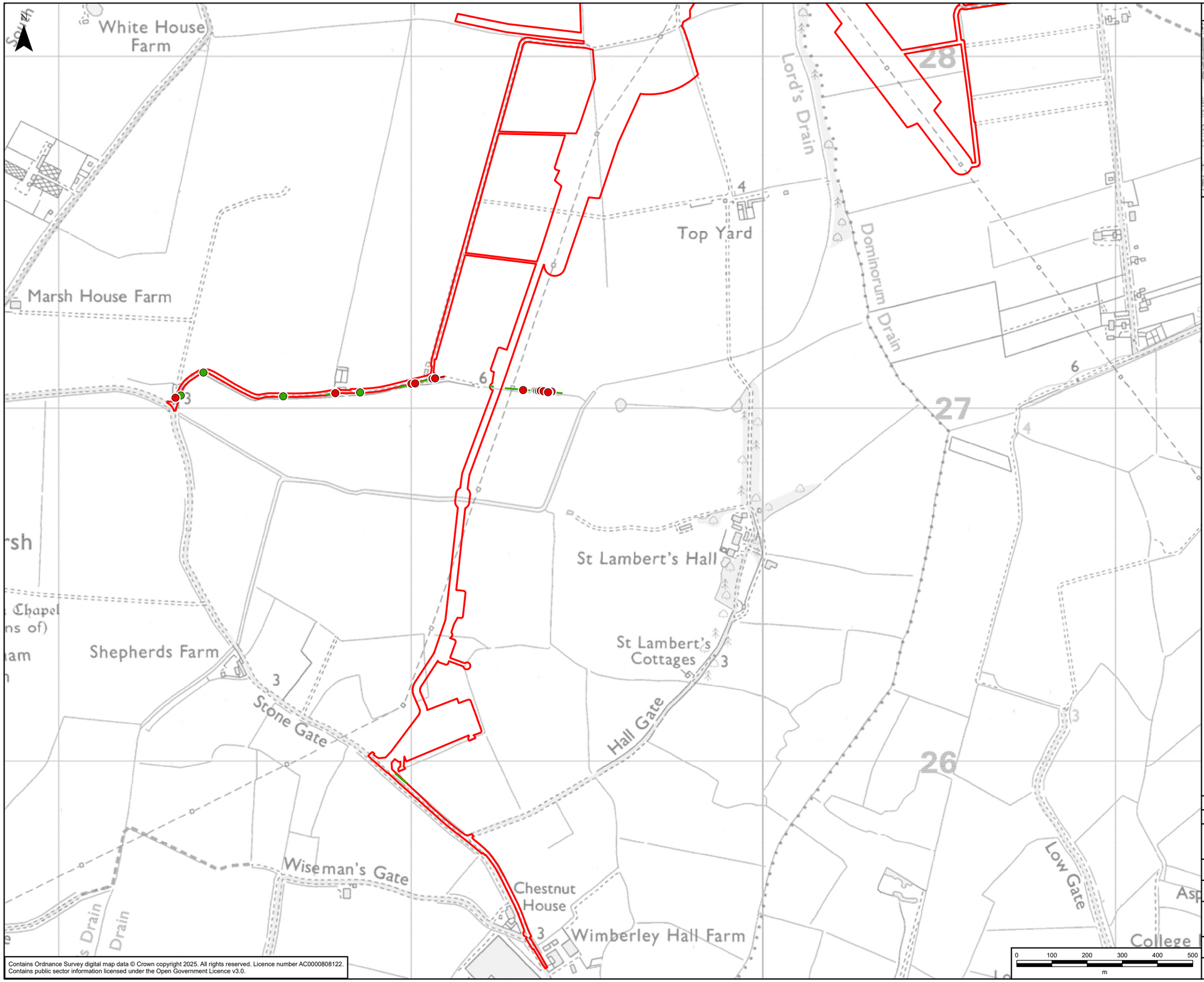

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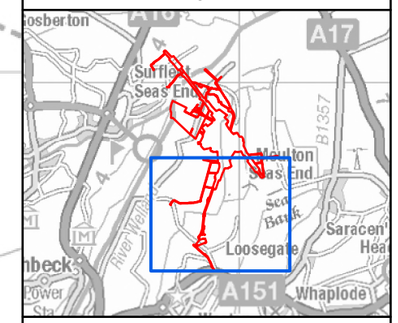

Legend

- Scheme Site Boundary

Individual Tree - DBW Suitability

- None
- PRF

Line of Trees - DBW Suitability

- None
- PRF

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Figure 4 Ground Level Tree Assessment and Aerial Inspection Results

N

Surfleet Marsh

Roseliegh House

Woad Farm

Marsh Drove

28

29

30

31

Ppg Sta

Willow

Wragg Marsh House

Wragg Marsh

Old Three Tuns Farm

Sea Bank

Sugar Lees Farm

Elder

Elder

Elder

Lord's Drain

The Spinney

T273

T121

T183

Ppg Sta

Sea Dike

School House

Surfleet Bank

T503

T327

T410

T346

T172

T304

T542

T1073

T119

Vernatt's Bridge

Crowtree Farm

NTL Sluice

Reservoir

Bottom Yard

T2743

T2661

Welland House Farm

Pickmere

Weston Marsh

South Bank

White House Farm

T2923

T2915

T2952

T2691

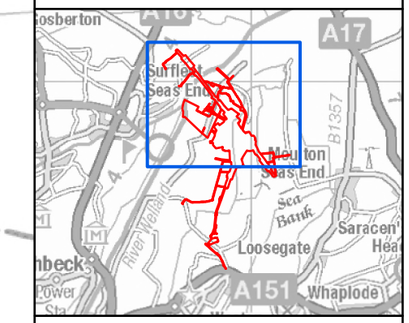
T2692

T2696

T2764

T2758

Crown Farm



LEGEND

Legend

Scheme Site Boundary

GLTA Impacted Trees

PRF-I - Not Impacted

PRF-I - Impacted

PRF-M - Not Impacted

PRF-M - Impacted

0 100 200 300 400 500

m

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Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 4 GLTA / TREE CLIMB RESULTS

