

**Wymondley Battery Energy
Storage Site (BESS)**
Ecological Impact Assessment

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1 Introduction

Background to commission

- 1.1 BSG Ecology was commissioned by EDF Renewables UK in February 2024 to undertake a desk study and a habitat survey for a proposed Battery Energy Storage Site (BESS) on farmland east of Wymondley Substation, near Stevenage in Hertfordshire and the point of connection cable route into the Wymondley substation. BSG Ecology was then commissioned to carry out further surveys for bats, badgers and great crested newts, and to carry out an Ecological Impact Assessment of the BESS, to inform a planning application for this development. This report sets out the methods and results of this work, including a Biodiversity Net Gain (BNG) assessment of the proposed development.

Site description

- 1.2 The 'Site' for the proposed BESS is located at Ordnance Survey grid reference TL 21570 26715, north of Stevenage Road, between Hitchin and Stevenage, Hertfordshire. The Site is currently dominated by modified grassland, with a line of trees, existing access tracks, and a pond. The surrounding offsite area comprises plantation woodland to the north along the A602, woodland to the east, and grassland areas to the south and west.
- 1.3 Together, the BESS and cable route are hereafter referred to as 'the Site'. The Site boundary is shown on Figure 1.

Planning policy and legislation

- 1.4 National policy and legislation relating to ecology is summarised in Appendix 1.
- 1.5 The relevant local plan is the North Hertfordshire Local Plan 2011-2031, which was adopted in November 2022. The relevant policies include:
- *Policy SP12: Green infrastructure, landscape and biodiversity*, which states: "We will accommodate significant growth during the plan period whilst ensuring the natural environment is protected and enhanced."
 - *Policy NE4: Biodiversity and geological sites*, which states: "All development should deliver measurable net gains for biodiversity and geodiversity, contribute to ecological networks and the water environment, and/or restore degraded or isolated habitats where possible."
 - *Policy NE12: Renewable and low carbon energy development*: which states: "Proposals for other renewable and low carbon energy development which would contribute towards reducing greenhouse gas emissions will be permitted subject to an assessment of the impacts"

Description of project

- 1.6 EDF-R is applying for planning permission to build a Battery Energy Storage Site (BESS), comprising a series of battery container units and associated infrastructure set on a gravelled area. The proposed plans for the BESS are shown in Appendix 2. This facility will be connected to Wymondley electricity substation, ca. 0.9 km to the west by an underground cable. The proposed plans for the cable route are shown in Appendix 3.
- 1.7 The cable route terminates at Wymondley substation at grid reference TL 20377 27090. The cable route will go through Blakemore End Road and habitats impacted will be modified grassland, a line of trees, and hardstanding. Around Blakemore End Road, the cable will be installed via directional drilling. Elsewhere, it will be installed by open trenching (see Appendix 3).

- 1.8 Surface water drainage for the Site will be based on an onsite SuDS swale discharging to an existing pond that is connected to a wider network of drainage ditches.

Scope of Study

- 1.9 This Ecological Impact Assessment (EclA) report sets out the ecological baseline of the Site, assesses the likely ecological impacts of the proposed development and sets out measures required to avoid, reduce, mitigate or compensate for these impacts, as appropriate. It concludes with an assessment of residual impacts following the incorporation of these measures.
- 1.10 To inform the assessment, ecological surveys were carried out, including a great crested newt eDNA survey, a Ground Level Tree Assessment (GLTA) for bats, bat activity surveys, and a badger survey. This report presents the methods, results, and limitations of these surveys.
- 1.11 A Biodiversity Net Gain Assessment was carried out and is included in this report.

