



BEACON FEN ENERGY PARK

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Appendix 7.18 Bat Activity Survey Report (cable route and access road)

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Quality information

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1. INTRODUCTION

1.1 Background

- 1.1.1 This bat activity survey report has been prepared by Wardell Armstrong LLP (part of SLR) ('WA') on behalf of Beacon Fen Energy Park Ltd (the 'Applicant') in support of an application for a Development Consent Order (DCO) for Beacon Fen Energy Park (the 'Proposed Development'). This report relates to the Bespoke Access Corridor and Cable Route Corridor areas associated with the development, hereafter referred to as the 'Site'.
- 1.1.2 A Preliminary Ecological Appraisal (PEA) carried out by Wardell Armstrong (WA) in March 2024 found that habitats within the Site had the potential to support populations of a variety of bat species roosting, commuting and foraging in these areas. Bat activity surveys were therefore required to determine the presence and assemblage of bat species using the Site and potential impact of the Proposed Development.

1.2 Site context

- 1.2.1 The Site encompasses a large area of land located to the north and south of the A17 in Lincolnshire.
- 1.2.2 There are three areas within the site: the 'Solar Array Area', which is where the solar panels, Battery Energy Storage Systems (BESS) and a substation are proposed to be located, the 'Cable Route Corridor', which is where underground cables from the Solar Array Area are to connect to the Bicker Fen National Grid Substation, and the 'Bespoke Access Corridor', to provide access to the main Solar Array Area. This report specifically relates to the bat activity surveys within the Bespoke Access Corridor and Cable Route Corridor areas of the proposed development only (See drawing ST19595-474-P0.01).
- 1.2.3 The Site comprises a range of habitats comprising dominantly arable fields, grassland, woodland, hedgerows, and scrub. The Bespoke Access Corridor runs approximately 3km from the A17, heading north-east to the Solar Array Area and covering mainly arable fields, ditches, and drains. The Cable Route Corridor runs approximately 13km south and east from the Solar Array Area, to connect to the Bicker Fen Substation, and covers similar habitats in its course.

1.3 Aim and Objectives

- 1.3.1 The aim of this report is to outline and evaluate the bat activity across the Site. To achieve this aim, the survey and report have the following objectives:
- To detail the methods, results and limitations of the bat activity surveys completed across the Site.
 - To evaluate the level of bat activity at the Site including determining the distribution of bats across the Site and identifying any hotspot areas which could act as important roosting sites, foraging areas or commuting routes.

- To determine the species of bats occurring at the Site and where possible identify the approximate locations of any significant species interacting with the Site.

1.4 Planning Policy and Legislation

1.4.1 Planning policy and guidance considered for this report included:

- Overarching National Policy Statement for Energy (EN-1);
- National Policy Statement for Renewable Energy Infrastructure (EN-3);
- National Planning Policy Framework (NPPF);
- National Planning Practice Guidance (NPPG) - Natural Environment.

1.4.2 Legislation considered for this report included:

- Wildlife and Countryside Act 1981, as amended;
- Countryside and Rights of Way Act 2000;
- Natural Environment and Rural Communities (NERC) Act 2006;
- Conservation of Habitat and Species Regulations 2017, as amended.

1.4.3 Key considerations from the NPPF and NPPG related to ecology and development include those impacts on legally protected species and habitats, as well as NERC Act (2006) Section 41 species and habitats are a material consideration for individual planning consents (MHCLG, 2024).

1.4.4 The NPPF also promotes the enhancement of natural and local environments through planning, and states that opportunities to improve biodiversity in and around developments should be integrated into development design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate (MHCLG, 2024).

1.4.5 Appendix 1 further details this legislation and associated protection for bats.

1.5 Quality Assurance

- All surveys were undertaken by trained and experienced ecologists. All Ecologists employed by WA are members of Chartered Institute of Ecology and Environmental Management (CIEEM) and are bound by its code of professional conduct. All surveys and assessments have been undertaken with reference to the recommendations given in BS 42020 (British Standard Institution 2013).

2. METHODOLOGY

2.1 Desk Study

- 2.1.1 The Lincolnshire Environmental Records Centre (LERC) were contacted in February 2023 to ascertain whether there are any records of bats or bat roosts within a 2km radius from the Site.
- 2.1.2 A desk study was also conducted via MAGIC maps (DEFRA, 2024) to search for statutory sites designated for their bat populations or bat activity. A radius of 10 km from the Site was searched for internationally designated sites (in this case only Special Areas of Conservation – SACs - would be relevant for bats) and a radius of 5 km for nationally designated sites (in this case only Sites of Special Scientific Interest – SSSIs). A search for European Protected Species licences granted with reference to bats was conducted within 2 km of the Site.

2.2 Survey Area

- 2.2.1 The bat activity survey methodology was designed with reference to the Bat Conservation Trust's guidelines (Collins, 2023).
- 2.2.2 The survey area encompassed all habitats within the Bespoke Access Corridor and Cable Route Corridor. Locations for static bat detectors and transect routes were strategically planned to ensure that activity data from various representative habitats were collected, providing a comprehensive understanding of bat activity in the area and identifying high-value habitats for bats.
- 2.2.3 The site was predominantly low-value habitat for foraging and commuting bats, characterised by arable and livestock fields, and ditches. Areas with higher potential value and suitability for bats on Site include hedgerows, woodland, and watercourses, which offer more roosting and feeding opportunities. To ensure that the survey results accurately represented the Site's habitats, static detectors were deployed in, and transects were conducted through, both high and low-value habitats for bats. This approach also facilitated the comparison of data to understand favourable features for bats at the Site and their utilisation of the landscape.

2.3 Automated Bat Detector Survey

- 2.3.1 Six Song Meter Mini 2 Li-ion (Wildlife Acoustics, Inc.) automated bat detector units were deployed across the Site in representative habitats for a minimum of five consecutive nights during May, June, July, August, September and October 2024 (see Drawings ST19595-474-PO.01, ST19595-475-PO.01, ST19595-476-PO.01 for Automated Detector Locations). This deployment of automated detectors allowed for bat calls to be recorded remotely to establish species richness and provide a comparison of suitable habitats across the Site.
- 2.3.2 The devices were attached to suitable vegetation where possible, or attached to a wooden stake, with the microphone pointing upwards at an angle of

approximately 90 degrees. The recording period was 30 minutes prior to local sunset to 30 minutes after local sunrise. After retrieval of the recording devices the data files were downloaded as Waveform Audio File Format Files (WAV).

- 2.3.3 Two EI-USB-2 (Lascar Electronics Limited) temperature and humidity data loggers were deployed alongside the static detectors for each deployment, to record ambient conditions. Online resources were used to determine rain and wind conditions. This data is detailed in Appendix 3.
- 2.3.4 Bat call data was analysed using Kaleidoscope Pro analysis software (Wildlife Acoustics, Inc. Version 5.6.4). Most of the data was manually classified by an ecologist using this software, however, where calls identified by the automatic classification were from common pipistrelle *Pipistrellus pipistrellus* or soprano pipistrelle *Pipistrellus pygmaeus* and had a match ratio above 0.8, automatic identification was used.

2.4 Night-Time Bat Walkover (NBW)

- 2.4.1 Five walked, NBW transects were surveyed during May, July and September 2024 to represent Spring, Summer and Autumn datasets (see drawings ST19595-474-PO.01, ST19595-475-PO.01, ST19595-476-PO.01 for transect routes and vantage point locations). The routes were selected to evaluate potential flight paths and foraging areas within the Site, as well as to assess the activity across a range of habitats both inside the Site and connecting these areas to potential roost sites.
- 2.4.2 The transects undertaken as part of this study are focussed on the Cable Route Corridor and Bespoke Access Corridor areas. Transect routes were planned in a range of locations across these areas, in order to reflect the whole scope of habitats present on Site.
- 2.4.3 Survey dates, times and weather conditions are detailed within Appendix 2.
- 2.4.4 The survey began with a Vantage Point (VP) survey at the beginning of each predetermined transect route. The location of the VP was chosen to station surveyors on potential flight lines close to potential roost sources such as woodland. The VP survey commenced at local sunset and continued for at least 30 minutes, monitoring all commuting activity at the suitable bat habitat.
- 2.4.5 Once commuting activity had subsided (no later than one hour after local sunset) a walked transect commenced along a predetermined route. The NBW transect survey lasted for approximately two hours, with surveyors walking at an appropriate pace and stopping at points during the surveys to observe bat behaviour.
- 2.4.6 All bat activity was recorded including the time, location, observations of bat behaviour, bat species, number of bats and the direction of the flight path were also noted where possible.
- 2.4.7 Echo Meter Touch 2 (Wildlife Acoustics, Inc., Massachusetts) bat detectors and Samsung Galaxy tablets were used to detect and record bats, and the built-in classifiers were used to assist species identification. The results were later analysed using Kaleidoscope analysis software (Version 5. 6.4, Wildlife Acoustics).

- 2.4.8 All surveys were orchestrated and /or led by a Licenced Bat Ecologist (Natural England Class 1 Licence) and overseen by an experienced Licenced Bat Ecologist (Natural England Class 2 Licence CL18).

2.5 Evaluation

- 2.5.1 Assessment methods have been undertaken with reference to Wray et al. (2010), i.e. the Site's foraging/commuting habitats were assigned a value using the following geographic frame of reference:
- International;
 - National;
 - Regional;
 - County;
 - Local;
 - Site; and
 - Negligible.
- 2.5.2 Individual values were calculated for each species, with the overall site value defined as the highest value obtained for any individual species (usually the least common species present). Details of the habitat valuation system are provided in Appendix 4.

2.6 Nomenclature

- 2.6.1 The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

2.7 Limitations/Deviations

- 2.7.1 The results of the surveys undertaken by Wardell Armstrong are representative at the time of surveying. Due to the nature of NBW surveys, the surveyors can only be present at one point along the transect route at a single time and therefore bat activity can be missed, however, a good representation of bat activity levels can be concluded from the data collected.
- 2.7.2 It should be noted that long-eared bats *Plecotus* sp. in particular echolocate more quietly than other bat species and so can sometimes be more difficult to detect. *Myotis* sp. and *Nyctalus* sp. are notoriously difficult to identify precisely in the field and from recorded sonograms, as there is considerable overlap in their echolocation characteristics. Where the species cannot be determined only the genus is stated.
- 2.7.3 Overall, most NBW surveys began exactly at the time of sunset or a few minutes beforehand. However, two surveys started up to 9 minutes after sunset, but given the relatively small delay, this is not expected to have a significant effect on the level of bat activity recorded.
- 2.7.4 Several surveys, both automated and NBW, were conducted under conditions of notable wind. According to the BCT guidelines (2023), adverse weather conditions, such as strong winds, can influence bat behaviour and should be taken into account when underrating bat activity surveys. However,

considering that the landscape in question frequently experiences windy conditions, it was determined that these conditions would not have substantial impacts.

- 2.7.5 The positioning of Static 6 was adjusted from its originally intended position, as during initial deployment efforts, it was found that the field it was planned to be in had livestock present and was therefore unsafe to enter. The new deployment position was as close in proximity and consisted of the same type of habitat present, being mainly arable field with hedgerow boundaries.

3. SURVEY RESULTS AND DATA ANALYSIS

3.1 Desk Study Results

- 3.1.1 There were no internationally designated sites within 10 km of the Bespoke Access Corridor or Cable Route Corridor. There is one nationally designated site within 5 km of the Site's red line boundary: Horbling Fen SSSI, which is about 4 km south-west of the southernmost area of the Site (DEFRA, 2024). It is, however, designated for its geology rather than biodiversity.
- 3.1.2 One granted European protected species licence was found within 2 km of the Cable Route Corridor and referred to '*damage to a common pipistrelle breeding site*' (DEFRA, 2024).
- 3.1.3 At least six species of bat were identified from LERC records within 2 km of the 2024 refined red line boundary of the Cable Route and Access Road. These include:
- Daubenton's bat – Three records of Daubenton's bat were returned. The nearest record was from 2014, bats foraging 0.6 km southwest of the Bespoke Access Corridor, while the most recent record was from 2019, again bats foraging 1.8 km northwest of the Bespoke Access Corridor.
 - Noctule – Two records of noctule were found: the most recent and closest from 2017, 1 km northeast of the Cable Route Corridor; the second record is immediately next the Solar Panel Array red line boundary.
 - Common pipistrelle – Six records of common pipistrelle were found, the most recent and closest is a roost from 2021, 0.55 km southeast from the Bespoke Access Road, likely in the Boughton Plantation. Record 10 is immediately adjacent to the Solar Array Area.
 - Soprano Pipistrelle – Three records of soprano pipistrelle were found, the most recent from 2016, 1.6 km southwest of the Cable Route Corridor; the closest record was a feeding area 0.6 km southeast from the Bespoke Access Road.
 - Brown Long-eared bat *Plecotus auritus* – One record of a brown long-eared bat was recorded in 2017, 1.15 km northeast of the Cable Route Corridor.
 - Barbastelle *Barbastella barbastellus* – One record of a barbastelle was recorded in 2017, 1.15 km northeast of the Cable Route Corridor.
 - Pipistrellus sp. – six records identified to the genus *Pipistrellus* were found, the nearest and one of the most recent was a roost 0.02 km north from the Bespoke Access Corridor.
 - Unidentified – 55 records of unidentified bats were found.

3.2 Automated Bat Detector Survey Summary

- 3.2.1 Overall, 11,705 bat passes were recorded across the Site for all species. At least eight different species/species groups were identified across all surveys. The species recorded included common pipistrelle, soprano pipistrelle, Nathusius's pipistrelle *Pipistrellus nathusii*, Myotis species, Nyctalus species, brown long-eared bat, serotine *Eptesicus serotinus*, and barbastelle.

- 3.2.2 Common pipistrelle were the most frequently recorded bat during automated survey, and were recorded on all deployed static bat detectors during all seasons, accounting for 92% of recorded calls. Barbastelle were second most frequently recorded in April/May, totalling 75 calls, accounting for 1% of calls recorded in these months. Myotis species were second most frequent in June/July, accounting for 6% and 10% calls respectively, and in October accounting for 13% of calls. Lastly, soprano pipistrelle were second most frequently recorded in August/September, accounting for 3% of total calls recorded.

3.3 Nighttime Bat Walkover Survey Summary

- 3.3.1 Overall, a total of 849 bat calls were recorded during all rounds of NBW. A total of five species/species groups were recorded throughout survey, including common pipistrelle, soprano pipistrelle, Myotis species, Nyctalus species, and barbastelle bats.
- 3.3.2 Common pipistrelle was again the most frequently recorded bat across all NBW transects, comprising 97% of calls. Myotis species were the second most common during all rounds of survey, accounting for just over 1% of calls.

3.4 Species summaries

Common Pipistrelle

- 3.4.1 Common pipistrelles were frequently recorded, being found on all NBW surveys, across all three seasons. The highest levels of activity were recorded in Autumn with a peak of 84 recordings on Transect 2, which is a route around arable fields with hedgerows to the north of the A17, finishing at Littleworth Drove. These calls were predominantly concentrated along a hedgerow that formed the boundary between arable fields on the route.
- 3.4.2 The NBW surveys typically recorded one or two bats at a time foraging along the field boundaries and woodland edge habitat or commuting across transects to other foraging areas. The highest levels of activity were observed in Autumn, with a total of 372 calls. This increase is likely attributed to seasonal mating and feeding activity, as well as the dispersal of young bats. Conversely, the lowest levels of bat activity were recorded in Spring, with a total of 192 calls. This reduced activity is likely due to lower temperatures.
- 3.4.3 Common pipistrelle was also the most frequently recorded bat during automated survey, with the highest levels of activity recorded in April/May, averaging 569 calls per night. Static 3 had the highest levels of activity, and was deployed in a small area of woodland in between arable fields, to the north of the A17.