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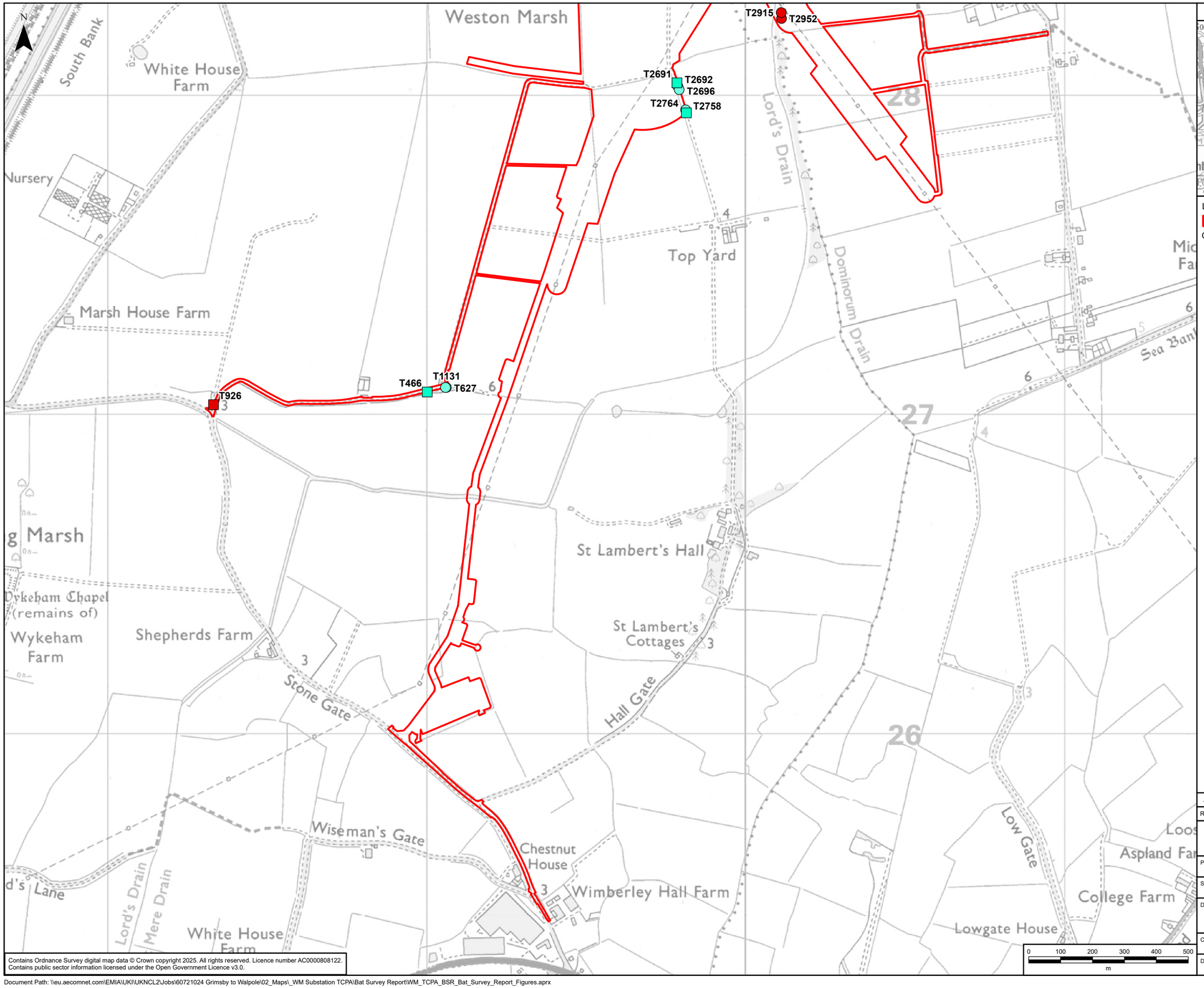

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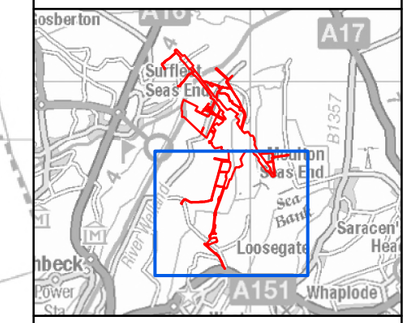

Legend

- Scheme Site Boundary

GLTA Impacted Trees

- PRF-I - Not Impacted
- PRF-I - Impacted
- PRF-M - Not Impacted
- PRF-M - Impacted

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Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

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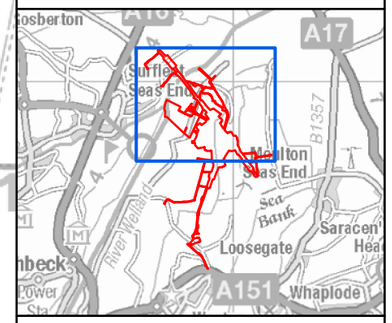
Figure 5 Night-time Bat Walkover Transect Routes and Static Locations

N

Woad Farm
Roseliegh House
Marsh Drove
28
29
30
31
Ppg Sta
Willow
Wragg Marsh House
Wragg Marsh
Sea Bank
Old Three Tuns Farm
Sugar Lees Farm
Elder
Elder
Elder
Lord's Drain
The Spinney
Dike
Ppg Sta
Surfleet Bank
School House
Marsh Road
Vernatt's Bridge
NTL Sluice
Reservoir
Crowtree Farm
Bottom Yard
SL53
SL74
Welland House Farm
Pickmere
Weston Marsh
Sea Bank
8

0 100 200 300 400 500
m

LEGEND



Legend
- Scheme Site Boundary
- Bat Static Location

Night Bat Walkover Transect Route
- Spring / Autumn
- Summer
- Start/Finish Point

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Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 5 NIGHT BAT WALKOVER TRANSECT ROUTES AND STATIC LOCATIONS

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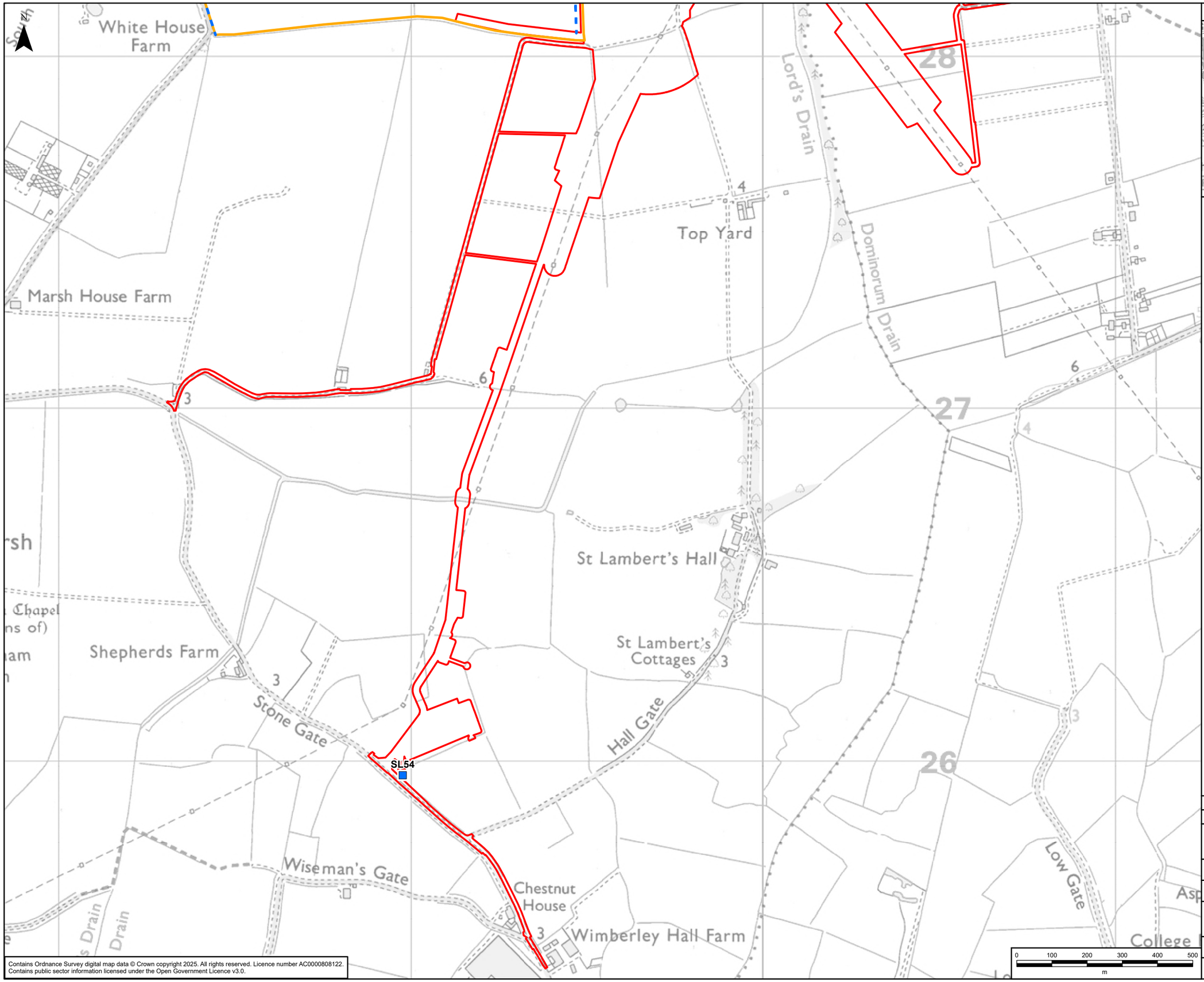