2 Methods

Zone of Influence

2.1 The zone of influence (ZOI) considered in this EcIA was taken to be as follows, based on consideration of the type and scale of the development:

- Internationally designated sites: 10 km buffer from the Site.
- Nationally designated sites: 2 km buffer from the Site.
- Non-statutory designated sites: 2 km buffer from the Site.
- Protected species excluding rare bats: 2 km buffer from the Site.
- Rare Bat species (as defined by the UK bat mitigation guidelines (CIEEM 2023)): 2 km buffer from the Site.
- Ancient woodland: 2 km buffer from the Site.
- Priority habitats: onsite and directly adjacent to the Site.
- Other habitats: the Site.

Desk study

2.2 Information on the presence of designated sites and records of protected and notable¹ species in the vicinity of the Site was provided by Hertfordshire Environmental Records Centre (HERC) on 17 July 2024.

2.3 The desk study also made use of publicly available online mapping and aerial photography resources to assess the landscape and ecological context of the Site, and to identify any designated sites of nature conservation interest including:

- The Multi-Agency Geographic Information for the Countryside (MAGIC) database (<http://www.magic.gov.uk/>) was used to identify statutory designated sites, granted European Protected Species Mitigation Licence (EPSM) applications², Defra eDNA survey results of ponds 2017-2019, and great crested newt survey licence returns within 2 km of the Site.
- Bing and Google Earth aerial imagery was reviewed to provide information on onsite and nearby habitats and to establish any likely changes in habitats present since 30 January 2020. Where changes have occurred since 30 January 2020 any degradation in the quality of habitat present would require consideration in the BNG baseline calculation.
- Base maps and aerial images from the MAGIC website were used to identify ponds up to 500 m from the Site to help inform an assessment of the potential for great crested newts to be present on Site.

Field survey

2.4 A habitat survey of the western part of the Site for the cable route was conducted by Louise Morton, Ecologist at BSG Ecology, on 19 June 2024. The eastern part, where the proposed BESS is located, was surveyed on 20 June 2024 by Jamie Townsend and Bitsy Pout, Ecologists at BSG Ecology. The surveyors identified the type and extent of habitats within the Site and immediately adjacent to the Site boundary, classifying habitats according to the UK Habitats Classification (UKHab, 2023) that informs the Defra Biodiversity Net Gain metric (Defra, 2024a). The minimum mapping unit used for the survey was 25 m² (5 m x 5 m); all features smaller than this threshold were not mapped as independent habitats parcels, and were considered to form part of the wider

¹ This includes Species of Principal Importance in England, as designated by Natural England in accordance with Section 41 of the Natural Environment and Rural Communities Act 2006 and species with other conservation significance (e.g. red or amber listed birds in Eaton *et al* (2015) or species listed in red data lists for the UK or England).

² Most recently updated 13 January 2022.

habitat parcel they were within or adjacent to. The condition of the habitats was assessed following the Statutory Biodiversity Metric condition assessment guidance from Defra (2024b).

- 2.5 Target Notes were made for any habitats or features of particular interest. For each habitat, the surveyors made an indicative list of plant species present, including estimates of relative abundance using the DAFOR³ scale. Photographs of habitats were taken to provide supporting evidence.
- 2.6 The survey was 'extended' to include an assessment of the potential of the Site to support protected or otherwise notable species⁴. As such, the Site was searched for field signs of badgers (mammal runs, latrines, mammal holes, hair, etc.) and trees on Site were assessed for their potential to support roosting bats. Any invasive non-native plant species, listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), apparent at the time of survey were also noted.
- 2.7 The weather during the habitat survey visits was warm (18-20°C), dry and calm, with sunny intervals. The time of year was suitable for carrying out habitat surveys and condition assessments.
- 2.8 A Site walkover was also carried out on 20 November 2024 by Tom Flynn, Principal Ecologist at BSG Ecology during which the cable route and drainage options were discussed onsite with the project hydrologist.