Soprano pipistrelle

- 3.4.4 Very low numbers of soprano pipistrelle were recorded during the NBW surveys, accounting for 0.2% of all calls. This species was recorded in the Summer at Transect 2, along a ditch with scattered trees, surrounded by arable fields to the north of Littleworth Drove.
- 3.4.5 During automated survey, a total of 124 soprano pipistrelle calls were recorded, making up 1% of all calls recorded. Calls were most commonly

recorded in August/September, with 60% of calls occurring at this time. The highest number of soprano pipistrelle calls occurred at Static 1, which was deployed onto an old ash tree along the hedgerow forming the boundary of arable and grassland fields near Asgarby, Lincolnshire. This location falls in the Bespoke Access Corridor. Low numbers of soprano pipistrelle were also recorded at Static 2, 4, and 5 during these months.

Nathusius' Pipistrelle

- 3.4.6 Nathusius' pipistrelle were recorded once during Transect 1 in during the Summer only. This transect largely follows the boundaries of arable fields of the proposed Bespoke Access Corridor, beginning just north of the A17 by Asgarby. The route includes a number of areas of hedgerow, small roads, and woodland edge habitat.
- 3.4.7 Very low numbers of Nathusius' pipistrelle were recorded by the static bat detectors, with all calls occurring in October 2024. This species is known to migrate long distances from continental Europe to the UK at this time of year (Collins 2023) so the late records may indicate migratory activity. The records occurred once at Static 2, which was located in an area of arable cropland bounded by ditch within the proposed Bespoke Access Corridor and once at Static 6, which was located in a hedgerow along the boundary of an arable field, adjacent to Bicker Fen National Grid substation, within the Cable Route Corridor.

Myotis species

- 3.4.8 Very low levels of Myotis species were recorded during the NBW transect surveys across all seasons. In the Spring transect, one call was recorded each of Transects 1 and 5. Transect 5 was a circular route between the arable fields surrounding the Bicker Fen National Grid substation. During Summer surveys, three calls were recorded at Transect 4, a total of 1% of calls recorded during this survey. This transect begins at an area of woodland, with the rest running through areas of arable fields within the Cable Route Corridor. The calls were recorded just north of Great Hale Eau. In the Autumn, 10 calls were recorded at Transect 5, making up 3% of all calls.
- 3.4.9 Myotis species calls were recorded by static bat detectors during all seasons, with 45% of these being recorded in October. The majority of calls were recorded at Static 5 and Static 6. Static 5 was deployed at the edge of a small area of woodland, facing a waterbody, in the Cable Route Corridor. Myotis species calls made up 5% of the total number of calls.

Barbastelle

- 3.4.10 Very low numbers of barbastelle were recorded during the NBW survey, totalling four calls. These calls were all recorded during Transect 2 (within the Cable Route Corridor), during the Spring and Summer. During the spring, the call was recorded along a hedgerow forming the boundary of arable fields to the north of the A17. During the Summer, the calls were recorded slightly further north, along a hedgerow which ran along the boundary of an arable field to the south of Littleworth Drove. Barbastelle calls made up 0.9% of calls recorded during NBW surveys.
- 3.4.11 Barbastelle calls were recorded by automated static bat detectors during all seasons, with the highest number of calls being recorded in April/May, an

average of 7.5 per day, and August/September, with an average of 2.3 per day. Static 5 had a relatively high number of calls recorded in the Spring, with 85% of its barbastelle calls recorded in that period.

Nyctalus species

- 3.4.12 A total of one *Nyctalus* species call was recorded during the NBW transects routes across all three seasons, occurring in the Spring survey at Transect 1. This observation occurred at the VP survey at the beginning of the survey, near a small area of woodland surrounded by arable fields. This location is included in the Bespoke Access Corridor of the Site.
- 3.4.13 *Nyctalus* species calls were recorded during every season of static deployment, totalling 0.8% of calls recorded. Calls mainly occurred in April/May, July, and August/September. All automated detectors in April/May, July, and Statics 2, 3, and 4 in August/September had low numbers of calls recorded.

Brown long-eared bat

- 3.4.14 No brown-long eared bats were observed or recorded during NBW surveys.
- 3.4.15 Very low numbers of brown long-eared bats were recorded during every month except October, with the highest number recorded in April/May. The total number of calls totalled 29, 0.2% of the total calls recorded. The highest number of calls recorded occurred at Static 5, located in the Cable Route Corridor.

Summary

- 3.4.16 From the NBW surveys, it is clear that the areas of higher bat presence are clustered around areas with features seen as favourable for bats such as waterbodies, or good commuting corridors (such as hedgerows or lines of trees) which can be seen on drawings ST19595-474-P0.01, ST19595-475-P0.01, ST19595-476-P0.01). From the heat map, it appears that there is little to no bat activity within the fields and activity is restricted to the surrounding margins, specifically along hedgerows or woodland edge habitat.
- 3.4.17 Data showed Static 3 to have the highest levels of bat activity recorded, with a total of 6,978 calls recorded. A total of 58% of these calls were recorded in May 2024, likely due to bats coming out of hibernation to feed as spring brings warmer temperatures. Static 3 was deployed in a small area of woodland surrounded by arable fields, to the north of Littleworth Drove. This is an area within the Cable Route Corridor.
- 3.4.18 Static 4 in comparison, had the lowest recorded levels of bat activity, with a total of 563 calls recorded, making up 4% of calls recorded. The majority of these calls, 92%, were from common pipistrelle. This static was deployed in a small area of planted woodland surrounded by arable field, east of Great Hale Eau within the Cable Route Corridor.
- 3.4.19 Transect 2 had the highest average level of activity recorded, with 52 calls per night. 87% of these calls were from common pipistrelle, with the rest being barbastelle. This transect starts with at a small area of woodland, with the rest of the survey being undertaken around arable fields and along hedgerow

boundaries, finishing up at Littleworth Drove. This transect was undertaken in an area that falls within the Cable Route Corridor.

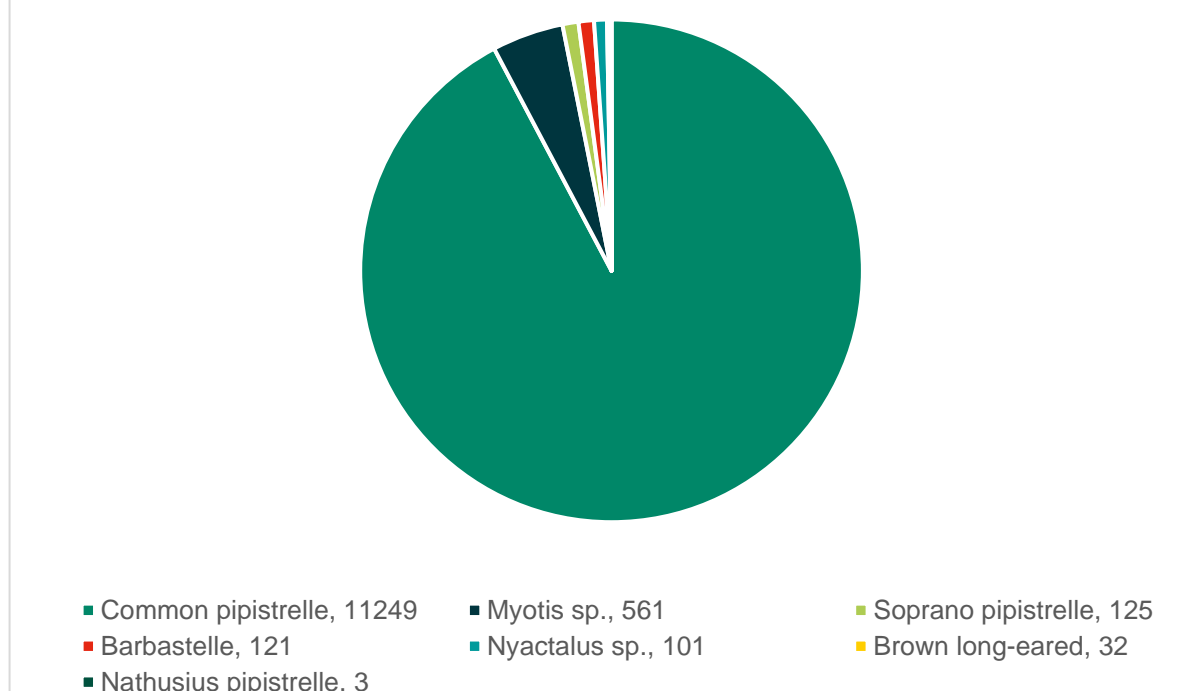
- 3.4.20 Transect 4 had the lowest average recorded bat activity, with an average of 23 calls recorded per survey. 95% of the calls recorded were from common pipistrelle, with the other 5% from Myotis species. This transect began with a vantage point survey at a small pond, at the edge of a woodland, with the rest of the survey undertaken through arable field boundaries and along a large drainage channel.
- 3.4.21 The absence of other species does not mean they can be ruled out being present in the area. Results from this report should be considered alongside desk study species present in the surrounding area.
- 3.4.22 Static bat detectors were positioned in habitats representative of those across the Site, with some areas deemed valuable for bats. Statics 3, 4, and 5 were placed in woodland areas and recorded a higher number of calls, comprising 76% of all recorded calls, compared to Statics 1, 2, and 6, which were deployed in arable fields. Woodlands provide essential habitats for roosting, foraging, mating, and hibernation for bats, whereas arable fields are monocultures and do not offer a significant food source.
- 3.4.23 Table 1 below shows the total number of passes recorded for each bat species/species group across all surveys and the percentages of each that make up the total bat activity recorded at the Site. Each species/species group has been classified as 'Common', 'Rare' or 'Rarest' as according to Valuing Bats in Ecological Impact Assessment (Wray, Wells, Long & Mitchell-Jones, 2010).
- 3.4.24 As the Myotis species have been grouped by genus and includes multiple different species, it was found to border the 'Rare' and 'Rarest' groups. For the purpose of this report Myotis sp. has been recorded under 'Rarest' to ensure the most significant impact that the Site may have on the recorded bat species is covered.

Table 1: Total number of Individuals of each bat species/species group recorded

| SPECIES | TOTAL NUMBER OF BAT PASSES | PERCENTAGE | SPECIES RARITY |
|------------------------|-------------------------------------|------------|-------------------|
| Common Pipistrelle | 11,249 | 92 | Common |
| Soprano Pipistrelle | 125 | 1 | Common |
| Nathusius' Pipistrelle | 3 | 0.02 | Rarer |
| Myotis sp. | 561 | 5 | Rarest |
| Nyctalus sp. | 101 | 0.8 | Rarer |
| Brown long-eared | 32 | 0.3 | Common |
| Barbastelle | 121 | 1 | Rarest |

- 3.4.25 Figure 1 below shows the distribution of bat species for all recorded bat passes at the Site.

Figure 1 - Total Number of Individuals of Each Species Across all Surveys



3.5 Valuation

- 3.5.1 Based on the assessment criteria and scores shown in Table 2, the Site valuation 'score', the Site was determined to be of district, local, or parish value for bats overall, with barbastelles valued at a regional level

Table 2: Site/Species Valuations

| SPECIES | ACTIVITY TYPE RECORDED | NATIONAL RARITY | NUMBER OF BATS | SITE/NEARBY ROOST POTENTIAL | TYPE & COMPLEXITY OF LINEAR FEATURES/ HABITAT CHARACTERISTICS | TOTAL SCORE | VALUE |
|------------------------|------------------------|-----------------|----------------|-----------------------------|---------------------------------------------------------------|-------------|---------------------------|
| Nyctalus species | Foraging | Rarer 5 | 5 | 4 | 3 | 17 | District, local or parish |
| Common Pipistrelle | Foraging | Common 2 | 10 | 4 | 3 | 19 | District, local or parish |
| Soprano Pipistrelle | Foraging | Common 2 | 5 | 4 | 3 | 14 | District, local or parish |
| Nathusius' Pipistrelle | Commuting | Rarer 5 | 5 | 4 | 3 | 17 | District, local or parish |
| Brown Long-eared | Foraging | Common 2 | 5 | 4 | 3 | 14 | District, local or parish |
| Myotis species | Foraging | Rarer 5 | 5 | 4 | 3 | 17 | District, local or parish |
| Barbastelle | Foraging | Rarest 20 | 5 | 4 | 3 | 32 | Regional |

4. RECOMMENDATIONS AND CONCLUSIONS

4.1 Further Survey

- 4.1.1 No further surveys for bats were considered necessary within the Bespoke Access Corridor and Cable Route Corridor, as the surveys conducted to date were considered sufficient to determine the likely activity levels for bat species present on the Site and the areas of the Site which are of greatest importance to the identified bat species.

4.2 Summary

- 4.2.1 The Site includes habitat used by foraging and commuting bats and supports a range of species. Overall, the Site is valued as supporting up to regional level bat activity.
- 4.2.2 The results of the bat activity surveys have been used to inform the Ecology Chapter of Environmental Statement (Document ref: 6.2 ES Vol 1, 6.3.7) to be submitted in support of the DCO application, assessing the impacts of the Proposed Development (Sections 7.6.57-58 of the Ecology Chapter) and requirement for mitigation (Section 7.9.5 of the Ecology Chapter).

5. REFERENCES

- AECOM (2023). Bicker Fen Solar Farm Bat Activity Survey Report
- Conservation of Habitats and Species Regulations 2010, [Online]. Available at: [REDACTED]
- Countryside and Rights of Way Act 2000, (c.37), London: HMSO. [Online]. Available at: www.legislation.hmso.gov.uk/acts/acts2000/20000037.htm
- British Standards Institution (2013) Biodiversity — Code of Practice for Planning and Development BSI, London
- Entwistle, A.C., Harris, S., Hutson, A.M., Racey, P.A., Walsh, A., Gibson, S.D., Hepburn, I. & Johnston, J. (2001). Habitat Management for Bats – A Guide for Land Managers, Land Owners and their Advisors. Joint Nature Conservation Committee, Peterborough.
- Collins, J (Editor) (2023). Bat surveys for professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.
- JNCC (2011a). UK-wide Digital GIS Datasets for Internationally Designated Sites [Online]. Available at: www.jncc.gov.uk/ProtectedSites/SACselection/gis_data/terms_conditions.asp
- JNCC (2011b). Special Areas of Conservation [Online]. Available at: www.jncc.gov.uk/page-23
- Ministry for Housing Communities and Local Government (2024). The National Planning Policy Framework (NPPF). Department for Communities and Local Government: London. [Online]. Available at: [REDACTED]
- Natural Environment and Rural Communities Act 2006, [Online]. Available at: [REDACTED]
- Richardson, P. (2000). Distribution Atlas of Bats in Britain and Ireland – 1980-1999. Bat Conservation Trust, London.
- Russ, J. (2012). British Bat Calls: A Guide to Species Identification. Pelagic Publishing, Exeter
- UK Biodiversity Action Plan (2007) UK List of Priority Species. Joint Nature Conservation Committee. [Online]. Available at: [REDACTED]
- Wardell Armstrong (2025). Beacon Fen Solar Farm Preliminary Ecological Appraisal report.
- Wildlife and Countryside Act 1981 (and amendments), (c.69), London: HMSO. [Online] Available at: http://www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1
- Wray S, Wells D, Long E and Mitchell-Jones T (2007) EclA: Specific issues associated with bats. Presentation at the mammal society/ zoological society of London / IEEM symposium on advances in EclA for Mammals
- Wray, S. Wells, D. Long, E. and Mitchell-Jones, T. (2010) Valuing Bats in Ecological Impact Assessment. In Practice: No. 70, December 2010, Pg. 23- 25. Bulletin of the Institute of Ecology and Environmental Management: Hampshire.

BFEP Appendices

Appendix 1 Legislation and Policy Summary

All UK bat species are listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) and as such receive protection under Regulation 43, which makes it an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb a bat; or
- Damage or destroy a breeding site or resting place of a bat.

Under the 2017 Regulations, disturbance of bats includes in particular any disturbance which is likely to:

- Impair their ability to survive, breed or reproduce, or to rear or nurture their young or to hibernate or migrate; or
 - Significantly affect the local distribution or abundance of the species in question.
- European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful, providing that 'favourable conservation status' is maintained.

All UK bat species are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 and therefore receive protection under Section 9 of this Act (as amended). Among other things, this legislation makes it an offence to.

- Intentionally kill, injure or take a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection; or
- Intentionally or recklessly disturb any bat whilst it is occupying a structure or place that it uses for shelter or protection.