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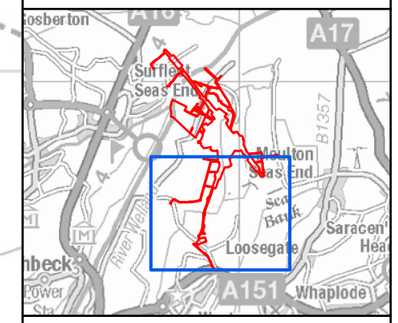

Legend

- Scheme Site Boundary
- Bat Static Location

Night Bat Walkover Transect Route

- Spring / Autumn
- Summer

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Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 5 NIGHT BAT WALKOVER TRANSECT ROUTES AND STATIC LOCATIONS

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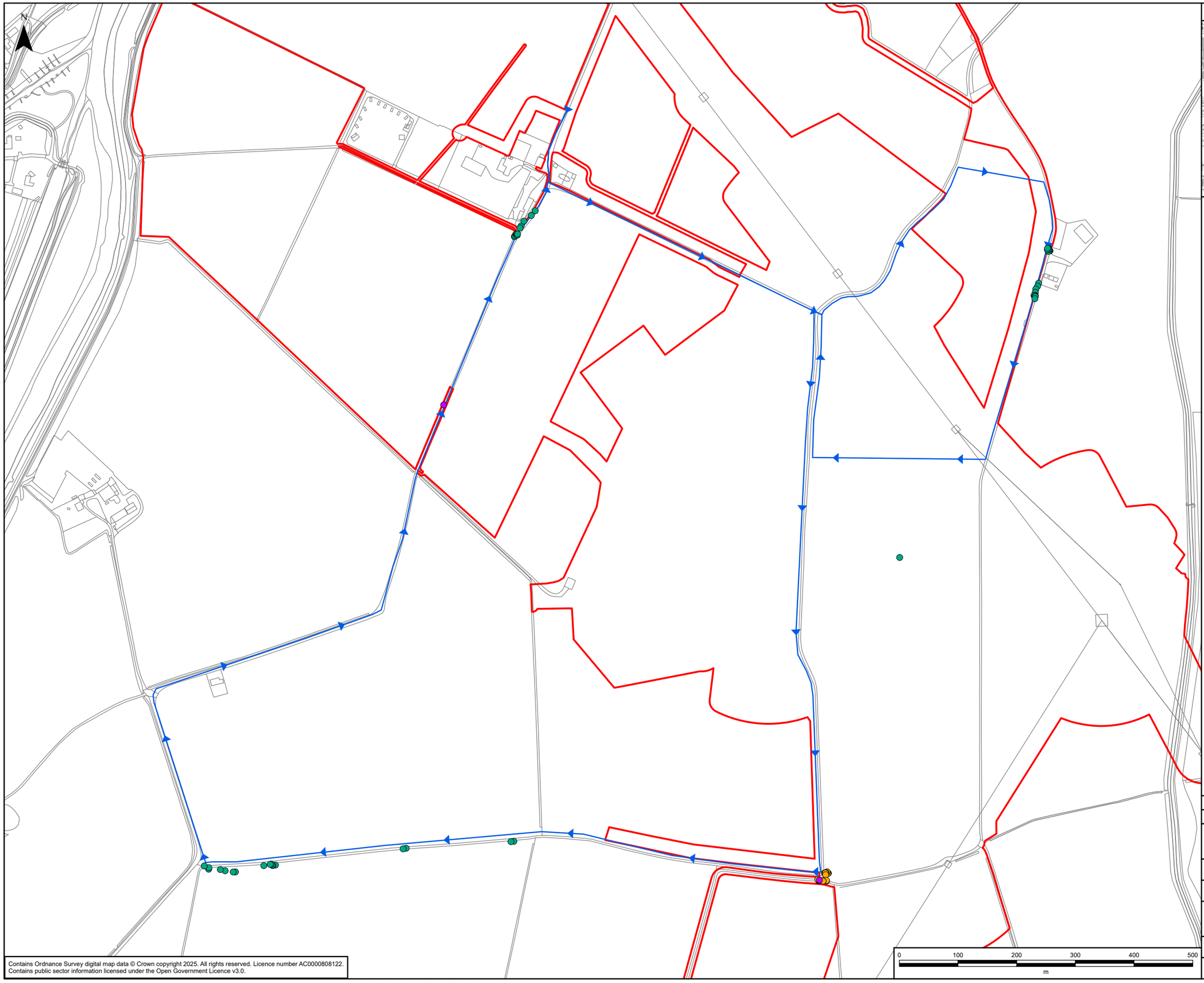
Figure 6 Night-time Bat Walkover – Spring Results



LEGEND

Legend

- Scheme Site Boundary
- Night Bat Walkover Transect Route

Spring 2024 Survey Results - Species

- Pipistrellus pipistrellus
- Pipistrellus pygmaeus
- Pipistrellus spec.
- LSTC_OSMM_TopographicLine

0 100 200 300 400 500
m

Rev	Date	Description	GIS	Chk	App
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Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 6 NIGHT BAT WALKOVER SPRING SURVEY RESULTS

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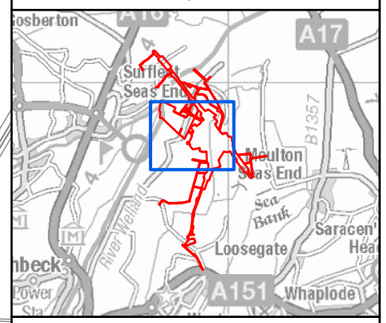
Figure 7 Night-time Bat Walkover – Summer Results

LEGEND



Legend

- Scheme Site Boundary
- Night Bat Walkover Transit Route

Summer 2024 Survey Results - Species

- Pipistrellus pipistrellus
- Pipistrellus pygmaeus

Rev	Date	Description	GIS	Chk	App
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Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 7 NIGHT BAT WALKOVER SUMMER SURVEY RESULTS