Great Crested Newt environmental DNA survey

- 2.9 An environmental DNA (eDNA) survey for great crested newt (GCN) *Triturus cristatus* was carried out of the pond located in the south of the Site (referred to as Pond 7, See Figure 2 for location) by Jamie Townsend, and Bitsy Pout, Ecologists at BSG Ecology, on 20 June 2024.
- 3.8 Environmental DNA is DNA that is released into aquatic environments through shed skin cells, urine, faeces and saliva. It can persist in water for several weeks. A test has been developed for detecting the eDNA of GCN via water samples, which can be an effective way to determine the presence or likely absence of this species in ponds.
- 3.9 Water samples were collected within the specified survey window for eDNA analysis (mid-April to end-June), and in accordance with the instructions of the test kit supplier, Sure Screen Scientifics Ltd, and the industry standard sampling method (Biggs et al., 2014). Following sampling, samples were kept cool prior to dispatch to the laboratory for analysis.
- 3.10 Laboratory analysis of the collected water samples was undertaken by Sure Screen Scientifics Ltd on 2 July 2024 (see section 3 of this report and Appendix 4).
- 3.11 Eight other ponds (Ponds 1 to 6, and Pond 9) were identified within 250 m of the Site in the desk study. These are in third party ownership and were not accessed for eDNA survey. Their potential to support GCN is discussed in the results section of the report. None of these ponds is within 170 m of the BESS and none are within 80 m of the trenched cable route. Given these distances, the habitats present at the BESS (modified grassland, of low suitability for GCN), and the limited extent and temporary nature of the cable route works, this level of survey is considered appropriate for this assessment.

³ D=Dominant A=Abundant F=Frequent O=Occasional R= Rare

⁴ Protected species are those that are protected under either national (e.g. Wildlife and Countryside Act 1981) (WCA) or international legislation (e.g. the Habitats Directive as transposed into UK Law by the Conservation of Habitats and Species Regulations 2017). Notable species are those that are not legally protected but are of material consideration for the assessment of planning applications. This can include species listed as Species of Principal Importance (SPI) for the Conservation of Biodiversity in England in accordance with Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006. It can also include declining species either nationally or locally or those that are rare within the county or local area. They are often included under local Biodiversity Action Plans or lists such as the Birds of Conservation Concern.

Ground Level Tree Assessment

- 2.10 A Ground Level Tree Assessment was conducted by Susie Topple, Ecologist at BSG Ecology, on 15 August 2024. This involved carrying out a more detailed assessment of the potential of trees on Site to support roosting bats and collecting information and photographs on any potential roosting features (PRFs) present. This included hawthorns in the line of trees which will be impacted by the construction of the cable route and 21 trees in the lines of trees adjacent to the proposed cable route to the south, which, due to design changes, are now outside the red line boundary. The assessment was undertaken with reference to industry standard guidance (Collins, 2023). The trees were inspected on all aspects, using binoculars and a torch, where appropriate, to search for Individual or Multiple Roost Features (IRFs/MRFs). This includes features that provide suitable roosting space for bats such as holes, or split branches, or peeling bark.

Bat Activity Surveys

Night-time Bat Walkover (NBW) surveys

- 2.11 Dusk Night-time Bat Walkover (NBW) surveys were carried out in August and September 2024, with reference to industry standard guidance (Collins, 2023). Each survey involved two components: (1) from sunset until approximately 30 minutes after sunset surveyors focused on key areas of interest for bats on Site and then (2) from approximately 30 minutes after sunset until approximately 2 hours after sunset surveyors walked a predetermined route around the Site.
- 2.12 The route was chosen to give good coverage of the Site, particularly the areas adjacent to offsite woodland, which were the areas considered to have highest potential to support foraging or commuting bats. The survey was dynamic, with surveyors stopping or varying the route to observe bat behaviour, as per the guidance. The aim of the NBW survey was to identify any areas of notable bat activity at the Site, such as foraging areas and/or commuting routes. The NBW was undertaken during the period of peak activity for bats, from sunset until two hours after sunset, when invertebrate prey is most abundant.
- 2.13 Bat activity was recorded using handheld bat detectors that automatically recorded calls in .wav format (Anabat Scout). Surveyors were also equipped with infra-red cameras (Canon IR AX45) to aid with visual observation of bats. Surveyors recorded and mapped the observed behaviour and numbers of bats. Field notes included a record of the time of each bat encounter, allowing results to be cross-referenced with the recorded data. Dates, timings and conditions of NBW surveys are shown in Table 1.