Protection Afforded by the Planning System

For Nationally Significant Infrastructure Projects the Government has a number of National Policy Statements. For all energy the Overarching National Policy Statement for Energy (EN-1) makes several statements regarding species:

Paragraph 5.4.16 of EN-1 states: *"Many individual species receive statutory protection under a range of legislative provisions. Other species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales, as well as for their continued benefit for climate mitigation and adaptation and thereby requiring conservation action"*

Paragraph 5.4.22 of EN-1 states *"The design of Energy NSIP proposals will need to consider the movement of mobile / migratory species such as birds, fish and marine and terrestrial mammals and their potential to interact with infrastructure. As energy infrastructure could occur anywhere within England and Wales, both inland and onshore and offshore, the potential to affect mobile and migratory species across the UK and more widely across Europe (transboundary effects) requires consideration, depending on the location of development."*

Paragraphs 5.4.33 to 5.4.34 of EN-1 cover habitat and species protection and state:

5.4.33 *“Applicants should consider any reasonable opportunities to maximise the restoration, creation, and enhancement of wider biodiversity, and the protection and restoration of the ability of habitats to store or sequester carbon as set out under Section 4.6.”*

5.4.34 *“Consideration should be given to improvements to, and impacts on, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, beyond those under protection and identified as being of principal importance. This may include considerations and opportunities identified through Local Nature Recovery Strategies, and national goals and targets set through the Environment Act 2021 and the Environmental Improvement Plan 2023.”*

Paragraph 5.4.35 and 5.4.36 of EN-1 cover mitigation and state:

5.4.35 *“Applicants should include appropriate avoidance, mitigation, compensation and enhancement measures as an integral part of the proposed development. In particular, the applicant should demonstrate that:*

- during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works*
- the timing of construction has been planned to avoid or limit disturbance during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements*
- habitats will, where practicable, be restored after construction works have finished*
- opportunities will be taken to enhance existing habitats rather than replace them, and where practicable, create new habitats of value within the site landscaping proposals. Where habitat creation is required as mitigation, compensation, or enhancement the location and quality will be of key importance. In this regard habitat creation should be focused on areas where the most ecological and ecosystems benefits can be realised.*
- mitigations required as a result of legal protection of habitats or species will be complied with.”*

5.4.36 *“Applicants should produce and implement a Biodiversity Management Strategy as part of their development proposals. This could include provision for biodiversity awareness training to employees and contractors so as to avoid unnecessary adverse impacts on biodiversity during the construction and operation stages.”*

For solar farms and other renewable energy sources there is the National Policy Statement for Renewable Energy Infrastructure (EN-3). In the section on Solar Photovoltaic Generation, paragraphs 2.10.76 to 2.10.80 state:

2.10.76 *“The applicant’s ecological assessments should identify any ecological risk from developing on the proposed site.”*

2.10.77 *“Issues that need assessment may include habitats, ground nesting birds, wintering and migratory birds, bats, dormice, reptiles, great crested newts, water voles and badgers.”*

2.10.78 *“The applicant should use an advising ecologist during the design process to ensure that adverse impacts are avoided, minimised or mitigated in line with the mitigation hierarchy, and biodiversity enhancements are maximised.”*

2.10.79 *“The assessment may be informed by a ‘desk study’ of existing ecological records, an evaluation of the likely impacts of the solar farm upon ecological features and should specify mitigation to avoid or minimise these impacts, and any further surveys required.”*

2.10.80 *“Applicants should consider earthworks associated with construction compounds, access roads and cable trenching.”*

The National Planning Policy Framework (NPPF) underpins the Government’s planning policies for England and how these are to be applied. The central theme of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment (under the Birds Directive or the Habitats Directive) is being considered, planned or determined. The NPPF states:

Paragraph 193. *“When determining planning applications, local planning authorities should apply the following principles:*

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁷⁰ and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”*

Paragraph 195. *“The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site*

(either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."

Under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 public bodies, including Local and Regional Planning Authorities have a duty to 'have regard' to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. In compliance with Section 41 of the Act, the Secretary of State has published a list of species considered to be of principal importance for conserving biodiversity in England. This is the England Biodiversity List, of which there are 941 'priority' species. Regional Planning Bodies and Local Planning Authorities use the list to identify the species that should be afforded priority when applying the requirements of the NPPF to promote the protection and recovery of species populations, via national and local targets.

Seven bat species are Priority Species. These are:

- Barbastelle
- Bechstein's bat *Myotis bechsteinii*;
- Noctule *Nyctalus noctula*;
- Soprano Pipistrelle
- Brown Long-eared bat
- Greater horseshoe bat *Rhinolophus ferrumequinum*; and
- Lesser horseshoe bat *Rhinolophus hipposideros*

All local bat species are included within the Lincolnshire Local BAP¹. Known species currently listed on the BAP are:

- Noctule
- Soprano pipistrelle
- Barbastelle
- Brown long-eared

Foraging Areas & Commuting Routes

Bat foraging areas and commuting routes are not directly protected under the legislation described above. However, loss of important foraging areas and/or commuting routes could potentially constitute a disturbance offence, as defined by the 2017 Regulations², in addition, the loss of a commuting route providing the only access to a roost could also potentially constitute indirect damage/destruction of a breeding site/resting place and damage/destruction/obstruction of a places used for shelter/protection under the Wildlife and Countryside Act 1981.

¹ <https://www.nelincs.gov.uk/wp-content/uploads/2016/02/201110-LincolnshireBAP-3rd-edition.pdf>
(Accessed 13th March 2025)

² Where such actions result in a loss of the ecological functionality of the roost.

Appendix 2 Weather Conditions and Survey Timings of Night-time Bat Walkover Survey

Weather Conditions and Survey Timings of Night-time Bat Walk

Weather Key

| |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Oktas cloud scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).</p> |
| <p>Beaufort wind scale: 0 = No wind; calm, 1 = Light air; smoke drifts, 2 = Light Breeze; leaves rustle, 3 = Gentle Breeze; small twigs/leaves move, 4 = Moderate Breeze; small branches move, 5 = Fresh Breeze; small trees sway, 6 = Strong Breeze; large branches move, 7 = Moderate Gale whole trees in motion</p> |

| Month | Date | Transect | Weather Conditions | Sunset | Start Time | End Time |
|-------|----------|----------|---------------------------------------------------------------|--------|------------------------------|----------|
| May | 29.05.24 | 1 | 14°C, 8/8 cloud cover, gentle breeze and dry | 21:15 | VP: 21:14 Transect: 21:44 | 23:20 |
| | 22.05.24 | 2 | 13°C, 7/8 cloud cover, gentle breeze and dry | 21:03 | VP: 20:59 Transect: 21:29 | 23:15 |
| | 21.05.24 | 3 | 14°C, 8/8 cloud cover, light breeze and light rain | 21:03 | VP: 21:00 Transect: 21:30 | 23:00 |
| | 20.05.24 | 4 | 12°C, 1/8 cloud cover, light air and dry | 21:02 | VP: 21:00 Transect: 22:30 | 23:30 |
| | 30.05.24 | 5 | 12°C, 8/8 cloud cover, light breeze and dry | 21:17 | VP: 21:15 Transect: 21:45 | 23:20 |
| July | 11.07.24 | 1 | 13°C, 8/8 cloud cover, Light air and light rain | 21:24 | VP: 21:30 Transect: 22:00 | 23:30 |
| | 10.07.24 | 2 | 16°C, 8/8 cloud cover, Light breeze and light rain | 21:25 | VP: 21:25 Transect: 21:55 | 23:38 |
| | 17.07.24 | 3 | 18°C, 7/8 cloud cover, Light breeze and dry | 21:16 | VP: 21:25 Transect: 21:55 | 23:29 |
| | 16.07.24 | 4 | 16°C, 7/8 cloud cover, gentle breeze and light precipitation. | 21:17 | VP: 21:11 Transect: 21:41 | 23:38 |
| | 18.07.24 | 5 | 12°C, 7/8 cloud cover, light air and dry. | 21:16 | VP: 21:06 Transect: 21:36 | 23:05 |

| Month | Date | Transect | Weather Conditions | Sunset | Start Time | End Time |
|-----------|----------|----------|------------------------------------------------------------|--------|------------------------------|----------|
| September | 26.09.24 | 1 | 12°C, 3/8 cloud cover, a gentle breeze, and light showers. | 18:48 | VP: 18:48 Transect: 19:18 | 20:37 |
| | 19.09.24 | 2 | 15°C, 8/8 cloud cover, light breeze and dry. | 19:08 | VP: 19:08 Transect: 19:38 | 21:14 |
| | 24.09.24 | 3 | 14°C, 5/8 cloud cover, a gentle breeze, and dry. | 18:54 | VP: 18:50 Transect: 19:20 | 21:05 |
| | 24.09.24 | 4 | 13°C, 3/8 cloud cover, moderate breeze and dry. | 18:56 | VP: 18:50 Transect: 20:20 | 20:38* |
| | 23.09.24 | 5 | 16°C, 8/8 cloud cover, light breeze, and dry | 18:56 | VP: 18:56 Transect: 19:26 | 20:38 |

Appendix 3 Weather Conditions of Static Detectors

Appendix 3 Weather Conditions of Static Detectors

Temperature conditions from deployed data loggers and Timeanddate.com
Rain, cloud, and wind conditions from Timeanddate.com

| Month | Date | Temp range (°C) | Precipitation | Cloud | Wind (mph) |
|-----------|----------|-----------------|---------------|----------------|------------|
| April | 23.04.24 | 5-9 | Dry | Low clouds | 5 |
| April | 24.04.24 | 3-8 | Dry | Overcast | 12 |
| April | 25.04.24 | 3-8 | Dry | Clear | 9 |
| April | 26.04.24 | 1-9 | Dry | Clear | 8 |
| April | 27.04.24 | 3-9 | Dry | Passing clouds | 6 |
| May | 01.05.24 | 10-19 | Dry | Fog | 9 |
| May | 02.04.24 | 10-18 | Dry | Fog | 18 |
| May | 03.05.24 | 9-12 | Dry | Fog | 9 |
| May | 04.05.24 | 9-17 | Light rain | Low clouds | 12 |
| May | 05.05.24 | 7-19 | Dry | Clear | 2 |
| June | 12.06.24 | 10-15 | Dry | Partly cloudy | 5 |
| June | 13.06.24 | 7-16 | Dry | Clear | 5 |
| June | 14.07.24 | 11-18 | Dry | Low clouds | 14 |
| June | 15.07.24 | 10-15 | Dry | Overcast | 3 |
| June | 16.07.24 | 10-18 | Rain | Partly cloudy | 6 |
| July | 21.07.24 | 15-20 | Dry | Overcast | 14 |
| July | 22.07.24 | 15-23 | Dry | Overcast | 6 |
| July | 23.07.24 | 14-22 | Dry | Passing clouds | 6 |
| July | 24.07.24 | 13-24 | Dry | Overcast | 5 |
| July | 25.07.24 | 16-22 | Dry | Overcast | 13 |
| August | 22.08.24 | 14-22 | Dry | Overcast | 16 |
| August | 23.08.24 | 13-20 | Rain | Overcast | 9 |
| August | 24.08.24 | 14-17 | Dry | Partly cloudy | 14 |
| August | 25.08.24 | 10-18 | Dry | Passing clouds | 10 |
| August | 26.08.24 | 13-20 | Dry | Passing clouds | 15 |
| September | 09.09.24 | 11-16 | Light rain | Low clouds | 12 |
| September | 10.09.24 | 9-17 | Dry | Passing clouds | 15 |
| September | 11.09.24 | 7-13 | Light rain | Passing clouds | 9 |
| September | 12.09.24 | 6-15 | Dry | Clear | 5 |
| September | 13.09.24 | 5-17 | Dry | Clear | 8 |
| October | 09.10.24 | 15-22 | Dry | Low clouds | 7 |
| October | 10.10.24 | 14-22 | Dry | Overcast | 21 |
| October | 11.10.24 | 10-18 | Dry | Clear | 6 |
| October | 12.10.24 | 7-13 | Dry | Passing clouds | 3 |
| October | 13.10.24 | 8 | Dry | Passing clouds | 8 |

Appendix 4 Bat/Site Valuation System

Bat/ Site Valuation System

The valuation system used in this report is modified from Wray et al. (2010). Values are assigned using a geographic frame of reference as shown in Table A. The scores used to assign these values are calculated using Table B. 'National Rarity' values used in Table B are based on the categorisation system shown in Table C.

Table A; Site/ Species Valuation System

| Geographic Frame of Reference | Score |
|-------------------------------|---------|
| Site | 1 – 10 |
| Local | 11 – 20 |
| County | 21 – 30 |
| Regional | 31 – 40 |
| National/UK | 41 – 50 |
| International | >50 |

Table B: Calculation of Foraging Habitat Scores (Shown in Brackets)

| National Rarity | Activity | Site/Nearby Roost Potential | Habitat Characteristics |
|-----------------|---------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Common (2) | Low (5) | None (1) | Industrial or other site without established vegetation (1) |
| - | - | Small number (3) | Suburban areas or intensive arable land (2) |
| Rarer (5) | Moderate (10) | Moderate number / not known (4) | Isolated woodland patches, less intensive arable and/or small towns and villages (3) |
| - | - | Large no. of roosts, or close to a SSSI for the species (5) | Larger or connected woodland blocks, mixed agriculture (small field sizes with well-grown and small villages/hamlets (4) |
| Rarest (20) | High (20) | Close to or within a SAC for the species (20) | Mosaic of pasture (small fields), woodlands and wetland areas (5) |

Table C: Calculation of Commuting Habitat Scores (Shown in Brackets)