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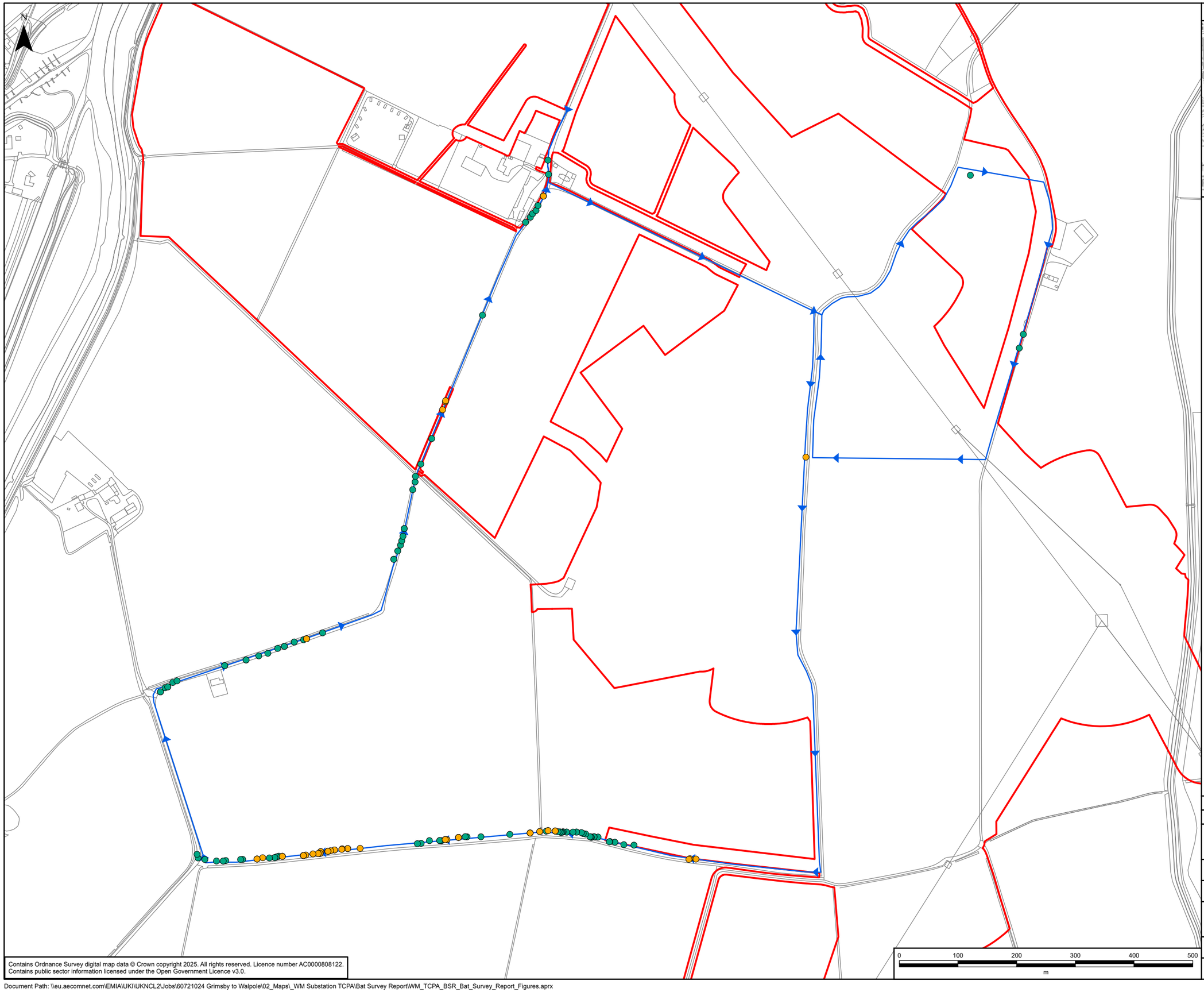
Figure 8 Night-time Bat Walkover – Autumn Results



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Purpose: BAT SURVEY REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 8 NIGHT BAT WALKOVER AUTUMN SURVEY RESULTS

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Appendices

Appendix A Bat Habitat Mapping Exercise

A.1. Methodology

A.1.1. Over the last decade, models based on electrical circuit theory (e.g. Circuitscape) have become a common approach to modelling ecological connectivity (e.g.; Dertien and Baldwin, 2023; Dickson et al., 2019) because of its advantages over traditional approaches such as least cost path analysis. For example, it gives a landscape scale perspective by considering the movement potential for a species across the entire landscape, a consideration of the heterogeneity of the landscape such as barriers and facilitators to movement, provides identification of multiple pathways or where routes are limited, and finally the quantification of connectivity which enables prioritisation of sites.

A.1.2. We have adopted the Omniscape model (Landau et al., 2021; McRae et al., 2016, an adaptation of the Circuitscape model which introduces a moving window radius limit for how far wildlife can travel and considers connectivity to and from any location that meets the criteria for being a habitat.

A.1.3. The Omniscape model requires a resistance layer that quantifies how easy it is for a particular species to traverse through the landscape.

A.1.4. We have used the Living England Phase 4 map as the underlying landcover map and expert ecologists within AECOM have provided subjective evaluation as to how easy bats would find it to traverse each landcover type. Following a similar approach as Finch et al. 2021, we converted the score to resistance values by putting it a on a log scale (e.g. R= escore). Another key input for each species is how far the species can move. The value chosen dictates whether migration-based connectivity or home-range connectivity is being modelled. We use values that resemble home-range distances and identified via literature review. The final output resistance map is a raste rmap at the same resolution as the Living England (10 x 10m) covering the redline boundary and buffered by the moving window radius so that bat movement across the Scheme Site Boundary is also captured.

A.1.5. The final output from Omniscape is a map, which identifies areas which are:

1) Impeded: Connectivity is lower than ideal (red);
2) Diffuse: Connectivity is good, and has multiple redundancy (yellow); and
3) Channelised: Connectivity is higher than ideal e.g. very important corridor with little redundancy (blue).

Appendix B Survey Results

B.1. Daytime Bat Walkover

Table B.1 Daytime Bat Walkover results

Feature Type	Ref	Tree species	Description	Categorisation (None; FAR or PRF)
Line of trees	GtW-ARP_BatWOLoTLn-4676	Hawthorn, elder	No features in line of shrubs, other than those on trees mapped individually. Surveyed from all aspects.	None
Line of trees	GtW-ARP_BatWOLoTLn-4678	Hawthorn, privet sp.	FAR. No features observed from south, but we did not have access to the north side to confirm absence of PRF.	FAR
Line of trees	GtW-ARP_BatWOLoTLn-4790	Scots pine, horse chestnut, beech	No features observed from ground level. Surveyed from all aspects.	None
Line of trees	GtW-ARP_BatWOLoTLn-4791	Sycamore, ash, conifer species	No features visible from ground. Trees mostly young. Single tree with PRF mapped as point. Surveyed from all aspects.	None
Line of trees	GtW-ARP_BatWOLoTLn-4792	Willow sp.	No features observed from ground except in those within trees mapped separately as points. Surveyed from all aspects.	None
Line of trees	GtW-ARP_BatWOLoTLn-77496	ash and hawthorn	Line of trees between arable fields	None
Line of trees	GtW-ARP_BatWOLoTLn-77498	elder, alder	Line of trees between arable fields	None
Line of trees	GtW-ARP_BatWOLoTLn-77502	elder, ivy clad	Hedgeline/treeline	None
Line of trees	GtW-ARP_BatW	ash, sycamore - ivy clad	Several trees all clad with thick ivy - given that its full tree, unclear if obscuring other features within.	PRF

Feature Type	Ref	Tree species	Description	Categorisation (None; FAR or PRF)
	OLoTLn-77504			
Line of trees	GtW-ARP_BatWOLoTLn-77508	Elder	Line of trees between arable fields.	None
Line of trees	GtW-ARP_BatWOLoTLn-77519	Elder	Line of trees between arable fields.	None
Individual tree	GtW-ARP_BatWOITPt-4636	elder	A tear-out and hole on a north-leading dead limb, which may extend downwards into limb.	PRF
Individual tree	GtW-ARP_BatWOITPt-4641	Elder	Dead elder stem with a hole at 1m that may extend downwards into hollow stem.	PRF
Individual tree	GtW-ARP_BatWOITPt-4646	Ash	Overall. 2x knotholes: 1x knothole on major vertical limb, facing west, ~9m from base, and 1x knothole on limb facing east. Dense ivy covers the main stem and has formed thick stems which may provide features.	PRF
Individual tree	GtW-ARP_BatWOITPt-4649	Ash	Overall. Multiple tear-outs on all aspects of tree, three of which are upturned and may extend into limbs if hollowing is present (unable to assess these from ground level).	PRF
Individual tree	GtW-ARP_BatWOITPt-4653	Elder	Overall. Potentially hollow stem contains two west-facing entrance holes, ~2m up from ground.	PRF
Individual tree	GtW-ARP_BatWOITPt-4654	Ash	Overall. Potentially hollow limb with 3x entrances (knotholes) on north side and 2x entrances (1x knothole and 1x wound) on south side. Features range from ~5m-12m in height from base.	PRF
Individual tree	GtW-ARP_BatWOITPt-4655	Dead	Transverse crack at top of main stem, facing south-east, ~3m from base.	PRF