- 2.14 *Table 1: Dates and condition of Night-time Bat Walkover surveys*

Date	Personnel	Times	Conditions
15/08/2024	Susie Topple, Jamie Wilkie	20:25 – 22:30	20°C, overcast, moderate breeze, light drizzle
24/09/2024	Jamie Townsend, Toby Rudling	18:20 - 20:53	13°C, overcast, calm, dry

Automated bat detector deployment

- 2.15 Alongside the NBW survey, an automated detector survey was conducted using full spectrum bat detectors (Anabat Swift Bat detectors) that are triggered automatically to record bat echolocation calls and can be deployed and left to record bat activity remotely for a period of several nights.
- 2.16 Automatic bat detectors were deployed in two locations at the Site in August and September. These locations are shown on Figures 3a and 3b.
- 2.17 The detectors were programmed to begin recording from half an hour before sunset until half an hour after sunrise, allowing continuous monitoring to take place during the period when bats are active. Detectors were deployed for a period of at least five nights of continuous recording in weather conditions suitable for bat activity. The dates of automated bat detector deployments are shown in Table 2.

2.18 *Table 2: Automated bat detector deployment dates*

Season	Dates	Locations (see Figure 3)
Summer	15 – 19 August 2024	L1, L2
Autumn	19 – 23 September 2024	L1, L2

- 2.19 The level of survey effort was considered appropriate for the Site and the proposed development. The Site itself is dominated by modified grassland, which is likely to be of limited habitat value for bats. Lighting in the proposed development will be motion sensitive (i.e. no continuous lighting) and all trees with potential bat roosting feature are to be retained. There will also be extensive habitat creation at the Site, including wetland creation, which will benefit local bat populations. The areas of woodland adjacent to the Site, have some potential to provide sheltered foraging areas and roosting sites for bats, but these woodland blocks are small, poorly connected areas of plantation woodland, and therefore their value is likely to be limited. Given this Site context, and the development proposals, the level of bat survey and assessment carried out here is considered appropriate for this Ecological Impact Assessment.

Bat Data analysis

- 2.20 Bats generate ultrasonic echolocation calls which were recorded by the detectors during the static detector surveys. The .wav data files (the raw files recorded on the SM4s) were converted to .zc files using the software package *Kaleidoscope* (Wildlife Acoustics, 2022) to enable call analysis using the software package *Analook* (Titley Scientific, 2022).
- 2.21 Five nights of data was analysed for each detector for each season. A species label was attached to each sound file. Where it was clear that two or more individuals of the same or different species were flying together, files were labelled with multiple tags as appropriate.
- 2.22 *Analook* enables analysis of the relative activity of different bat species by counting the minimum number of bats recorded within discrete sound files. Once triggered by ultrasound, the SM2 records sound files with a duration of 15 seconds, which may contain a number of individual bat calls (or passes). The assessment of relative bat activity between species is based on the relative abundance of recorded calls of each species within the survey period. It should be recognised that a series of separate sound files could represent multiple bats calling infrequently (e.g., as they each pass overhead moving in one direction) or a small number of bats (or even one individual) calling frequently (e.g. bats making repeated foraging passes up and down a feature). Despite this, overall patterns of use of a site by different species can be established based on the regularity of recording.
- 2.23 Where possible, bat calls were identified to species level. However, species of the genus *Myotis* were grouped together as their calls are similar in structure and have overlapping call parameters, making audio species identification problematic (Russ, 2012). For long-eared bats *Plecotus* species, calls between grey long-eared bats *Plecotus austriacus* and brown long-eared bats *Plecotus auritus* cannot be distinguished due to overlapping call parameters. However, as grey long-eared bats are restricted to the extreme south of the UK and are not known to have been recorded in North Hertfordshire, any *Plecotus* calls recorded were assumed to be from brown long-eared bats.
- 2.24 For *Pipistrellus* species the following criteria, based on measurements of peak frequency, were used to classify calls:
- Common pipistrelle *Pipistrellus pipistrellus* ≥42 and <49 kHz
 - Soprano pipistrelle *Pipistrellus pygmaeus* >51 kHz
 - Nathusius' pipistrelle *Pipistrellus nathusii* <39 kHz
 - Common pipistrelle / soprano pipistrelle ≥49 and <51 kHz
 - Common pipistrelle / Nathusius' pipistrelle ≥39 and <42 kHz