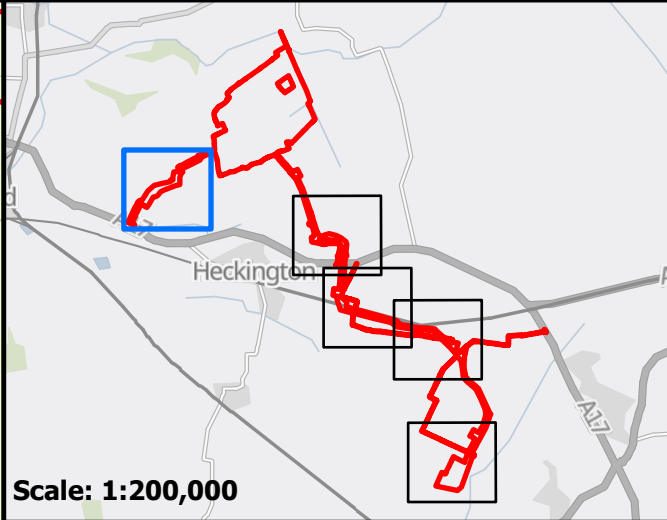
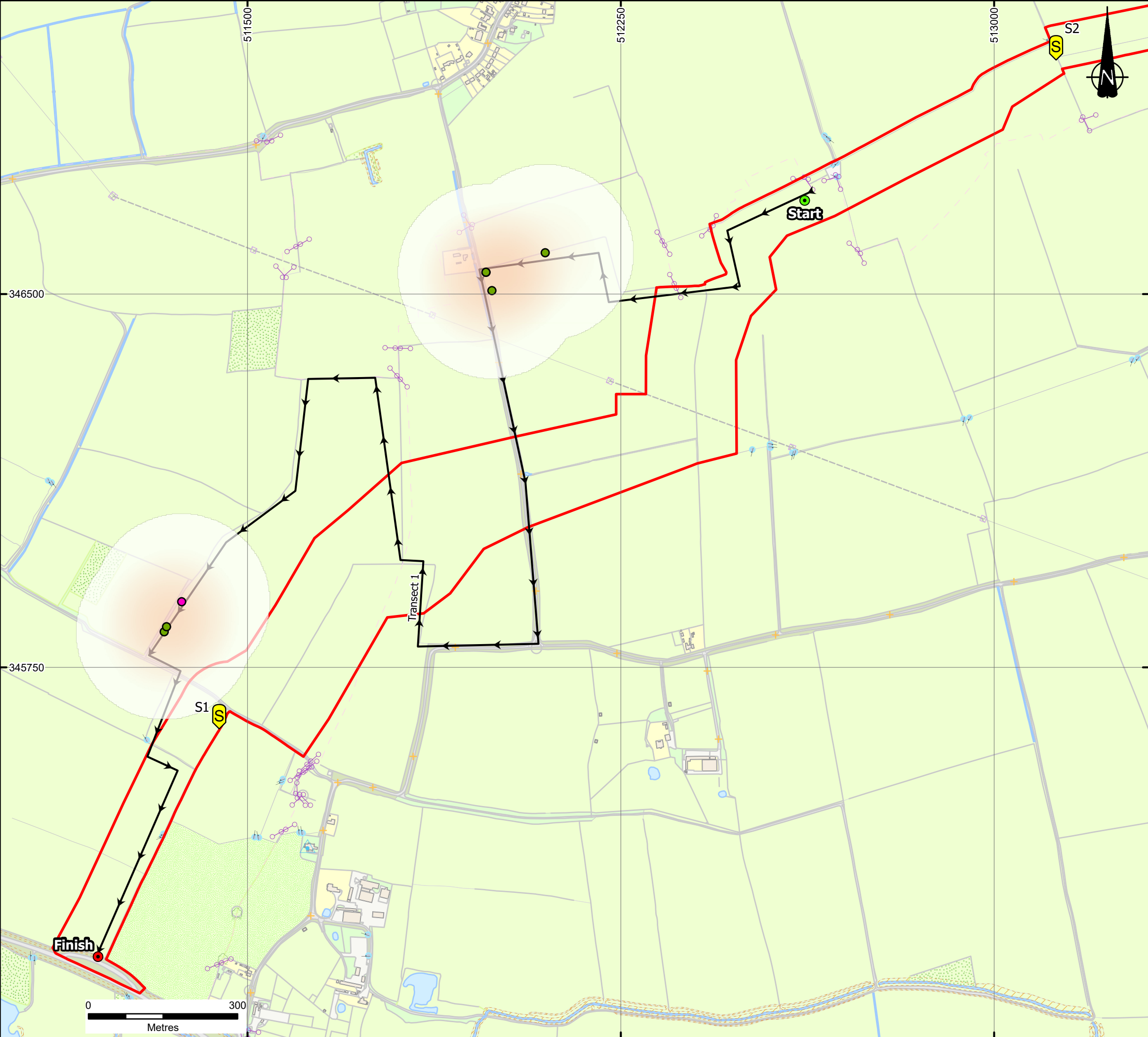
| National Rarity | Activity | Site/Nearby Roost Potential | Type and complexity of linear features |
|-----------------|---------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Common (2) | Low (5) | None (1) | Absence of (other) linear features (1) |
| - | - | Small number (3) | Unvegetated fences and large field sizes (2) |
| Rarer (5) | Moderate (10) | Moderate number / not known (4) | Walls, gappy or failed hedgerows, isolated well-grown hedgerows, and moderate sized fields (3) |
| - | - | Large no. of roosts, or close to a SSSI for the species (5) | Well- grown and well-connected hedgerows, small field sizes (4) |

| National Rarity | Activity | Site/Nearby Roost Potential | Type and complexity of linear features |
|-----------------|-----------|-----------------------------------------------|-------------------------------------------------------------------------------------------|
| Rarest (20) | High (20) | Close to or within a SAC for the species (20) | Complex network of mature well-established hedgerows, small fields and rivers/streams (5) |

Table D: Categorisation of Bats by National Rarity

| Rarity within Range | England | Wales | Scotland | Northern Ireland |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Common (population. over 100,000) | Common Pipistrelle Soprano Pipistrelle Brown Long-eared | Common Pipistrelle Soprano Pipistrelle | Common Pipistrelle Soprano Pipistrelle | Common Pipistrelle Soprano Pipistrelle |
| Rarer (population. 10,000 – 100,000) | Lesser Horseshoe Whiskered Brandt's Daubenton's Natterer's Leisler's Noctule Nathusius' Pipistrelle Serotine | Lesser Horseshoe Daubenton's Natterer's Brown Long-eared | Daubenton's Natterer's Brown Long-eared | Daubenton's Natterer's Leisler's Nathusius' Pipistrelle Brown Long-eared |
| Rarest (population. under 10,000) | Greater Horseshoe Bechstein's Alcathoe Greater Mouse-eared Barbastelle Grey Long-eared | Greater Horse-shoe Whiskered Brandt's Bechstein's Alcathoe Noctule Nathusius' Pipistrelle Serotine Barbastelle | Whiskered Brandt's Alcathoe Noctule Nathusius' Pipistrelle Leisler's | Whiskered |

Figures



Scale: 1:200,000

KEY

| | |
|------------------|--------------------|
| DCO Order Limits | Common pipistrelle |
| Transect | Myotis |
| Finish | Density |
| Start | Sparse |
| Static Detector | Dense |

Notes:

Excluding the DCO Order Limits, boundaries shown are indicative.
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| REVISION | DETAILS | DATE | DRAWN | CHKD | APPD |
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| BEACON FEN ENERGY PARK LTD | | | | | |
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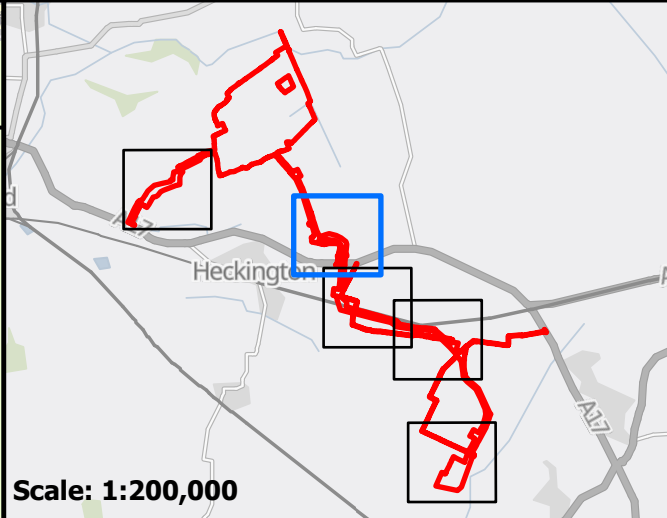
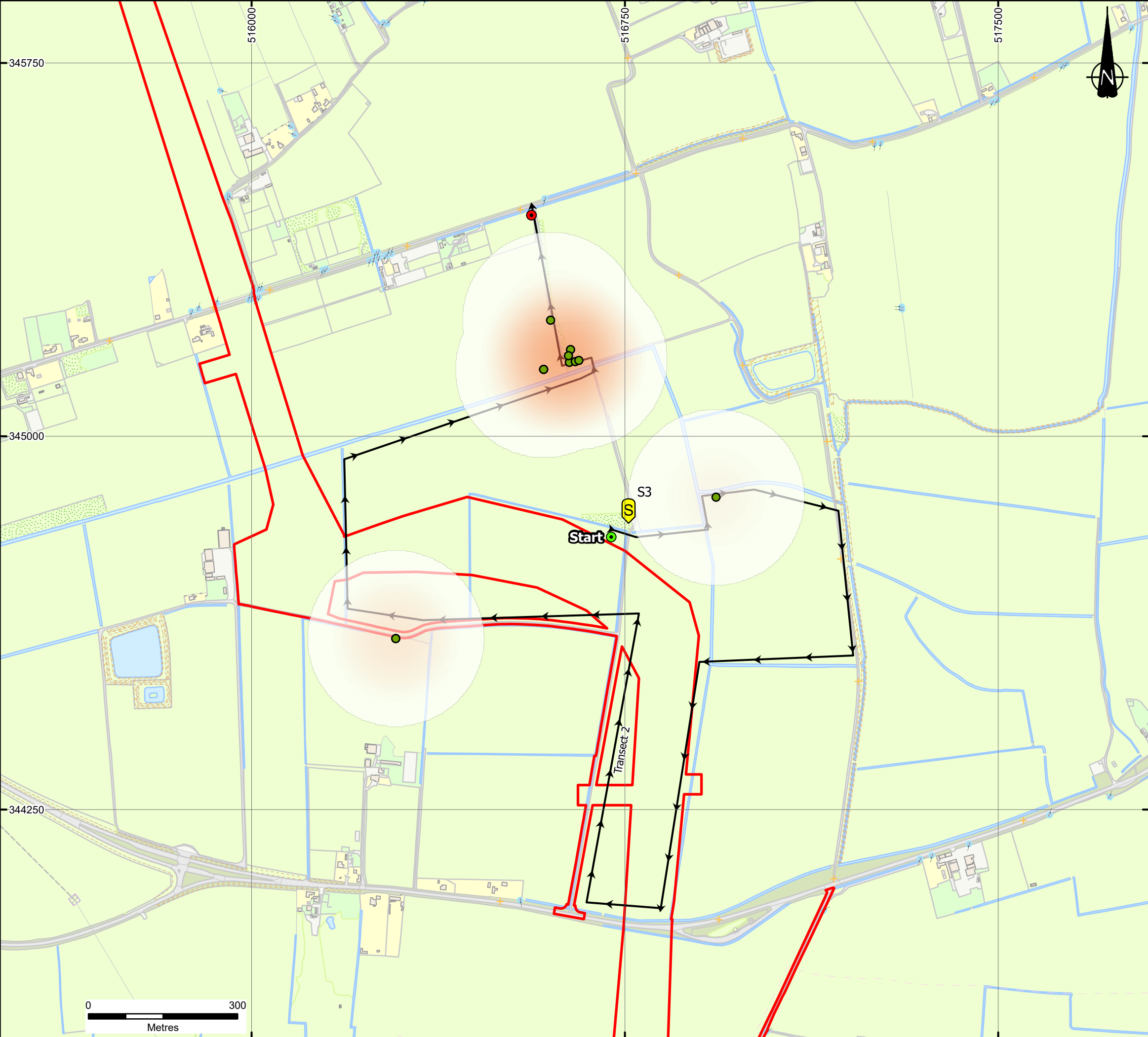


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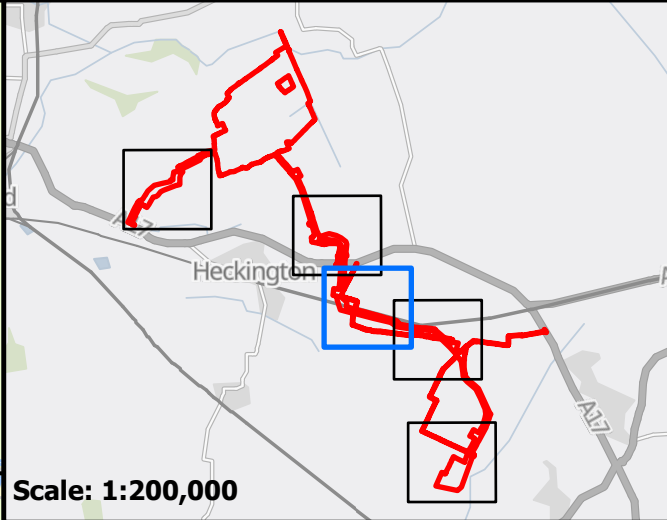
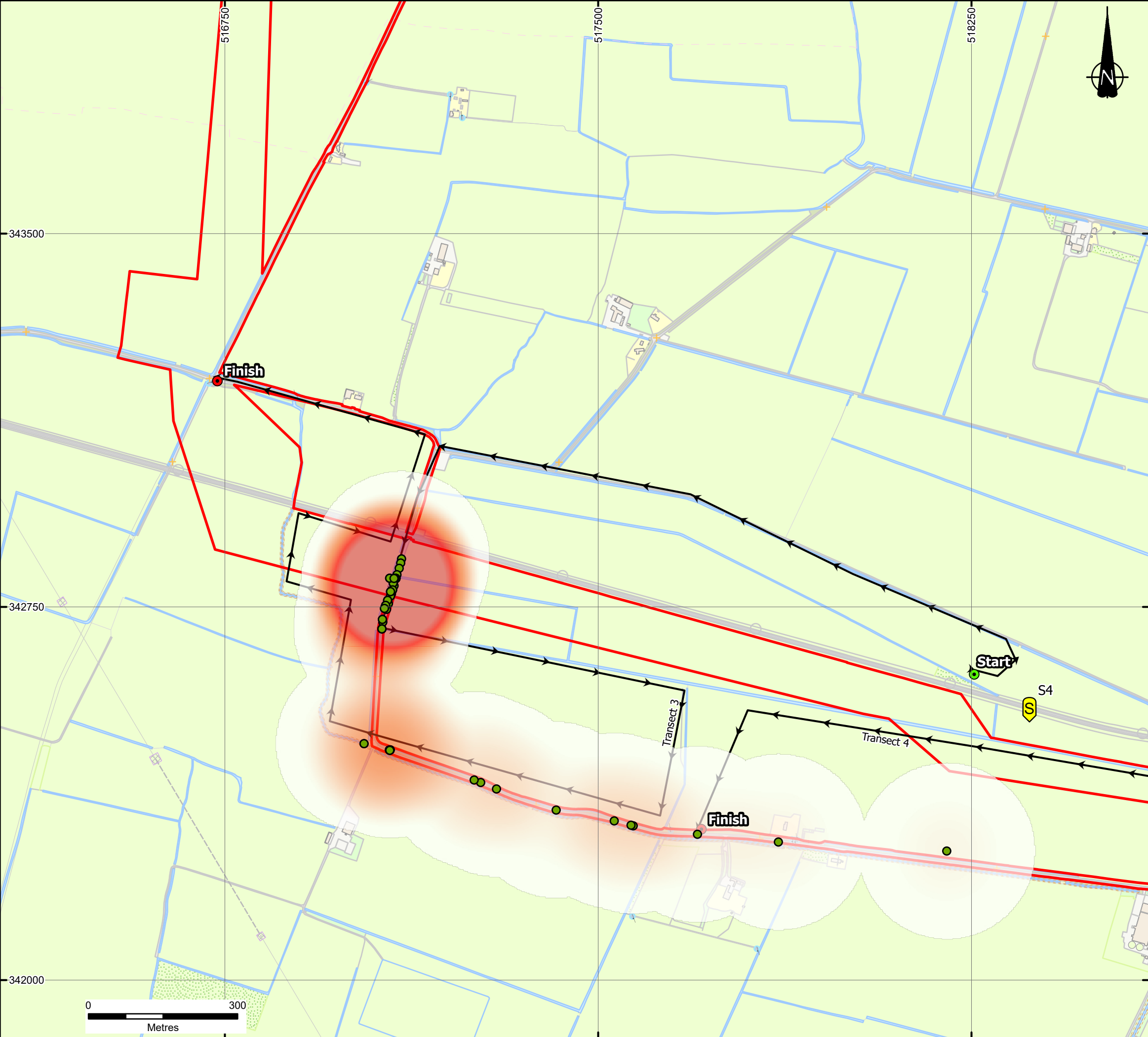
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- Common pipistrelle
- Density
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Notes:

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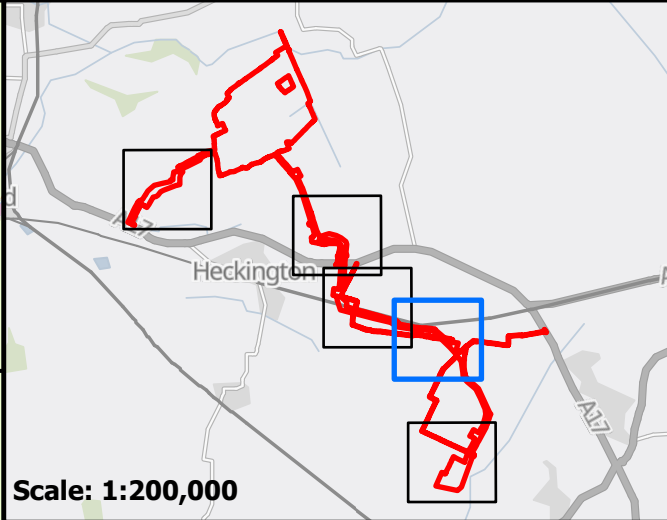
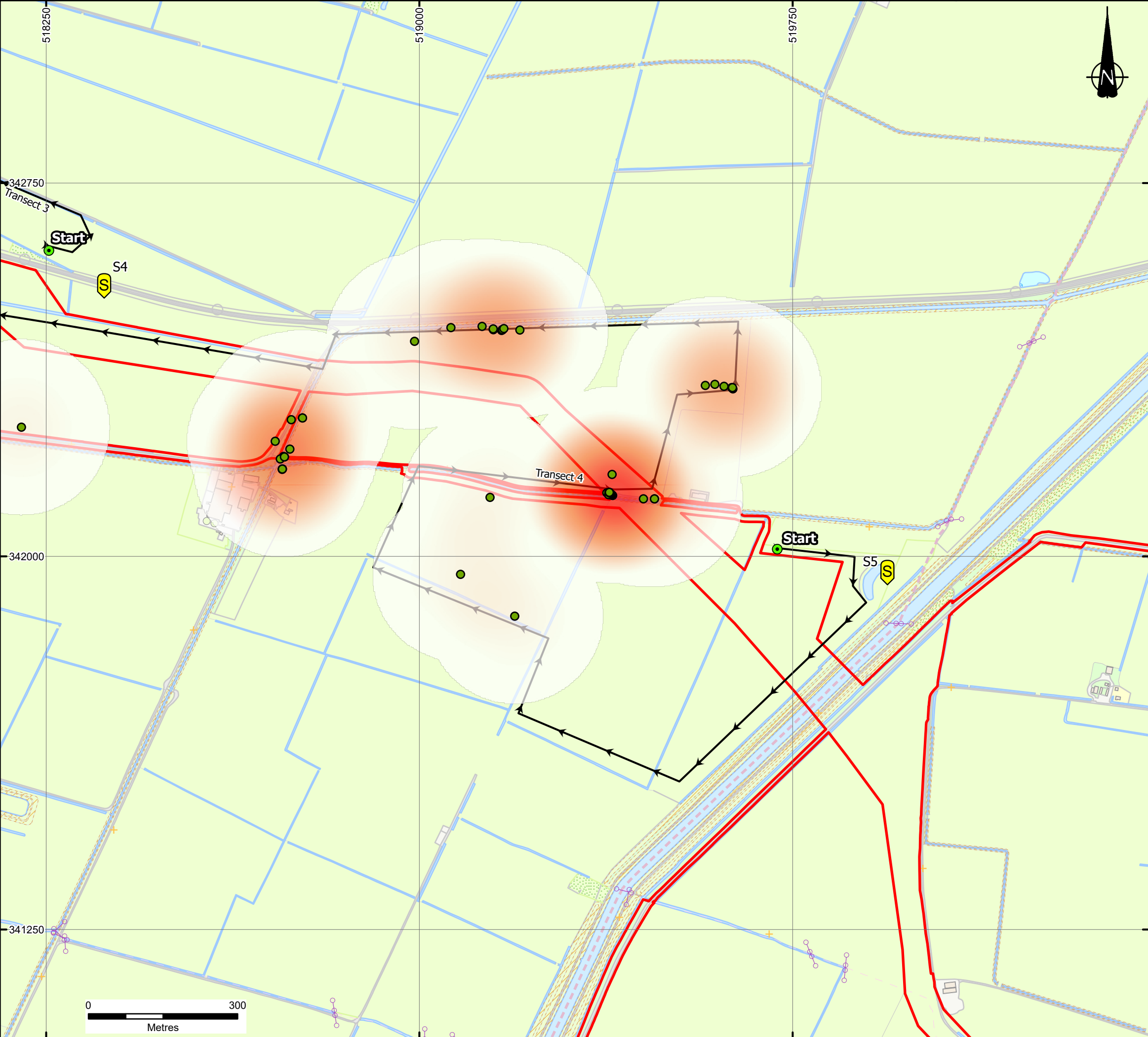
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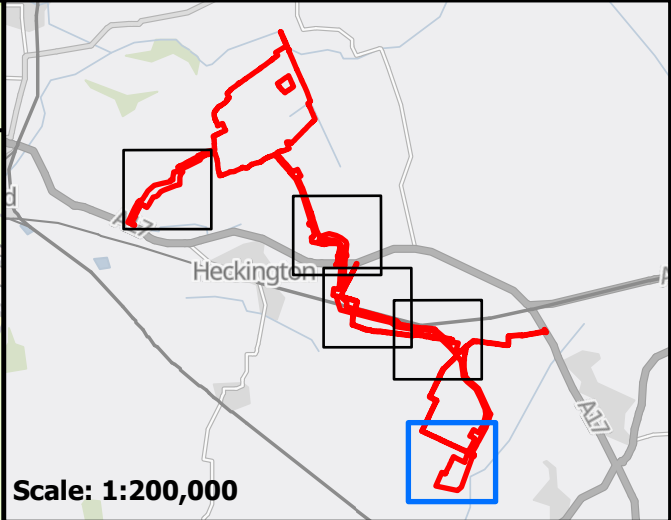
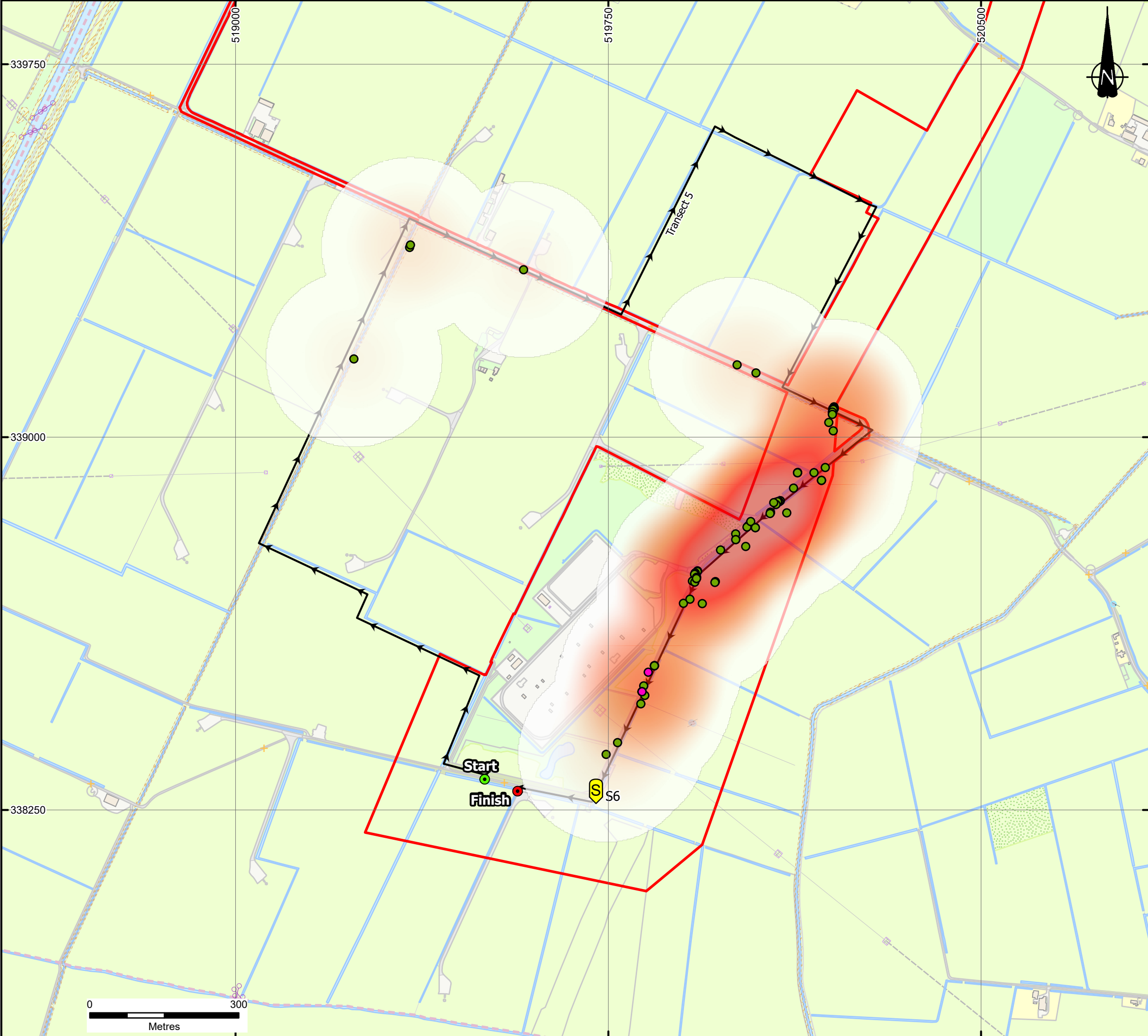
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| DRAWING TITLE | | | | | |
| NBW SURVEY PLAN - SPRING SHEET 4 OF 5 | | | | | |
| DRG No. | ST19595-474 | | REV | 1 | SUIT. CODE --- |
| DRG SIZE | A3 | SCALE | 1:7,500 | DATE | 14/03/2025 |
| DRAWN BY | BL | CHECKED BY | KS | APPROVED BY | TB |

wardell armstrong
PART OF **SLR**



Scale: 1:200,000

KEY

| | |
|------------------|--------------------|
| DCO Order Limits | Common pipistrelle |
| Transect | Myotis |
| Finish | Density |
| Start | Sparse |
| Static Detector | Dense |

Notes:

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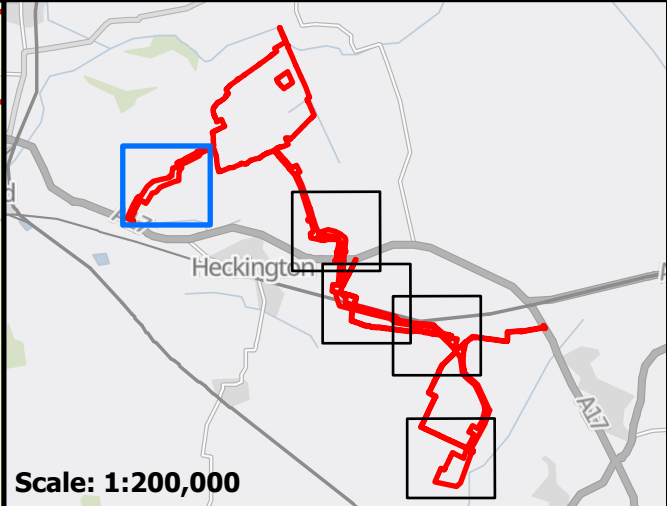
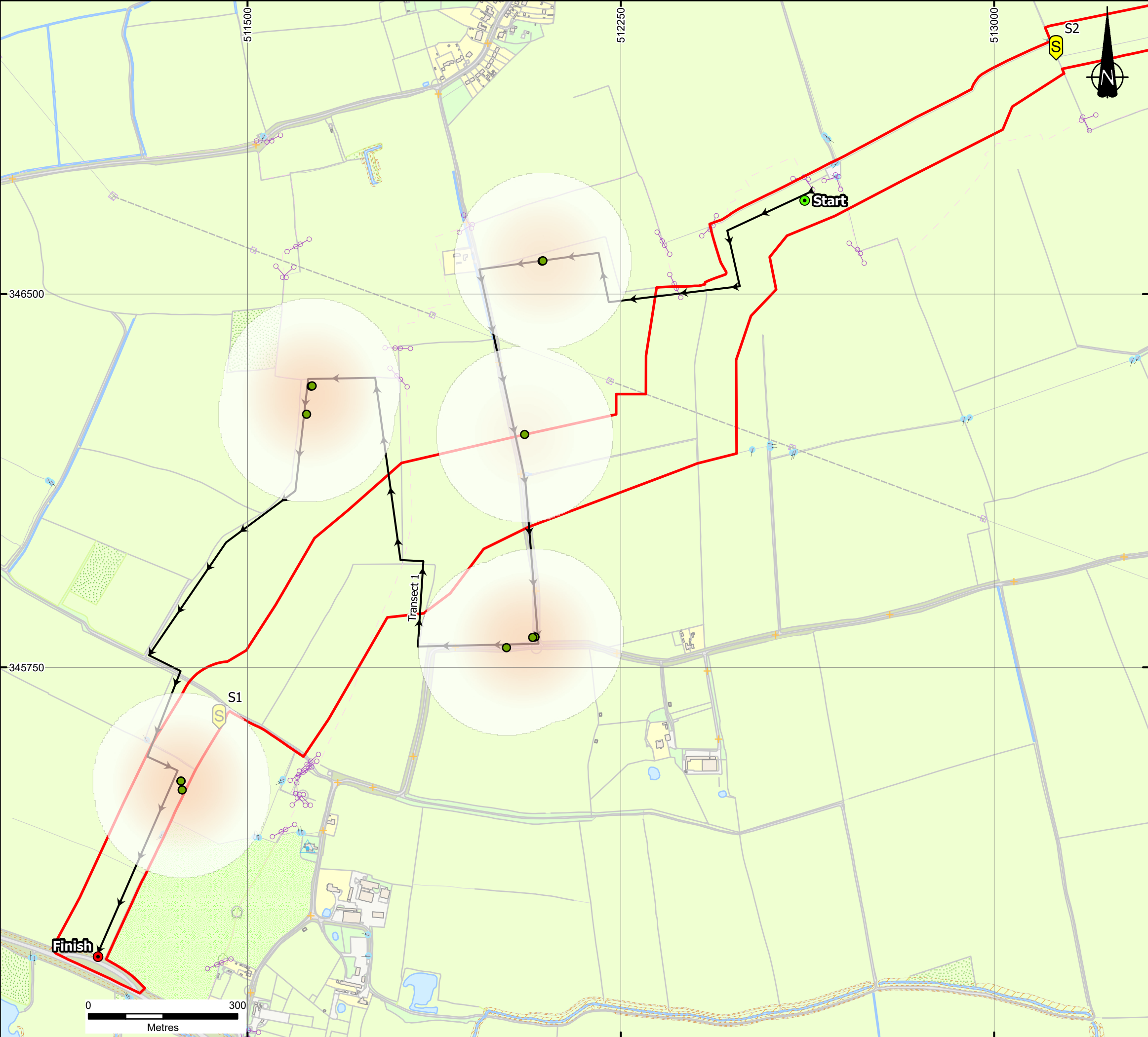
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| 1 | FIRST ISSUE | 14/03/25 | CP | KS | TB |
| REVISION | DETAILS | DATE | DRAWN | CHKD | APPD |
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| BEACON FEN ENERGY PARK | | | | | |
| DRAWING TITLE | | | | | |
| NBW SURVEY PLAN - SPRING SHEET 5 OF 5 | | | | | |
| DRG No. | | REV | | SUIT. CODE | |
| ST19595-474 | | 1 | | --- | |
| DRG SIZE | | SCALE | | DATE | |
| A3 | | 1:7,500 | | 14/03/2025 | |
| DRAWN BY | | CHECKED BY | | APPROVED BY | |
| BL | | KS | | TB | |