Feature Type	Ref	Tree species	Description	Categorisation (None; FAR or PRF)
Individual tree	GtW-ARP_BatWOITPt-4657	Lime sp.	No features visible from ground. Surveyed from all aspects.	None
Individual tree	GtW-ARP_BatWOITPt-4658	Sycamore	tree. Several features including wounds, knotholes and woodpecker holes on all aspects, with potential for hollowing in limbs and stem.	PRF
Individual tree	GtW-ARP_BatWOITPt-4659	Elder	Overall. Numerous features/extensive hollowing. Mature elder with multiple arching stems, lots of deadwood and partially hollow stems. Numerous features including a transverse crack in south-leading limb.	PRF
Individual tree	GtW-ARP_BatWOITPt-4660	Elder	Overall. transverse crack in limb which appears partially hollow, facing north-east, ~1m up from base. knothole in lower part of stem, facing east, ~0.5m up from base.	PRF
Individual tree	GtW-ARP_BatWOITPt-4662	Sycamore	No features observed from ground. Surveyed from all aspects.	None
Individual tree	GtW-ARP_BatWOITPt-4665	Oak sp.	FAR. Large oak tree within line of trees, but inside neighbouring field. Did not have access to survey properly, so further assessment required.	FAR
Individual tree	GtW-ARP_BatWOITPt-4666	Ash	Overall. Numerous features including: several woodpecker holes on eastern aspect; two tear-outs, one on main stem facing east, ~4m from base, and one on major limb facing west, ~10m from base; transverse crack in west-leading stub, facing north-east, ~15m up from base; one knothole facing west.	PRF
Individual tree	GtW-ARP_BatWOITPt-4667	Sycamore	No features. Main stem covered in ivy but not mature enough to form lattice features.	None
Individual tree	GtW-ARP_BatWOITPt-4669	Ash	At least 3x features. Wound in main stem, facing west, 2m up from base. Cavity in south-leading limb, with entrances facing west and south, 6m	PRF

Feature Type	Ref	Tree species	Description	Categorisation (None; FAR or PRF)
			up from base. Knothole in main stem on east side, facing east, 6m up from base.	
Individual tree	GtW-ARP_BatWOITPt-4670	Lime sp.	FAR due to the presence of 3x upturned knotholes which could not be assessed from the ground.	FAR
Individual tree	GtW-ARP_BatWOITPt-4671	Ash	Potentially hollow major limb, growing on north side, with multiple bore holes/entrances on eastern aspect, ~7m from base. 1x FAR feature with upturned knothole on stem facing south-east.	PRF
Individual tree	GtW-ARP_BatWOITPt-4672	Ash	2x knotholes: 1x in main stem facing east, ~12m up from base, and 1x in south-leading limb, facing east, ~10m up from base. 2x upturned tear-outs (FAR). Potential for hollowing in limbs.	PRF
Individual tree	GtW-ARP_BatWOITPt-4673	Dead (stump)	Stump of tree (1.5m tall) but contains hole in base and top which lead to large cavity within.	PRF
Individual tree	GtW-ARP_BatWOITPt-4782	Willow sp.	The stem of this tree contains large sections which are hollow, with entrances on all aspects, including at the base.	PRF
Individual tree	GtW-ARP_BatWOITPt-4783	Willow sp.	Multiple features present with potential for hollowing in limbs and stem. 1x tear-out at end of north-east-leading minor limb, facing east, ~6m up from base. Lifted bark on main stem, entrance facing east, ~9m up from base. Upturned tear-out near top of minor east-leading stem, facing east, ~12m up from base. Wound in vertical stem, facing north, ~14m up from base. One FAR feature present in the form of an upturned knothole at top of main stem, ~16m up from base.	PRF
Individual tree	GtW-ARP_BatWOITPt-4784	Willow sp.	Feature present in the form of lifted bark on western aspect of main stem, ~13m up from base.	PRF

Feature Type	Ref	Tree species	Description	Categorisation (None; FAR or PRF)
Individual tree	GtW-ARP_BatWOITPt-4785	Willow sp.	Overall. 2x hazard beams (1x on minor south-east-leading limb, facing south-west and north-east, ~8m up from base; 1x on major west-leading limb, facing downwards, ~8m up from base) and 1x transverse crack at base of major east-leading limb, facing south-west, ~7m up from base. Additional features are present in the form of multiple bore holes in a west-leading stub, facing north, ~6m up from base.	PRF
Individual tree	GtW-ARP_BatWOITPt-4786	Willow sp.	Large tear-out at base has potential to lead to inner cavity. Entrance facing south, overhanging a ditch so it is ~2m off the ground.	PRF
Individual tree	GtW-ARP_BatWOITPt-4787	Willow sp.	Tree contains two PRFs with potential for hollowing in limbs and stems. 1x tear-out in most easterly vertical stem, facing south, ~14m up from base. 1x transverse crack in dead west-leading minor limb, facing south, ~14m up from base. 1x knothole in main stem, facing north-east, ~3m up from base.	PRF
Individual tree	GtW-ARP_BatWOITPt-4788	Willow sp.	Overall. Large wound in west side of stem, ~5m up from base, which potentially leads to hollow cavity in stem. Thick ivy stems may also provide features for individual bats.	PRF
Individual tree	GtW-ARP_BatWOITPt-4789	Sycamore	Dense ivy on main stem has formed thick overlapping stems which may provide features.	PRF
Individual tree	GtW-ARP_BatWOITPt-5192	Not a tree (feature incorrectly marked on map previously). Feature is ivy growing on a building,		None

Feature Type	Ref	Tree species	Description	Categorisation (None; FAR or PRF)
Individual tree	GtW-ARP_BatWOITPt-77499	ash	Individual tree	None
Individual tree	GtW-ARP_BatWOITPt-77500	ash	Individual tree	None
Individual tree	GtW-ARP_BatWOITPt-77501	elder	Individual tree	None
Individual tree	GtW-ARP_BatWOITPt-77503	unknown, willow?	possibly small cavity/hollow in branch at 1m NW aspect. two transverse snaps offering crevices NW facing	PRF
Individual tree	GtW-ARP_BatWOITPt-77505	ukn	snapped tree - appears to offer crevices in snapped limb but unclear and vegetated.	PRF
Individual tree	GtW-ARP_BatWOITPt-77506	ash	access holes into empty trunk, although quite open	PRF
Individual tree	GtW-ARP_BatWOITPt-77507	sycamore	upward facing cavity/snapped branch with opening at base of limb connecting it. some areas of cover but still quite open to elements	PRF
Individual tree	GtW-ARP_BatWOITPt-77509	elder largely desiccated	hole which extends downwards, crack in limb but still offers suitable roosting. prfm cavity/tear out? offering cavity which may extend downwards into limb	PRF
Individual tree	GtW-ARP_BatWOITPt-77510	elder - dead limb	dead limb, hole from snapped branch which offers access downwards into entire limb. access also from lower small hole - PRF M (precautionary, could be lowered following inspection)	PRF
Individual tree	GtW-ARP_BatW	elder desiccated	vertical cavity which appears to extend the length of the limb/stem	PRF