- 2.25 In addition, the following categories were used for calls which could not be identified with confidence due to the overlap in call characteristics between species or species groups:
- *Myotis* sp./ *Plecotus* sp. (*Myotis* or long-eared species)
 - *Nyctalus* species (either noctule *Nyctalus noctula* or Leisler's bat *Nyctalus leisleri*)

- 2.26 The data was exported into a spreadsheet in order to interpret the recordings. The timing of passes after sunset and before sunrise was calculated in order to interpret any patterns in bat activity across the night-time period.

Badger survey

- 2.27 A badger survey was carried out on the 15 August 2024 by Susie Topple to identify signs of badgers, including setts, hairs, latrines, and runs on or adjacent to the BESS and to the cable route east of Blakemore End Road. This survey also includes the woodland block to the north of the Site, because this was identified to have suitability for badger during the habitat survey, and because parts of this woodland block are present within 30 m of the Site.
- 2.28 A badger survey of the cable route west of Blakemore End Road was undertaken by Tom Flynn on 20 November.
- 2.29 Any badger sett entrances present were classified into active, partially active, and disused, depending on entrance condition, presence of infilling, fresh spoil, bedding, footprints and other signs (Harris *et al.*, 1989).

Biodiversity Net Gain assessment

- 2.30 To demonstrate the proposed development can deliver Biodiversity Net Gain (BNG), the Defra (2024a) Statutory Biodiversity Metric was used to calculate the biodiversity value of the Site both for the existing Site baseline conditions and for the post-development landscaping scenario.
- 2.31 The metric calculates the biodiversity value of a site before and after development based on habitat features and accounting for their size, ecological condition, and location. It then uses these values to determine the net change in biodiversity due to the development. The biodiversity gain assessment method employed was based on the information contained in the Defra User Guide (Defra, 2024c) that accompanies the Statutory Biodiversity Metric.
- 2.32 Habitat areas from the habitat survey were digitised. The areas of habitats were measured using QGIS software (QGIS Development Team, 2023). Habitat areas and habitat condition were used as inputs in the biodiversity calculator spreadsheet.
- 2.33 The proposed post-development layout was derived from the proposed layout and planting plans for the substation and cable route (see Appendix 2 and Appendix 3). An appropriate habitat category and achievable target condition from the UK Habitats Classification was chosen for each proposed land use. This information was entered into the habitat creation and habitat enhancement tables within the spreadsheet. Detailed assumption on planting and habitat retention, creation, enhancement and restoration are included in the BNG section of this report.

Personnel

- 2.34 The Extended Habitat Survey was carried out by Louise Morton, Jamie Townsend, and Bitsy Pout, Ecologists at BSG Ecology. Louise and Jamie have carried out habitat and species surveys and assessments over several years. Bitsy provided assistance on site.
- 2.35 Charis Melia, Ecologist at BSG Ecology authored the report. Charis has undertaken various habitat and species surveys and has previously authored ecological reports.