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PART OF  SLR





Scale: 1:200,000

KEY

DCO Order Limits

ST19595_WAR_D474

Transect

Finish

Start

S

 Static Detector

Nathusius pipistrelle

Common pipistrelle

Density

 Sparse

Dense

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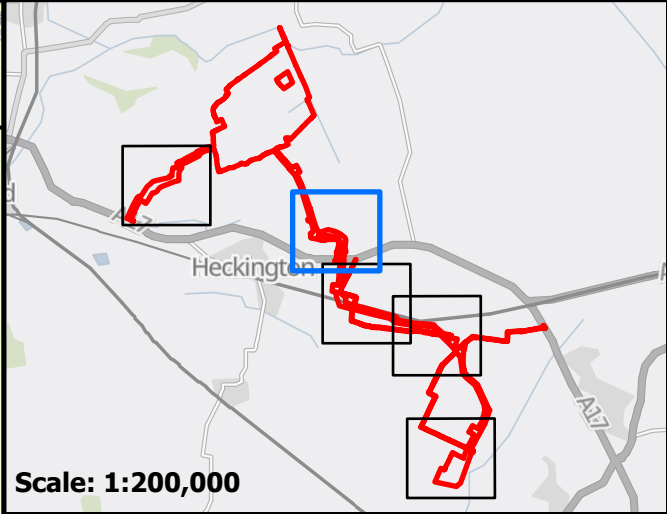
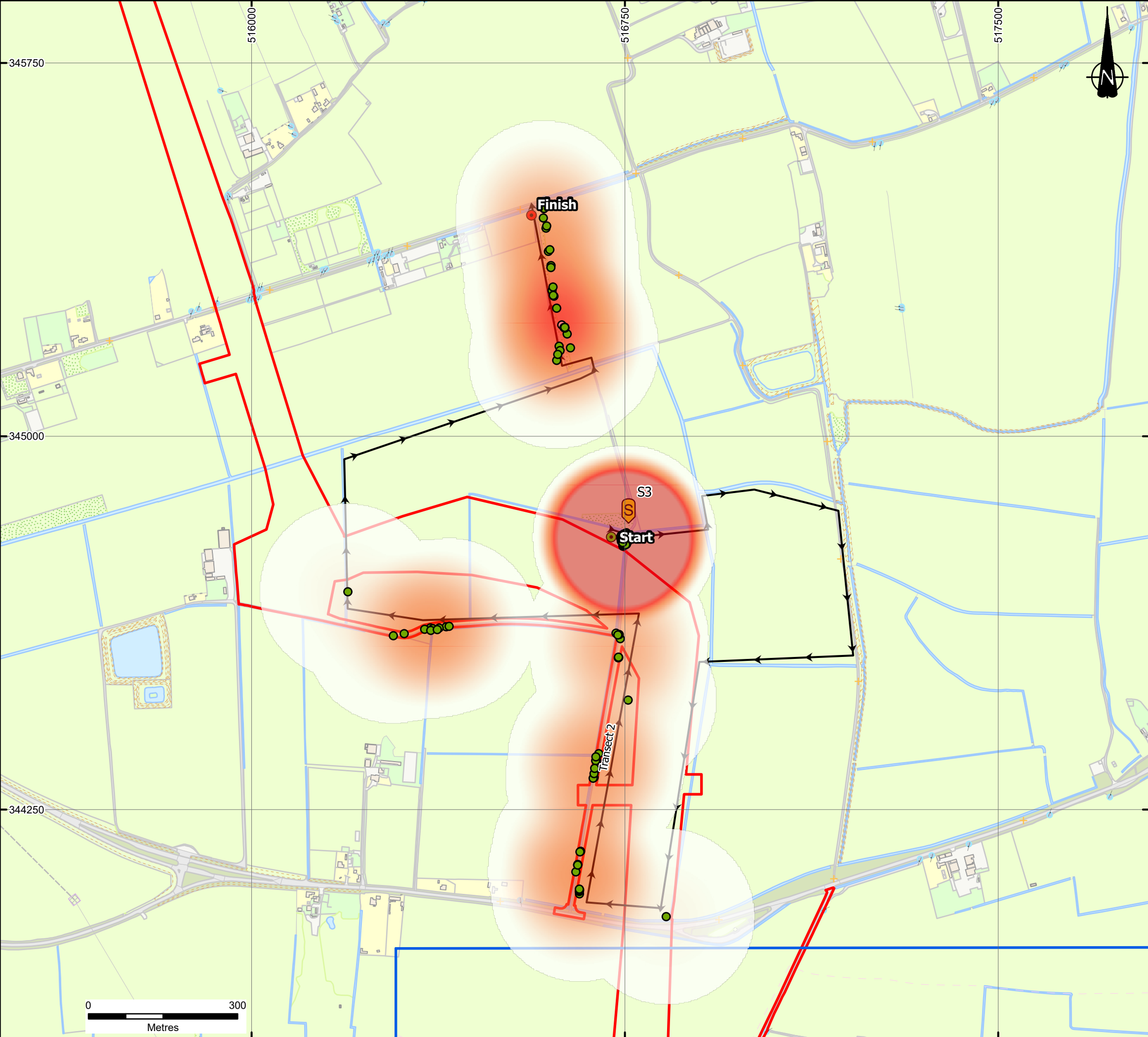
NBW SURVEY PLAN - SUMMER
SHEET 1 OF 5

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| DRG No. | ST19595-475 | REV | 1 | SUIT. CODE | --- |
| DRG SIZE | A3 | SCALE | 1:7,500 | DATE | 14/03/2025 |
| DRAWN BY | BL | CHECKED BY | KS | APPROVED BY | TB |



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Scale: 1:200,000

KEY

- DCO Order Limits
- ST19595_WAR_D474
- Transect
- Finish
- Start
- Static Detector
- Barbastelle
- Common pipistrelle
- Density
 - Sparse
 - Dense

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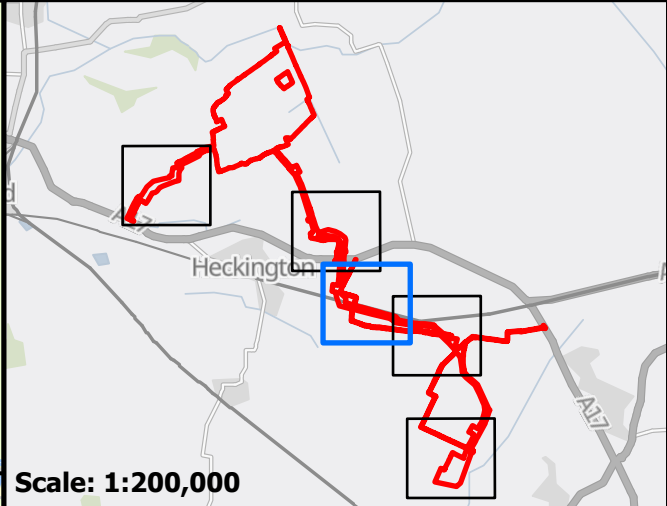
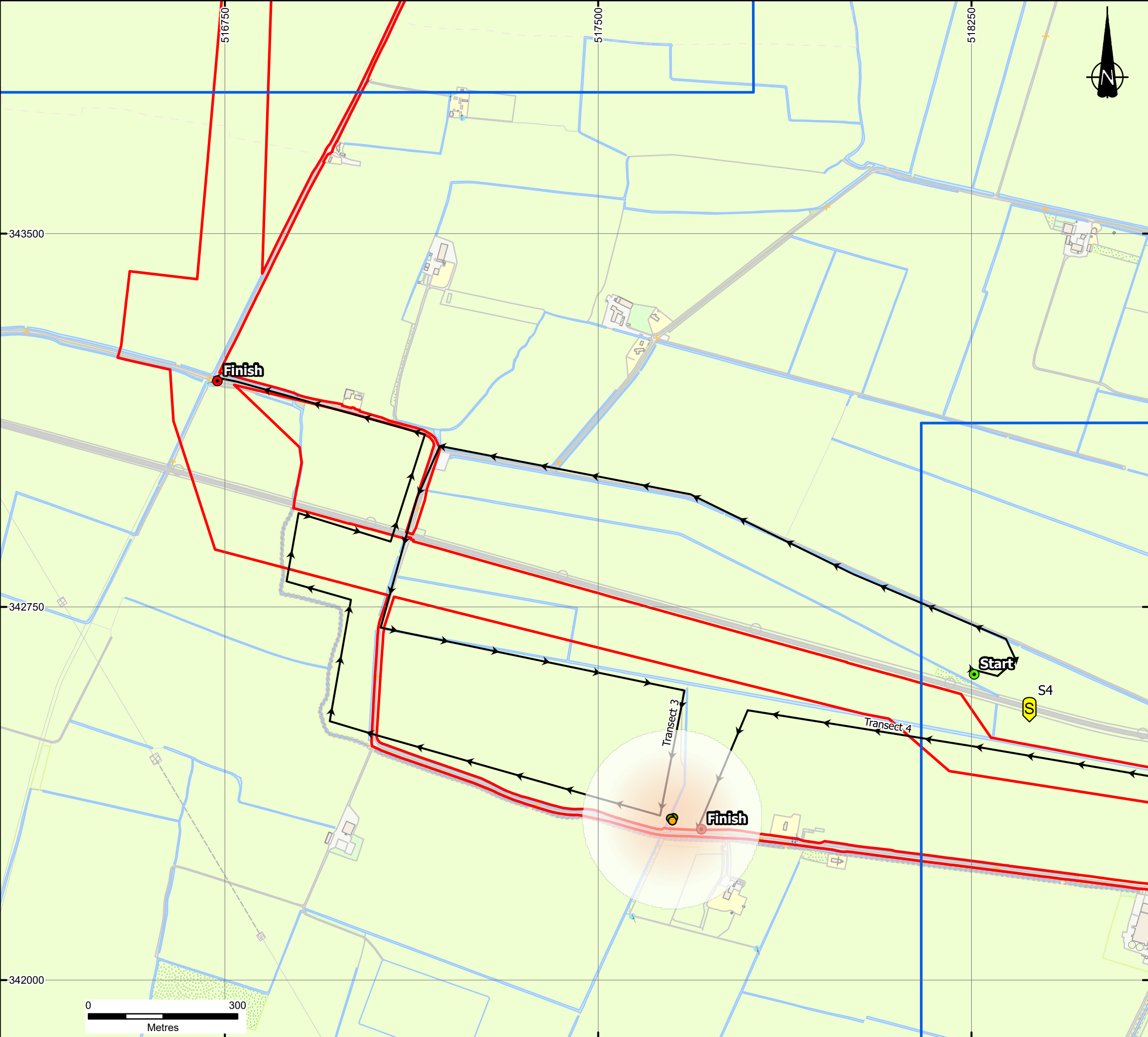
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DRAWING TITLE

NBW SURVEY PLAN - SUMMER
SHEET 2 OF 5

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|----------|-------------|------------|---------|-------------|------------|
| DRG No. | ST19595-475 | REV | 1 | SUIT. CODE | --- |
| DRG SIZE | A3 | SCALE | 1:7,500 | DATE | 14/03/2025 |
| DRAWN BY | BL | CHECKED BY | KS | APPROVED BY | TB |

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PART OF SLR



KEY

| | | | |
|--|------------------|----------------|--------------------|
| | DCO Order Limits | | Common pipistrelle |
| | ST19595_WAR_D474 | | Myotis species |
| | Transect | Density | |
| | Finish | | Sparse |
| | Start | | Dense |
| | Static Detector | | |

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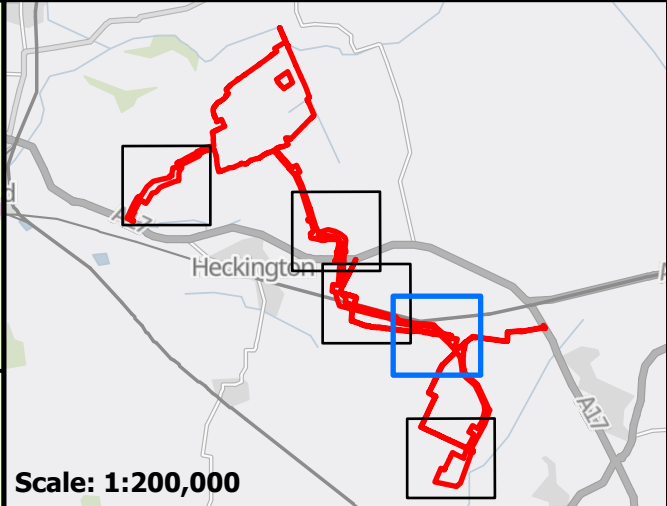
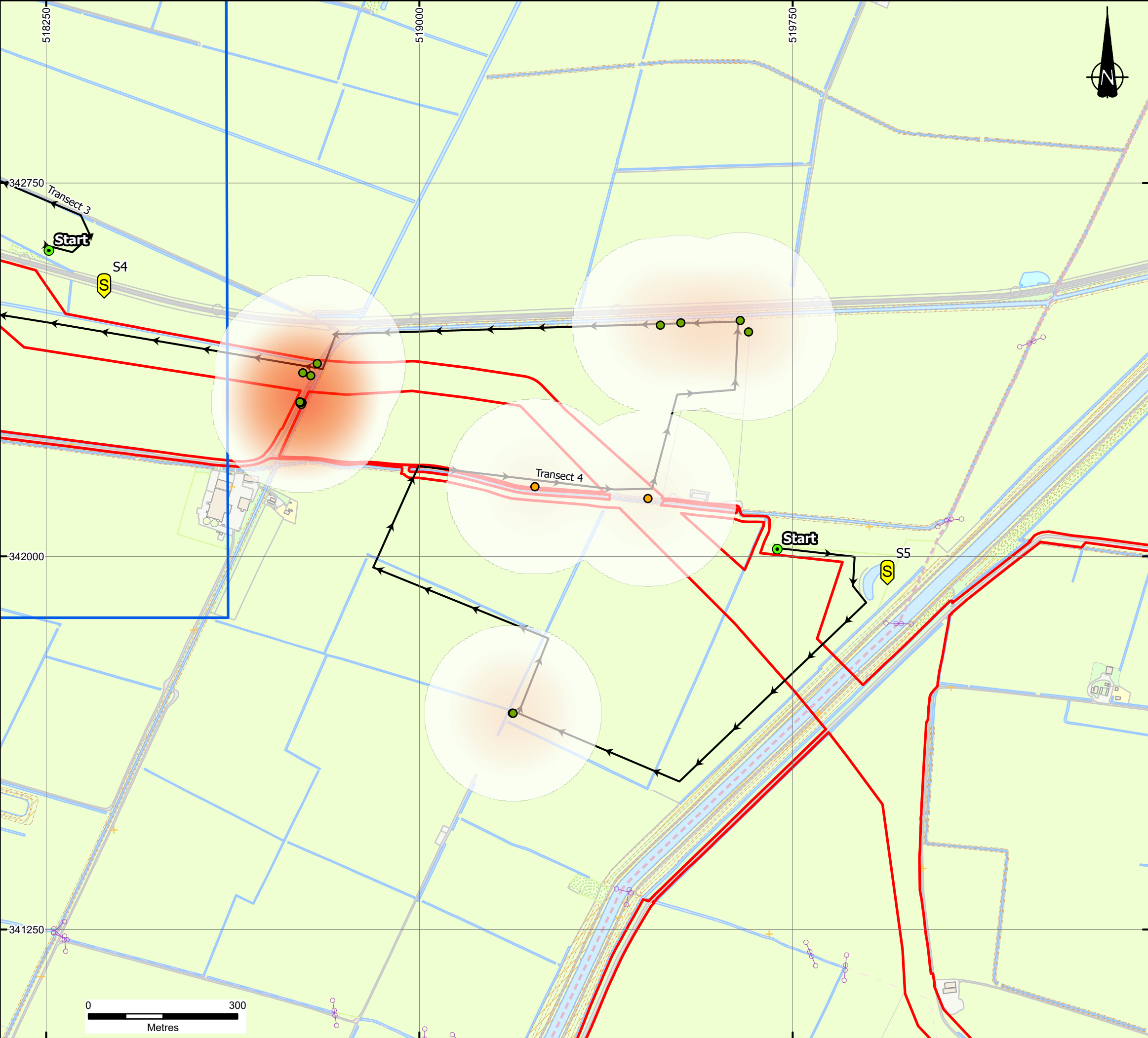
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DRAWING TITLE

NBW SURVEY PLAN - SUMMER
SHEET 3 OF 5

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| DRG No. | ST19595-475 | REV | 1 | SUIT. CODE | --- |
| DRG SIZE | A3 | SCALE | 1:7,500 | DATE | 14/03/2025 |
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Scale: 1:200,000