Feature Type	Ref	Tree species	Description	Categorisation (None; FAR or PRF)
	OITPt-77511			
Individual tree	GtW-ARP_BatW OITPt-77512	elder desiccated	desiccated limbs - rot holes connected on limb which may extend further down and up either side of the holes. possible crack on other limb offering small crevice .	PRF
Individual tree	GtW-ARP_BatW OITPt-77513	elder	several holes- all within limbs which appear to extend, also a fallen/snapped limb which offers crevices.	PRF
Individual tree	GtW-ARP_BatW OITPt-77514	elder	potential hollow limb running horizontally along ditch, and upward facing cavity on main stem may extend downwards unclear from ground. cracks in main stem offering crevices	PRF
Individual tree	GtW-ARP_BatW OITPt-77515	elder	hole at 1m extends downwards into limb prfm and desiccated limb has hole at 1.5m which appears to extend into limb downwards	PRF
Individual tree	GtW-ARP_BatW OITPt-77516	elder	one hole in each limb where it forks from the main stem - . very small hole on snapped limb which could potentially meet the smaller hole listed above	PRF
Individual tree	GtW-ARP_BatW OITPt-77517	elder	hole which extends up and down inside dead/dying limb	PRF
Individual tree	GtW-ARP_BatW OITPt-77518	elder	Individual tree	None
Individual tree	GtW-ARP_BatW OITPt-77520	Ivy clad Sycamore	possibly hollow limb - opening on NW aspect at 5m. - knothole on end of limb, may extend downwards so precautionary	PRF
Individual tree	GtW-ARP_BatW OITPt-77521	Ash	precautionary hole on flush chopped back limb needs further inspection. precautionary for the holes/rot holes on chopped back limb that looks to	PRF

Feature Type	Ref	Tree species	Description	Categorisation (None; FAR or PRF)
			offer way further into limb. snapped back chopped limb which may be open at the top but unclear from the ground, an opening is visible from the ground but it is unclear without further inspection if it extends upwards or downwards	
Woodland	GtW-ARP_BatWOGoTPly-4680	Field maple, oak sp., hawthorn, elder	Plantation woodland, predominantly young to semi-mature trees with no features. Single PRF-I tree has been mapped separately.	None

B.2. Night-Bat Walkover

Table B.2 Night-Bat Walkover Results – Spring

Surveyor:	SC and JL	**Temp °C:**	12 throughout
Site:	Western marsh	**Wind:**	Light breeze throughout
Date:	20/05/2024	**Rain:**	Dry at start, very light rain at the end of the survey but bats still active
Sunset:	21:02	**Cloud:**	Clear – overcast
Start/end:	21:02 – 23:02	**RH%**	81 - 93
Time	**Species ***	**Number of passes**	**Activity**
21:38 - 21:39	Common pipistrelle	8	2 x bats seen foraging along tree line next to farm
21:43 - 21:44	Common pipistrelle	11	Added post-QA
22:01	Common pipistrelle	1	Heard not seen commuting
22:11 - 22:13	Soprano pipistrelle	21	Heard not seen commuting
22:12	Common pipistrelle	3	Added post-QA
22:13	Pipistrellus spec.	1	Added post-QA

22:21	Common pipistrelle	2	Heard not seen commuting
22:25	Common pipistrelle	2	Heard not seen commuting around southern NBW boundary
22:28 - 22:31	Common pipistrelle	15	Single bat seen foraging in a circle around tree line in south-west corner of field
22:50 - 22:51	Common pipistrelle	13	Heard not seen by farm buildings in north-west corner of NBW
22:53	Common pipistrelle	3	Added post-QA
22:57	Pipistrellus spec.	1	Added post-QA

Table B.3 Night-Bat Walkover Results – Summer

Surveyor:	EW and SK	**Temp °C:**	17 - 15
Site:	Western marsh	**Wind:**	Light air throughout
Date:	17/07/2024	**Rain:**	Dry throughout
Sunset:	21:15	**Cloud:**	Scattered cloud
Start/end:	21:15 – 23:30	**RH %:**	62 - 87
Time	**Species ***	**Number of passes**	**Activity**
21:40	Common pipistrelle	1	Heard and seen foraging along road
21:47	Common pipistrelle	1	Heard and seen foraging along road
21:48	Common pipistrelle	1	Heard and seen foraging along road
21:49	Common pipistrelle	2	Heard and seen foraging along road
22:11 – 22:12	Common pipistrelle	4	Heard and seen foraging along road
22:13 - 22:14	Common pipistrelle	4	Heard and seen foraging along road
22:26	Common pipistrelle	3	Heard and seen foraging along road
22:28	Common pipistrelle	1	Heard and seen foraging along road

22:36	Common pipistrelle	2	Heard not seen commuting
23:03	Soprano pipistrelle	1	Added post QA
23:05	Common pipistrelle	2	Added post QA
23:12	Common pipistrelle	1	Added post QA
23:21	Common pipistrelle	3	Added post QA

Table B.4 Night-Bat Walkover Results – Autumn

Surveyor:	EB and JM	**Temp °C:**	10 - 6
Site:	Western marsh	**Wind:**	Light air – light breeze
Date:	22/10/2024	**Rain:**	Dry throughout
Sunset:	17:49	**Cloud:**	Clear skies throughout
Start/end:	17:49 – 20:15	**RH %:**	93 - 96
Time	**Species ***	**Number of passes**	**Activity**
18:34	Common pipistrelle	1	
18:41	Common pipistrelle	1	Heard and seen commuting along tree line
18:41	Common pipistrelle	1	Heard and seen commuting along tree line
19:00	Soprano pipistrelle	1	Heard and seen foraging along field margin
19:20	Soprano pipistrelle	2	Heard not seen foraging along field margin
19:21	Soprano pipistrelle	1	Heard not seen foraging along field margin
19:23	Common pipistrelle	2	
19:24 - 19:27	Common pipistrelle	24	Heard not seen foraging along field margin
19:27	Soprano pipistrelle	1	Heard not seen foraging along field margin

19:28	Common pipistrelle	3	Heard not seen foraging along field margin
19:28 - 19:29	Soprano pipistrelle	3	Heard not seen foraging along field margin
19:29	Common pipistrelle	3	Heard not seen foraging along field margin
19:30	Common pipistrelle	1	Heard not seen foraging along field margin
19:31 - 19:33	Common pipistrelle	11	Heard not seen foraging along field margin
19:31	Soprano pipistrelle	4	Heard not seen foraging along field margin
19:35 - 19:36	Soprano pipistrelle	9	Heard not seen foraging along field margin
19:35 - 19:36	Common pipistrelle	6	Heard not seen foraging along field margin
19:37	Common pipistrelle	1	Heard not seen foraging along field margin
19:37	Soprano pipistrelle	4	Heard not seen foraging along field margin
19:37	Common pipistrelle	1	Heard not seen foraging along field margin
19:38	Common pipistrelle	1	Heard not seen foraging along field margin
19:38	Soprano pipistrelle	1	Heard not seen foraging along field margin
19:38	Common pipistrelle	7	Heard not seen foraging along field margin

19:38	Soprano pipistrelle	1	Heard not seen foraging along field margin
19:39	Soprano pipistrelle	2	Heard not seen foraging along field margin
19:39 - 19:41	Common pipistrelle	9	Heard not seen foraging along field margin
19:45 - 19:46	Common pipistrelle	7	Heard not seen foraging multiple passes
19:47 - 19:50	Common pipistrelle	15	Heard not seen foraging multiple passes
19:50	Soprano pipistrelle	1	Heard not seen foraging multiple passes
19:53 - 19:54	Common pipistrelle	8	Heard not seen foraging multiple passes
19:55	Common pipistrelle	4	Heard not seen foraging multiple passes
19:57	Common pipistrelle	1	Heard not seen foraging multiple passes
19:57	Soprano pipistrelle	3	Heard not seen foraging multiple passes
20:00	Common pipistrelle	1	Heard not seen foraging
20:03 - 20:04	Common pipistrelle	6	Heard not seen foraging
20:04	Soprano pipistrelle	1	Heard not seen foraging
20:05	Common pipistrelle	1	Heard not seen foraging
20:05	Common pipistrelle	1	Heard not seen foraging