- 2.36 This report was reviewed by Dr Tom Flynn MCIEEM CEcol, Principal Ecologist at BSG Ecology. Tom also carried out the badger survey and Site walkover in November 2024 and provide technical oversight to this project.
- 2.37 A summary of the experience of current BSG Ecology staff is provided at <https://www.bsg-ecology.com/people/>.

Limitations to methods

- 2.38 There were access constraints for the GCN eDNA surveys, meaning only one pond out of a potential nine ponds were surveyed. However, given the habitats and the Site and the distances to these other ponds, this limitation is considered unlikely to significantly affect this assessment. This limitation was also taken into account in this assessment by specifying precautionary measures for this species at the construction stage.
- 2.39 There were access limitations for the badger survey due to areas of dense scrub. However, the edges of these areas could be sufficiently checked to provide confidence in the results, and this limitation was also taken into account in this assessment by specifying precautionary measures for this species at the pre-construction and construction stages.
- 2.40 During the first Nighttime Bat Walkover (NBW) survey, on 15 August 2023, weather conditions were sub-optimal. Windspeed were relatively high on the Beaufort scale (4 = Moderate Breeze). Additionally, there was light drizzling throughout the survey. The bat activity was likely reduced on this night, although bats were still recorded and active during the survey. Given two NBW visits were carried out alongside 10 nights of static detector surveys, it is considered that the bat assemblage was appropriately characterised for the purpose of this assessment despite this limitation, and that the assessment for bats was not significantly affected.

EclA Assessment Process

- 2.41 The evaluation and assessment within this report has been undertaken with reference to relevant parts of the 2024 Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2024) developed by the Chartered Institute of Ecology and Environmental Management.

Evaluation: Determining Importance

- 2.42 The importance of ecological features has been considered within a defined geographical context. The following frame of reference has been used in this case:
- International (European).
 - United Kingdom.
 - England.
 - Regional (East of England).
 - County (Hertfordshire).
 - District (East Hertfordshire)
 - Local (intermediate between Site Level and Hertfordshire).
 - Site (the Application Site and immediately adjacent areas).
- 2.43 The importance of the bat community present was assessed taking into consideration the UK Bat Mitigation Guidelines (Reason and Wray, 2023). These guidelines state “It is almost never appropriate to have a single important ecological feature for ‘bat species’ as this would mask many differences between species” however it also states that groups of species may be combined where impacts are likely to be very similar (paragraph 3.4.25). Species may also be grouped when they cannot be completely separated, for example *Myotis* species identified by call (individual species of *Myotis* cannot be distinguished by call alone), where the likely impacts do not justify trapping to identify species. The overall importance of an important ecological feature (species or

species group) should correlate to the highest element of importance assigned within the important ecological feature, whether for species, roosts, commuting or foraging and professional judgement should be used. The approach taken to assess the importance of the bat assemblage follows that set out in paragraphs 3.4.26 to 3.4.31 and Table 3.3 of the UK Bat Mitigation Guidelines (Reason and Wray, 2023).

Significant Effects

- 2.44 Ecological effects have been qualified with reference to an appropriate geographic scale, and the scale of significance of an effect may or may not be the same as the geographic context in which the feature is considered important.
- 2.45 The CIEEM guidance sets out information about the concept of ecological significance and how it relates to the ability to deliver biodiversity conservation objectives for a given feature.
- 2.46 The nature of the identified significant effects on each assessed feature has been characterised. This is considered, along with available research, professional judgement about the sensitivity of the feature affected, and professional judgement about how the significant effect is likely to affect the Site, habitat, or population's structure and continued function. Where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant. The degree of significance of the effect takes into account the geographic context of the feature's importance and the degree to which its interest is judged to be affected.