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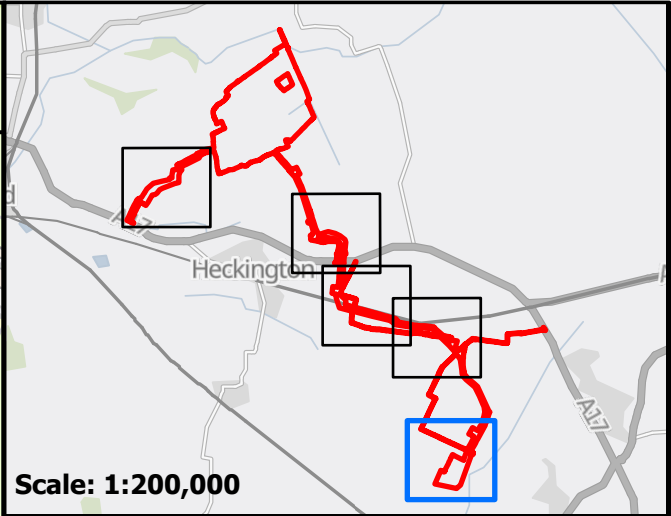
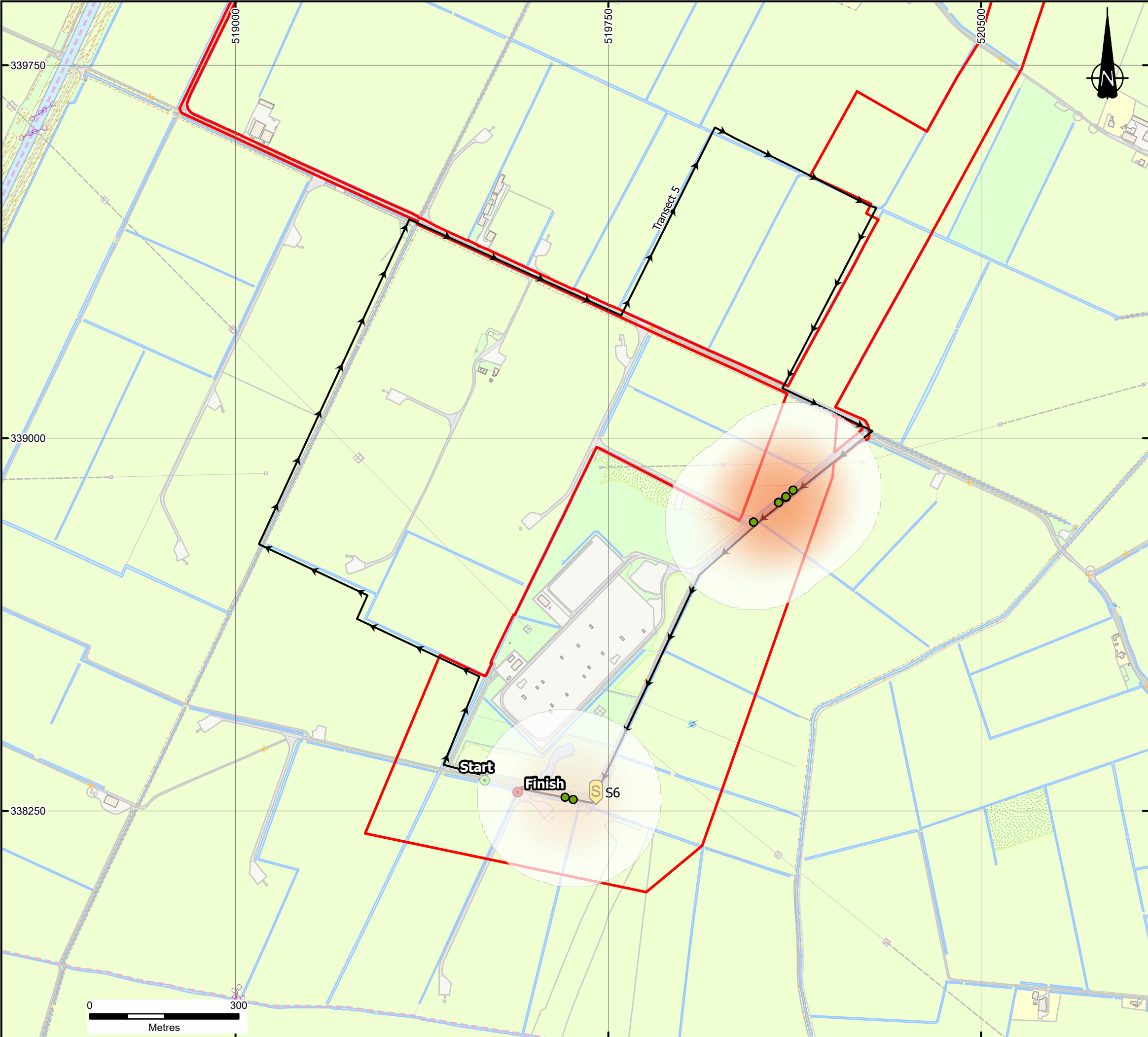
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|------------------|--------------------|
| DCO Order Limits | Common pipistrelle |
| ST19595_WAR_D474 | Myotis species |
| Transect | Density |
| Start | Sparse |
| Static Detector | Dense |

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| NBW SURVEY PLAN - SUMMER SHEET 4 OF 5 | | | | | |
| DRG No. | | REV | | SUIT. CODE | |
| ST19595-475 | | 1 | | --- | |
| DRG SIZE | | SCALE | | DATE | |
| A3 | | 1:7,500 | | 14/03/2025 | |
| DRAWN BY | | CHECKED BY | | APPROVED BY | |
| BL | | KS | | TB | |

PART OF SLR



KEY

- DCO Order Limits
- ST19595_WAR_D474
- Transect
- Finish
- Start
- Static Detector
- Common pipistrelle
- Density
 - Sparse
 - Dense

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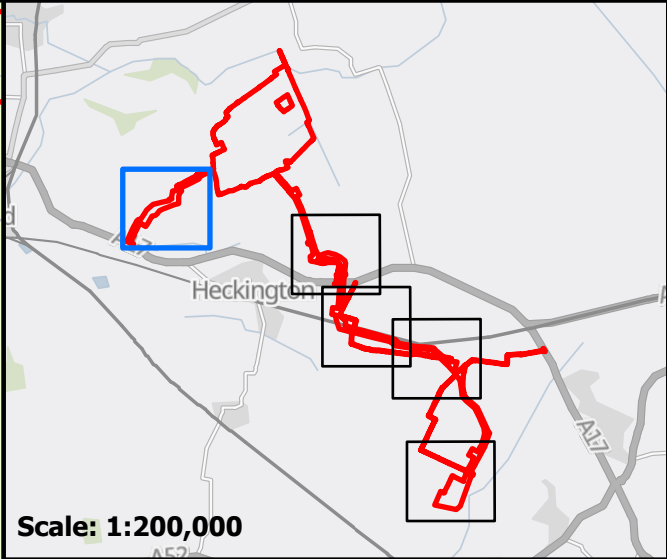
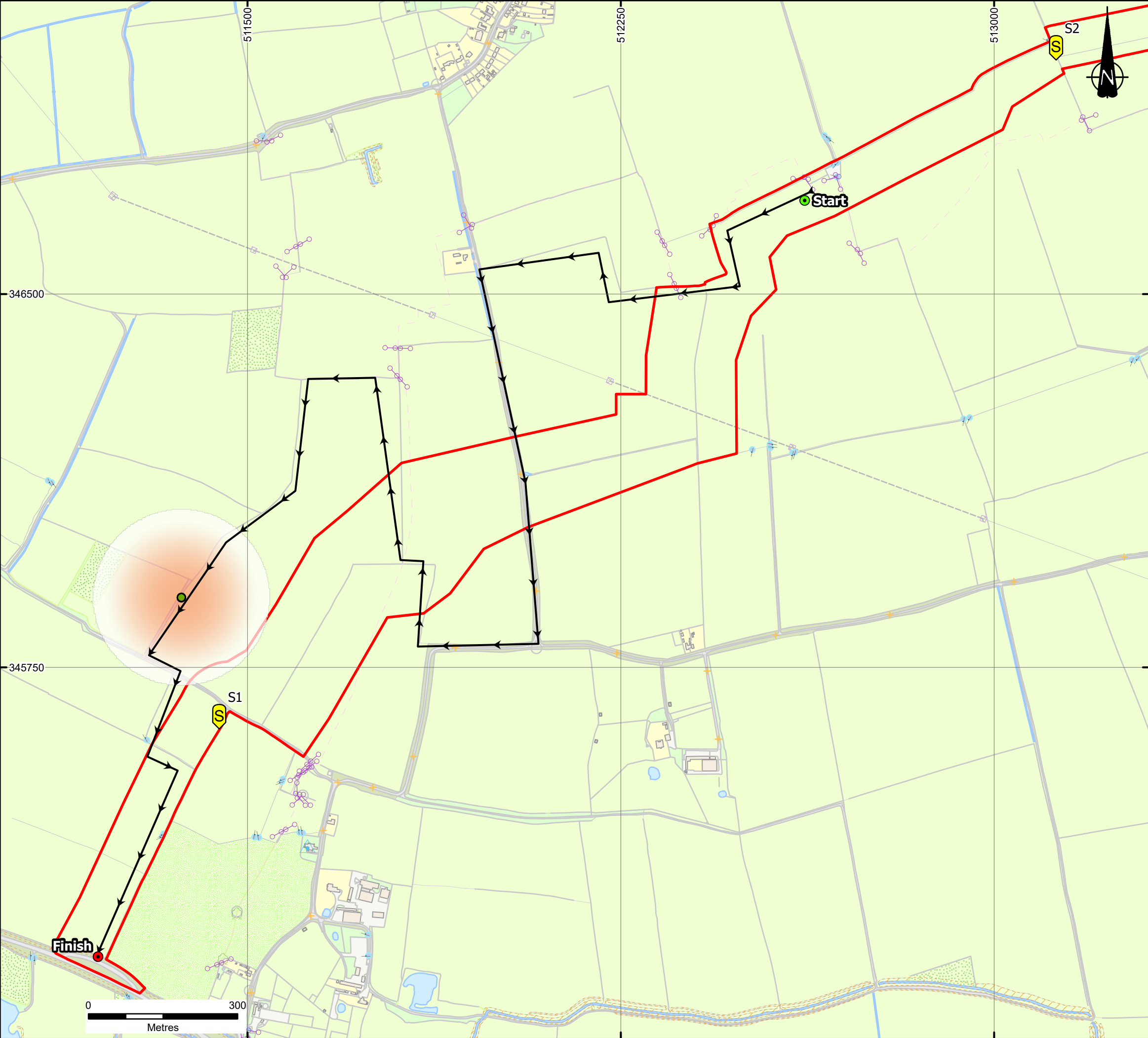
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NBW SURVEY PLAN - SUMMER
SHEET 5 OF 5

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| DRG No. | ST19595-475 | REV | 1 | SUIT. CODE | --- |
| DRG SIZE | A3 | SCALE | 1:7,500 | DATE | 14/03/2025 |
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PART OF **SLR**



Scale: 1:200,000

KEY

- DCO Order Limits
- Transect
- Static Detector
- Common pipistrelle

Density

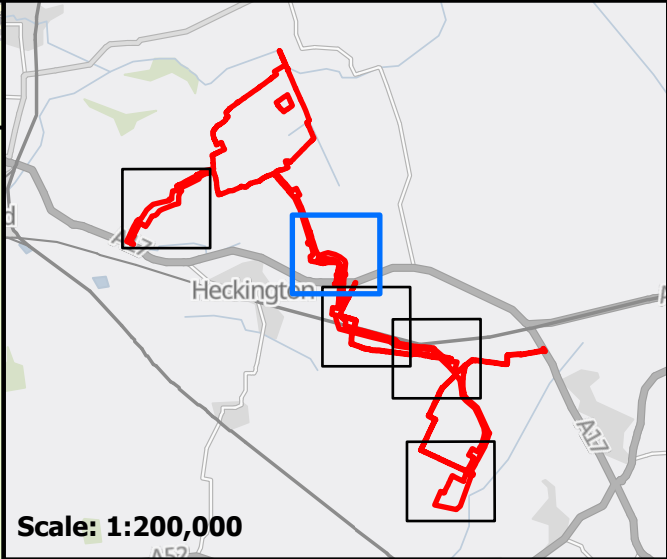
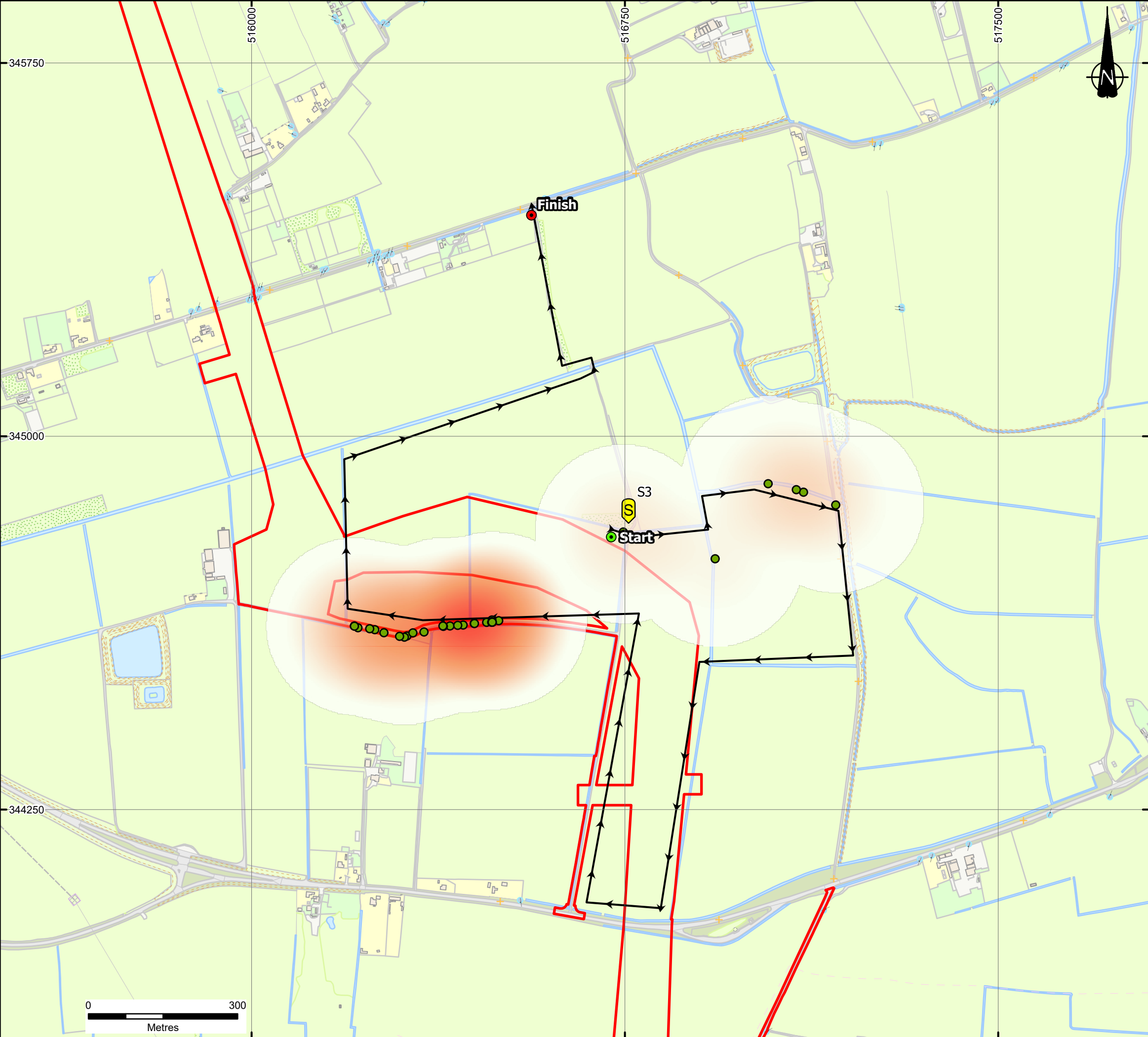
- Sparse
- Dense

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| NBW SURVEY PLAN - AUTUMN SHEET 1 OF 5 | | | | | |
| DRG No. | ST19595-479 | | REV | 1 | SUIT. CODE --- |
| DRG SIZE | A3 | SCALE | 1:7,500 | DATE | 14/03/2025 |
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Scale: 1:200,000