B.3. Static Detector Surveys

Table B.5 Static Detector survey results

Month	Location	Dates	PIPI	PIPY	PINA	PISP	MYDA	MYSP	NYNO	NYLE	NYSP	PLAU	BABA	Total	Nights	Hrs/nt	BAI per hr	Activity Level
April	SL53	02/04/2025 - 07/04/2025	0	1	0	0	0	0	0	0	0	0	0	1	5	11	0.02	**Low activity**
May	SL53	15/05/2024 - 20/05/2024	244	24	0	1	0	0	0	0	0	0	0	269	5	8	6.73	**Moderate activity**
July	SL53	07/07/2025 - 12/07/2025	8	0	0	0	0	0	0	0	0	0	0	8	5	7.5	0.21	**Low activity**
August	SL53	21/08/2024 - 26/08/2024	105	5	0	0	1	0	2	2	0	0	0	115	5	9.75	2.36	**Low – moderate activity**
September	SL53	12/09/2024 - 17/09/2024	357	4	1	0	3	0	0	2	0	0	0	367	5	11.25	6.52	**Moderate activity**
October	SL53	16/10/2024 - 21/10/2024	15	4	0	0	0	0	0	1	0	0	0	20	5	13.5	0.30	**Low activity**
April	SL54	02/04/2025 - 07/04/2025	21	17	0	0	0	0	0	0	0	0	0	38	5	11	0.69	**Low – moderate activity**
May	SL54	07/05/2025 - 12/05/2025	2340	199	0	8	0	0	0	0	0	0	0	2547	5	8.5	59.93	**High activity**

Month	Location	Dates	PIPI	PIPY	PINA	PISP	MYDA	MYSP	NYNO	NYLE	NYSP	PLAU	BABA	Total	Nights	Hrs/nt	BAI per hr	Activity Level
June	SL54	20/06/2024 - 26/06/2024	1297	11	0	0	0	3	0	0	0	4	0	1315	5	7.25	36.28	**Moderate - high activity**
August	SL54	06/08/2025 - 11/08/2025	574	147	0	3	0	6	2	0	4	2	0	738	5	8.75	16.87	**Moderate - high activity**
September	SL54	12/09/2024 - 17/09/2024	1229	114	0	0	1	1	0	2	0	3	0	1350	5	11.25	24.00	**Moderate - high activity**
October	SL54	16/10/2024 - 21/10/2024	70	17	0	9	0	1	0	0	0	0	0	97	5	13.5	1.44	**Low – moderate activity**
April	SL74	03/04/2025 - 08/04/2025	0	0	0	0	0	0	0	0	0	0	0	0	5	11	0.00	**Low activity**
May	SL74	14/05/2024 - 19/05/2024	114	20	0	1	0	1	0	0	0	0	0	136	5	8	3.40	**Low – moderate activity**
June	SL74	11/06/2025 - 16/05/2025	305	5	0	1	0	0	0	0	0	0	0	311	5	7.25	8.58	**Moderate - high activity**
July	SL74	07/07/2025 - 12/07/2025	1149	401	4	120	0	4	0	0	0	1	0	1679	5	7.5	44.77	**High activity**
August	SL74	23/08/2024 - 28/08/2024	133	5	0	0	0	0	35	5	0	0	0	178	5	10	3.56	**Moderate activity**

Month	Location	Dates	PIPI	PIPY	PINA	PISP	MYDA	MYSP	NYNO	NYLE	NYSP	PLAU	BABA	Total	Nights	Hrs/nt	BAI per hr	Activity Level
September	SL74	14/09/2024 - 19/09/2024	4220	32	86	0	1	1	0	25	0	2	0	4367	5	11.25	77.64	**High activity**
October	SL74	04/10/2024 - 09/10/2024	124	388	0	0	0	1	1	0	0	0	1	515	5	13	7.92	**Moderate activity**

B.4. Weather during static detector surveys

Table B.6 Weather during static detector surveys

Date	Temperature range (C°)	Wind speed range (mph)	Rain – None, Light, Heavy
14/05/2024	13-15	5-9	None
15/05/2024	13-15	3-9	None
16/05/2024	10-15	2-7	None
17/05/2024	9-15	1-8	None
18/05/2024	10-14	5-9	None
19/05/2024	9-13	7-12	None
20/05/2024	9-15	6-12	None
20/06/2024	11-22	3-6	None
21/06/2024	9-17	3-12	None
22/06/2024	11-15	6-10	None
23/06/2024	9-19	1-10	None
24/06/2024	13-21	1-8	None
25/06/2024	13-18	6-10	None
26/06/2024	15-18	2-8	None
21/08/2024	14-17	9-21	None
22/08/2024	15-22	16-24	Light
23/08/2024	13-20	8-24	Light
24/08/2024	8-17	6-10	None
25/08/2024	10-18	10-22	None
26/08/2024	11-20	5-18	None
27/08/2024	13-22	7-14	Light
28/08/2024	15-23	1-13	None
12/09/2024	3-9	5-13	None
13/09/2024	3-14	2-9	None
14/09/2024	6-20	1-10	None
15/09/2024	8-16	1-10	None

Date	Temperature range (C°)	Wind speed range (mph)	Rain – None, Light, Heavy
16/09/2024	5-17	3-8	None
17/09/2024	8-17	5-13	None
18/09/2024	16-17	7-16	None
19/09/2024	16-17	12-16	None
04/10/2024	6-17	1-3	None
05/10/2024	6-17	2-8	None
06/10/2024	10-16	5-14	None
07/10/2024	11-18	2-15	None
08/10/2024	14-17	3-9	Light
09/10/2024	13-14	2-14	None
16/10/2024	12-19	6-17	Light
17/10/2024	5-14	5-13	None
18/10/2024	10-14	3-17	Light
19/10/2024	7-13	3-16	Light
20/10/2024	10-16	3-26	None
21/10/2024	6-12	5-20	None
02/04/2025	6-9	8-14	None
03/04/2025	6-14	7-14	None
04/04/2025	5-14	8-17	None
05/04/2025	5-13	9-18	None
06/04/2025	2-16	6-13	None
07/04/2025	2-13	5-9	None
08/04/2025	3-14	2-9	None
07/05/2025	9-11	3-13	None
08/05/2025	4-10	5-9	None
09/05/2025	5-16	5-9	None
10/05/2025	8-18	3-8	None
11/05/2025	12-19	5-9	None
12/05/2025	13-18	3-9	None

Date	Temperature range (C°)	Wind speed range (mph)	Rain – None, Light, Heavy
11/06/2025	9-23	1-8	None
12/06/2025	10-25	5-8	None
13/06/2025	14-28	5-10	None
14/06/2025	16-25	2-12	None
15/06/2025	12-24	5-12	None
16/06/2025	13-16	3-9	None
07/07/2025	10-20	2-20	None
08/07/2025	7-18	5-17	None
09/07/2025	10-26	5-10	None
10/07/2025	11-25	5-8	None
11/07/2025	13-25	1-10	None
12/07/2025	11-20	7-10	None
06/08/2025	15-22	2-9	None
07/08/2025	14-22	5-15	None
08/08/2025	12-23	6-13	None
09/08/2025	10-23	3-9	None
10/08/2025	11-26	0-9	None
11/08/2025	13-27	2-10	None

Appendix C Valuing Bat Roosts, Foraging and Commuting Habitats in Ecological Impact Assessment

C.1.1. The conservation importance of the roosting, foraging and commuting bats present with the Scheme is based on the rarity of individual bat species, importance of their roosts, commuting and foraging habitats and overall importance of the bat assemblages (see Tables below) based on the analysis framework in the Chartered Institute for Ecological and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment (Ref 20), and in the UK Bat Mitigation Guidelines (Ref 21) (and using professional judgment).