Mitigation

- 2.47 Where adverse effects have been identified, the mitigation hierarchy has been taken into account, as suggested in the EcIA Guidelines, which sets out a sequential approach of avoiding significant effects where possible, applying mitigation measures to minimise unavoidable significant effects and then compensating for any remaining significant effects. Once avoidance and mitigation measures, and any necessary compensation measures, have been applied, and opportunities for enhancement incorporated, residual significant effects have then been identified.

3 Results and Evaluation

Designated sites

- 3.1 No statutory designated sites are present within 2 km of the Site.
- 3.2 A total of 14 Local Wildlife Sites (LWS) were noted within 2 km of the Site, including one within the Site itself. There was also one Regionally Important Geological/Geomorphological Site (RIGS) within 2 km of the Site. These are described in Table 3.

Table 3: Designated sites within the Zone of Influence (ZOI) (2km for nationally designated sites and non-statutory designated sites, 10km for internationally designated sites and ancient woodland)

Name	Designation	Distance from Site	Reason for designation and justification of valuation of importance	Importance of feature
Wymondley Transforming Station	Local Wildlife Site.	Within the Site.	Old gravel pit landscaped to form grounds of transforming station. Raised banks support coarse calcareous grassland with scrub invading slowly from the edges.	District
Margaret's Wood & Spoil Bank Wood, Todds Green	Local Wildlife Site. Ancient woodland.	0.37 km	Ancient semi-natural broadleaved woodland bisected by a railway, which supports a diverse flora.	District
Lucas Wood	Local Wildlife Site. Ancient woodland.	0.42 km	Ancient semi-natural woodland supporting a moderately diverse flora.	District
Sperberry Hill House Meadow	Local Wildlife Site.	0.56 km	Meadow of unimproved neutral-calcareous grassland to the east of Ippollitts Brook.	District
Folly Alder Swamp	Local Wildlife Site.	0.69 km	An old semi-natural alder woodland with neutral/acid fen and marshy grassland remnants bordering Ippollitts Brook.	District
St Ibbs Bush	Local Wildlife Site.	0.83 km	Building and environs important for protected species.	District
Fishers Green Wood	Local Wildlife Site. Ancient woodland.	0.87 km	Thin strip of ancient semi-natural woodland.	District
Purwell Railway	Local Wildlife Site.	1.16 km	Railway embankment supporting species-rich neutral/calcareous grassland and scrub on the south-west facing side.	District
Whitney Wood	Local Wildlife Site. Ancient woodland.	1.17 km	Ancient semi-natural woodland surrounded by urban development.	District

Vicar's Grove	Local Wildlife Site.	1.41 km	Infilled gravel pit with remnant of wood. Locally important flower-rich banks.	District
Whitney Drive Wood	Local Wildlife Site. Ancient woodland.	1.53 km	Small fragment of ancient semi-natural woodland.	District
Symonds Green	Local Wildlife Site.	1.57 km	An old village green now enclosed by housing development and crossed by a small road and footpath. The green consists of an area of semi-improved, rough and tussocky, neutral to acidic grassland with a wet ditch and small pond.	District
Purwell Ninesprings	Local Wildlife Site.	1.72 km	The northern area holds a wetland complex, the southern part is a single meadow with willow scrub and a small area of relatively recent plantation woodland. The reserve contains a wide diversity of wetland habitats from open water through sedge and reed beds, fen meadow, ponds and ditches to carr and wet woodland. There are also several drier areas of meadow, scrub of a range of ages and mature hedgerows. The eastern edge of the site has wet grassland grading into fen meadow towards the south and west.	District
Almshoe Bury Swallowhole	Local Wildlife Site and RIGS	1.86 km	Swallowhole formed in small narrow valley in glacial outwash gravels, which when groundwater is high forms a small deep lake within the site. The topography influences the plant communities with a flat valley floor supporting unimproved neutral grassland.	District

Habitats

- 3.3 No major changes in habitats at or around the Site were identified through aerial imagery on Google Earth since January 2020.
- 3.4 Habitats within the Site and in close proximity to the Site are listed in Table 4 below and mapped in Figure 1. Habitat categories follow the UK Habitat Classification. Habitat condition, assessed against the Statutory Biodiversity Metric condition assessment sheets (Defra, 2024b) is included in Appendix 5). Habitat photographs are provided in Section 9.