KEY

DCO Order Limits

Transect

Static Detector

Common pipistrelle

Density

Sparse

Dense

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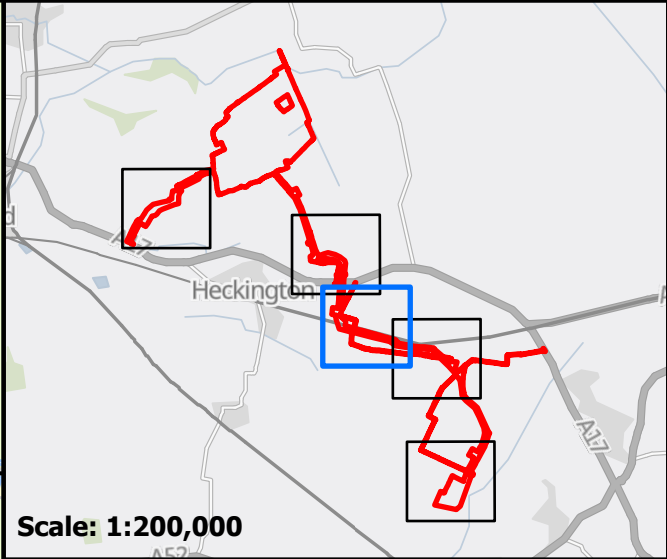
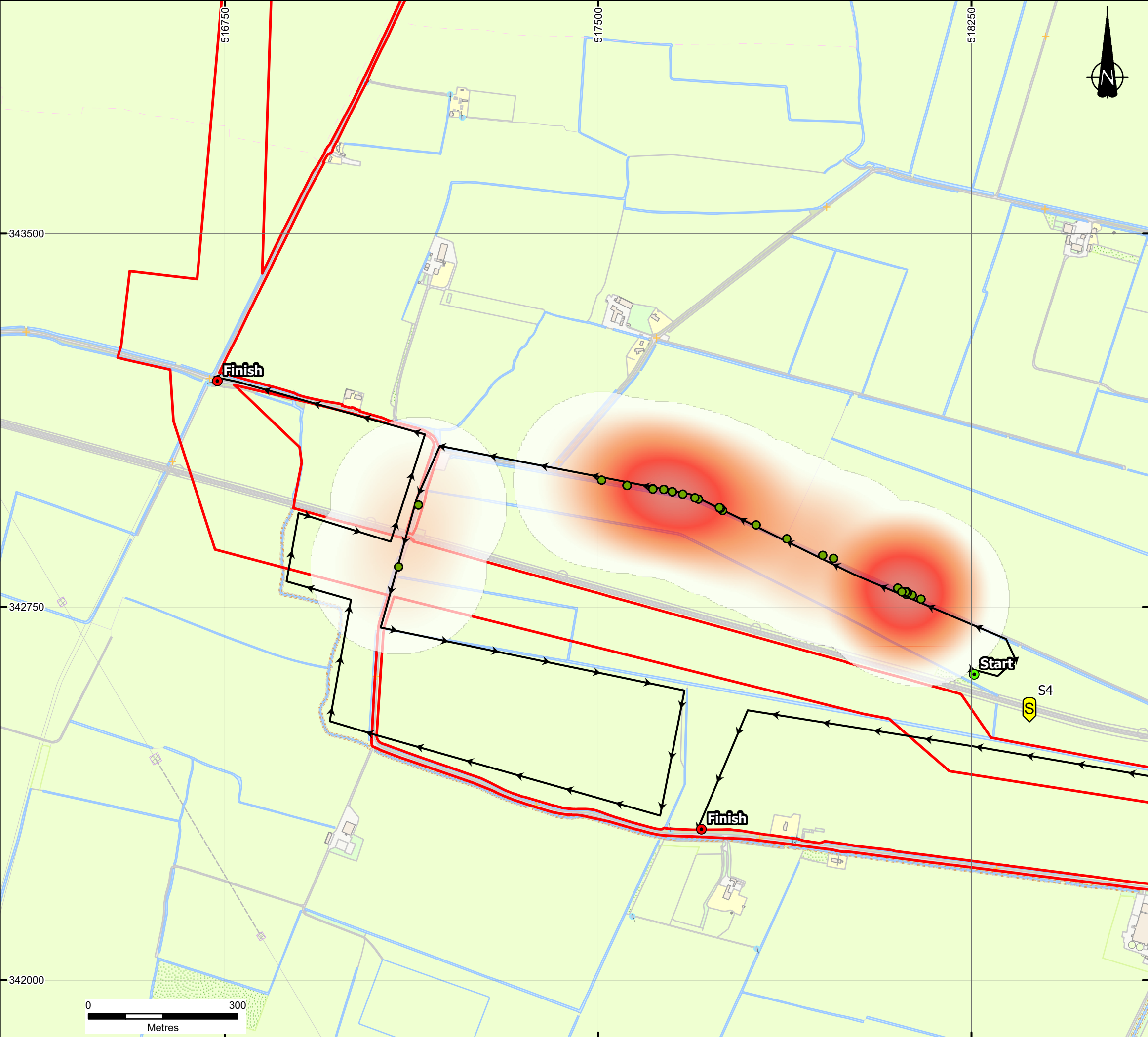
NBW SURVEY PLAN - AUTUMN
SHEET 2 OF 5

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| DRG SIZE | A3 | SCALE | 1:7,500 | DATE | 14/03/2025 |
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armstrong

PART OF  SLR



KEY

- DCO Order Limits
- Transect
- S Static Detector
- Common pipistrelle

Density

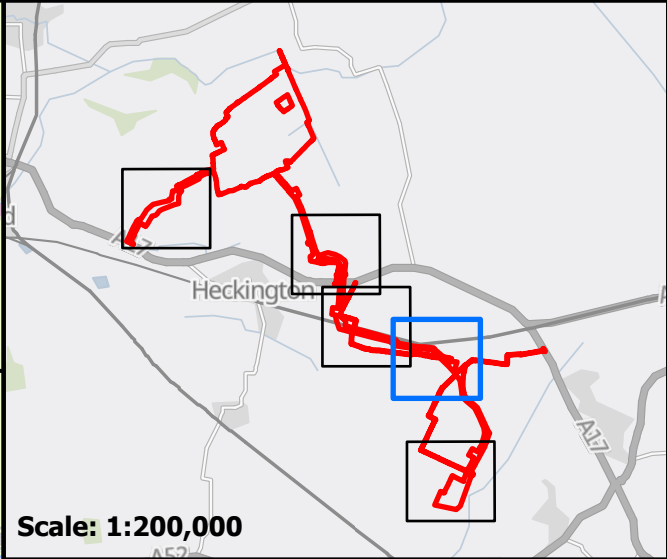
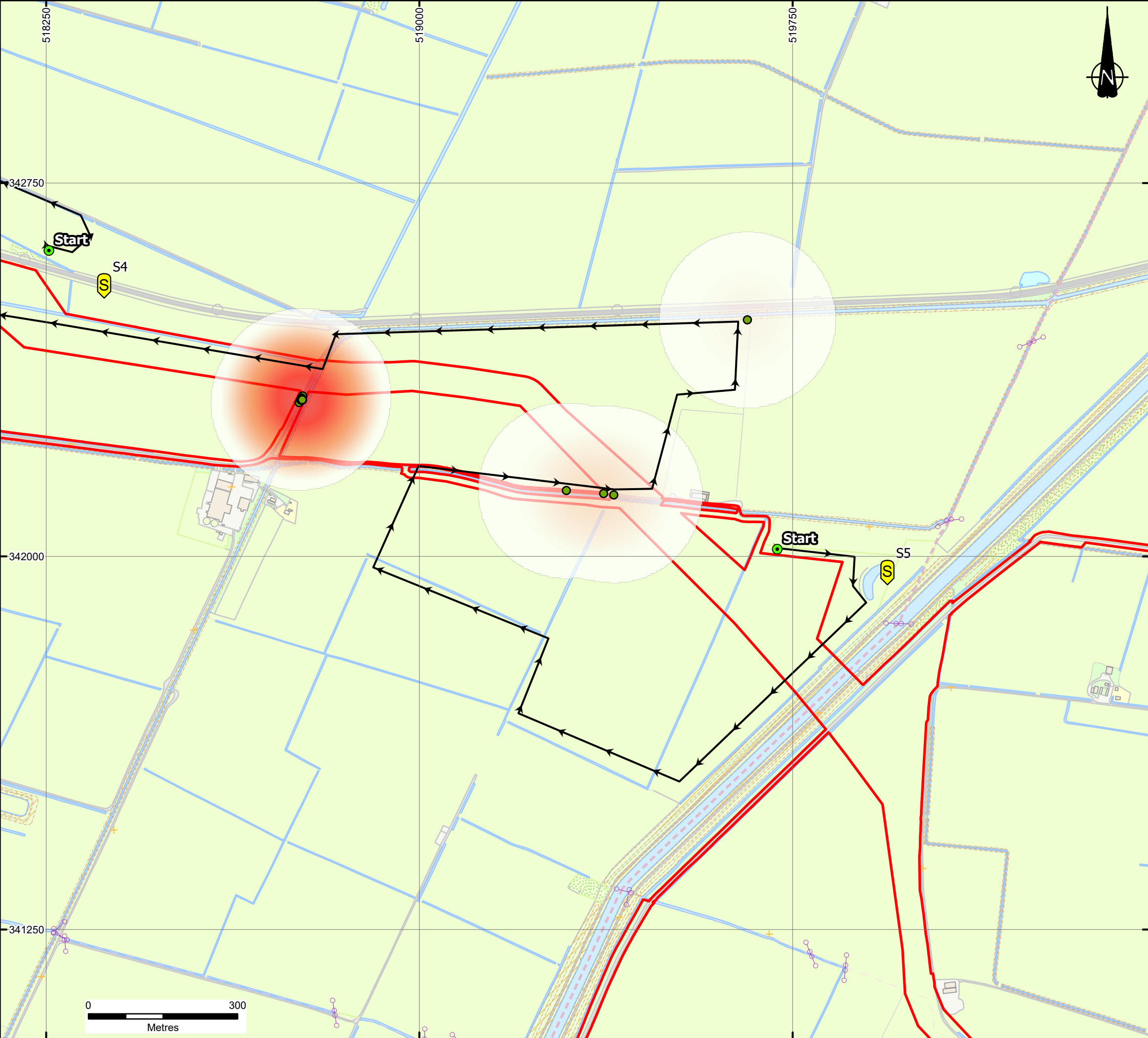
- Sparse
- Dense

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| NBW SURVEY PLAN - AUTUMN SHEET 3 OF 5 | | | | | |
| DRG No. | | REV | SUIT. CODE | | |
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| DRG SIZE | | SCALE | DATE | | |
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| DRAWN BY | | CHECKED BY | APPROVED BY | | |
| BL | | KS | TB | | |



Scale: 1:200,000

KEY

- DCO Order Limits
- Transect
- Static Detector
- Common pipistrelle

Density

- Sparse
- Dense

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| NBW SURVEY PLAN - AUTUMN SHEET 4 OF 5 | | | | | |
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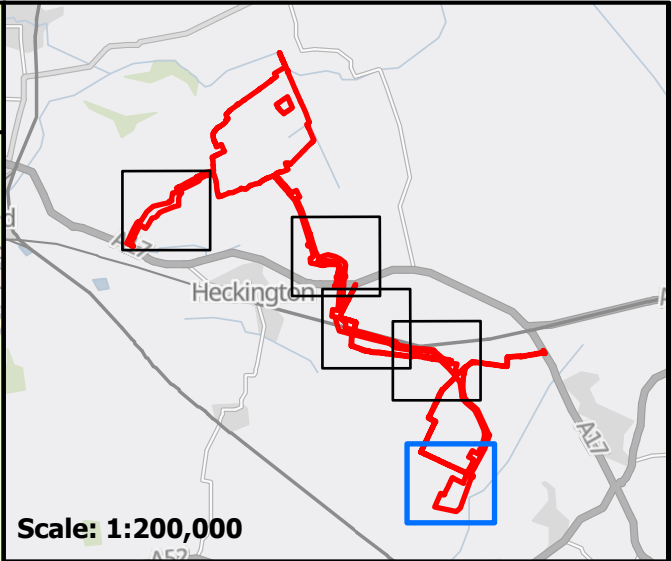
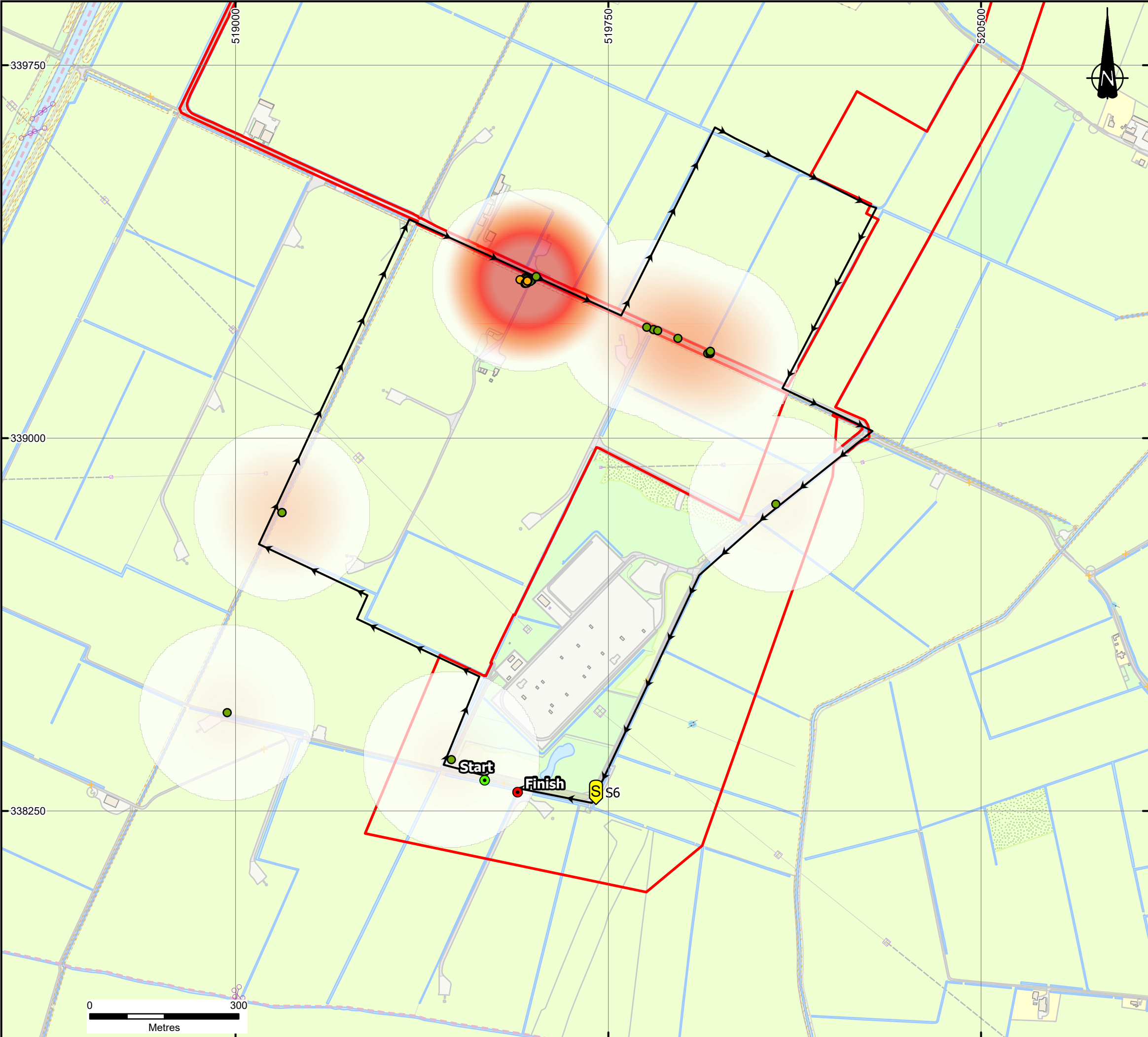


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armstrong



PART OF SLR





Scale: 1:200,000

KEY

| | |
|--------------------|----------------|
| DCO Order Limits | Myotis species |
| Transect | Density |
| Static Detector | Sparse |
| Common pipistrelle | Dense |

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| DRAWING TITLE | | | | | |
| NBW SURVEY PLAN - AUTUMN SHEET 5 OF 5 | | | | | |
| DRG No. | | REV | | SUIT. CODE | |
| ST19595-479 | | 1 | | --- | |
| DRG SIZE | | SCALE | | DATE | |
| A3 | | 1:7,500 | | 14/03/2025 | |
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| BL | | KS | | TB | |

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