Table C.1 Rarity category (Central England/Midlands)

Rarity category	Species
Widespread	• Common pipistrelle • Soprano pipistrelle • Brown long-eared bat
Widespread in many geographies but not as abundant in all	• Daubenton's bat • Natterer's bat • Noctule • Brandt's bat • Whiskered bat
Rarer or restricted distribution	• Leisler's bat • Nathusius' pipistrelle • Serotine
Rarest Annex II species and very rare	• Barbastelle

C.1.2. Note, this excludes other UK bat species that are unlikely to occur with the Scheme boundary based on their current distribution.

Table C.2 Assessing conservation importance of bat roosts[1]

Rarity category (species in each category are determined by region)	Feeding perches; night-roosts Individual or very small occasional/ transitional / opportunistic roosts	Non-breeding day roosts (small numbers of species)	Mating sites (excluding individual trees) Small numbers of hibernating bats	Larger transitional roosts	Hibernation site[4]	Autumn Swarming sites	Maternity sites[3]
Widespread	Site	Site	Site	Site/Local	District/County (larger hibernation sites rare in the UK)	District/County (very larger pipistrelle swarming sites as yet unknown in the UK)	Unlikely to exceed District importance unless colonies are atypically large; importance)
Widespread in many geographies but not as abundant in all	Site	Site	Site, dependent on local distribution (for Myotis, see swarming site column)	District	District/County importance dependent on size2 and number of species	County/Regional importance dependent on size2 importance increased for larger sites that serve larger numbers/species	County/Regional importance on size2 and local distribution; increased value for assemblages
Rarer or restricted distribution	Site (very well-used night roosts may be of District	Site/Local/District dependent on local distribution	Site/Local/District dependent on local distribution	District	District/County importance dependent on size2 and local distribution;	County/Regional importance on size2 and local distribution;	County/Regional importance dependent on size2 and local distribution;

Rarity category (species in each category are determined by region)	Feeding perches; night-roosts Individual or very small occasional/ transitional / opportunistic roosts	Non-breeding day roosts (small numbers of species)	Mating sites (excluding individual trees) Small numbers of hibernating bats	Larger transitional roosts	Hibernation site[4]	Autumn Swarming sites	Maternity sites[3]
	importance for some species)				increased value for assemblages	increased value for assemblages	increased value for assemblages
Rarest Annex II species and very rare	Site (very well-used night roosts may be of District importance for some species)	Site/Local/District, dependent on local distribution	Site/Local/District, dependent on local distribution	District	County/Regional importance on size2 and local distribution; increased value for assemblages	County/Regional importance on size2 and local distribution; increased value for assemblages	County/Regional importance on size2 and local distribution; increased value for assemblages

[1] Sites within or functionally-linked to SACs are of International importance for Qualifying Species. Sites that could be functionally-linked to SACs may or may not have that level of importance (e.g. a barbastelle maternity roost from a multi-component 'bat' SAC may be too far away to be a direct satellite of a maternity roost within the SAC but may be part of the same population through intermediate unidentified roosts). Sites meeting SSSI guidelines are of National importance (though note that many SSSI citations do not reflect the 'bat' importance of the sites they describe).

[2] In all cases, 'size' needs to be interpreted as 'relative to typical sizes for the species'.

[3] Satellite roosts (i.e. alternative roosts found in close proximity to the main nursery colony) should be considered with the associated main colony.

[4] For tree-roosting bats that are likely to hibernate in small numbers (which means individual hibernation sites are difficult to detect and many may be missed), the importance of the roost resource (i.e. the extent of woodland which contains trees suitable for hibernation) rather than individual confirmed roosts, should be assessed.

C.1.3. Sites of importance to bats often support several species, and it can be helpful to consider the importance of the assemblage as a whole after the individual bat species have been assessed. Assigning a level of importance to an assemblage provides contextual information only; it is not expected that the assemblage as a whole would be assessed as a single receptor.

Table C.3 Assessing the importance of a bat assemblage

Rarity category	Species	Score
Widespread	• Common pipistrelle • Soprano pipistrelle • Brown long-eared bat	1 point each
Widespread in many geographies but not as abundant in all	• Daubenton's bat • Natterer's bat • Noctule • Brandt's bat • Whiskered bat	2 points each
Rarer or restricted distribution	• Leisler's bat • Nathusius' pipistrelle • Serotine	3 points each
Rarest Annex II species and very rare	• Barbastelle	4 points each
Maximum score		26
45%	Country	12
55%	Regional	14
70%	National	18

Table C.4 Importance of Ecological Features

Importance of Ecological features	Typical descriptors and examples of criteria
International of European	An internationally designated site or candidate site including Special Area of Conservation (SAC), candidate or possible SACs (cSACs or pSACs[1]) where bats are cited as a qualifying feature. Resident or regularly occurring populations of species which may be considered at an international or European level[2] where: the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; the population forms a critical part[3] of a wider population at this scale; or

Importance of Ecological features	Typical descriptors and examples of criteria
	the species is at a critical phase[4] of its life cycle at this scale.
UK or National	Sites designated at UK or national level e.g. Site of Special Scientific Interest (SSSI), where bats are included as an interest feature. Resident or regularly occurring populations of species which may be considered at a UK or a national level[5] where: the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; the population forms a critical part of a wider population at this scale; or the species is at a critical phase of its life cycle at this scale.
Regional	Populations of species of value at a regional level (i.e. East Midlands). Resident or regularly occurring populations of species which may be considered at a regional level[6] where: the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; the population forms a critical part of a wider population at this scale; or the species is at a critical phase of its life cycle at this scale.
Country or Unitary Authority or District	Populations of species of value at a County (Lincolnshire) level or District (e.g. South Holland). Resident or regularly occurring populations of species which may be considered at a County (or District) level where: the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; the population forms a critical part of a wider population at this scale; or, the species is at a critical phase of its life cycle at this scale.
Local	Species populations of value in a local (i.e. within ~ 5km of the Scheme) context. Areas of habitat or populations and, or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.
Site	Habitat that is of value in the context of the site only. Populations of common and widespread species.

[1] pSACs are sites which have been formally advised by to UK Government but have not yet been submitted to the European Commission. These sites should be valued at an international (European) level on the basis that they meet the relevant selection criteria for a SAC but are not yet designated as such.

[2] Such species include those listed within Council Directive 92/43/EEC on the Conservation of natural habitats and of wild flora and fauna (i.e., Habitats Directive).

[3] Such populations include sub-populations that are essential to maintenance of metapopulation dynamics e.g., critical emigration/ immigration links between otherwise discrete populations.

[4] Seasonal activity or behaviour upon which survival or reproduction depends.

[5] Species which may be considered at the UK or national level means; other animals which receive legal protection in the basis of their conservation interest (those listed within the

Importance of Ecological features	Typical descriptors and examples of criteria
	Wildlife and Countryside Act 1981 (as amended) Schedule 5 and 8); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Communities Act 2006 Section 41 England); priority species listed within the UK Post 2010 Biodiversity Framework (i.e., UKBAP); or species listed within the Red Data Book. [6] Such species include those listed in the appropriate Natural Character Area and key/ priority species listed on the 2002 HABAP

C.1.4. As well as assigning importance there is also a need to identify all legally protected species that could be affected by the Scheme in order that measures can be taken to ensure that adherence to the relevant legislation is observed. This may include the adoption of mitigation and appropriate licensing which is acceptable to Natural England.

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