Table 4: Classification, description, condition, and importance of habitats present on Site and immediately adjacent to the Site

Habitat (UK Habitat Classification as amended in the Statutory Metric)	Description and whether these fall under the habitat of principal importance (HPI) definitions (Maddock, 2011).	Condition	Importance of feature
Modified grassland	The eastern field of the Site, where the proposed BESS is located, is dominated by grassland which is lacking in plant diversity and structure and shows evidence of significant agricultural modification. There is evidence of heavy recent disturbance by	Poor	Site

	machinery and vehicles, with some bare ground visible in the centre of the field. This grassland is species-poor and dominated by grasses, predominantly featuring a shorter sward (Photograph 1). Some localised areas of longer sward and slightly higher species richness are present around the edge of the parcel, particularly adjoining the tall forbs to the west (see below) which appears to have been less disturbed. Red fescue <i>Festuca rubra</i> and perennial rye-grass <i>Lolium perenne</i>, are locally frequent, with other grasses noted including cock's-foot <i>Dactylis glomerata</i> and Yorkshire fog <i>Holcus lanatus</i>. Forb species include a mixture of species indicative of varying levels of disturbance. Dandelion <i>Taraxicum officinale</i>, white clover <i>Trifolium repens</i>, parsley-piert <i>Aphanes arvensis</i>, cut-leaved cranesbill <i>Geranium dissectum</i>, spear thistle <i>Cirsium arvense</i>, and meadow buttercup <i>Ranunculus acris</i>. The sward does not have sufficient species richness or forb cover to meet the requirements for the UK Habitats Classification <i>Other Neutral Grassland</i>. On this basis and considering the heavy disturbance within this area, this grassland is considered to meet the description of the UK Habitats category <i>Modified Grassland</i>. This is a low distinctiveness, common and widespread habitat which does not qualify as a HPI and has therefore been deemed of Site level importance.		
Pond	The pond located in the south-east of the Site (referred to as 'Lawn Pond' and shown as Pond 7 (see Figure 2) is surrounded by trees. This pond holds water (see Photograph 2). A non-native terrapin was noted to be present, likely to be a red eared slider terrapin <i>Trachemys scripta elegans</i>. Canada geese <i>Branta canadensis</i>, and mallard ducks <i>Anas platyrhynchos</i> were also noted. This habitat is of medium distinctiveness and is in poor condition and does not meet the criteria of an HPI and has therefore been deemed of Site level importance.	Poor	Site
Lowland mixed deciduous woodland	Pond 7 is surrounded by woodland, with a mix of native tree species of varying ages. This is therefore considered to be Lowland mixed deciduous woodland. This habitat is of high distinctiveness, although not an HPI. It is considered to be of Site level importance due to its limited extent (approx. 0.25 hectares) and the presence of wider areas of this habitat type in the wider landscape.	Moderate	Site
Line of trees	A line of immature trees dominated by hawthorn <i>Crataegus monogyna</i>, separating two fields is present west of Site. The proposed cable route will pass through this habitat. This is a low distinctiveness, common and widespread habitat which does not qualify as a HPI and has therefore been deemed of Site level importance.	Moderate	Site

Other neutral grassland	The eastern portion of grassland at Wymondley substation is dominated by grassland that supports arrange of native grass and forb species, with abundant red fescue. This area forms part of Wymondley Transforming Station Local Wildlife Site. The LWS description notes the presence of calcareous grassland indicators in the substation grassland, including common knapweed <i>Centaurea nigra</i>, bird's-foot trefoil <i>Lotus corniculatus</i>, fairy flax <i>Linum catharticum</i>, ploughman's spikenard <i>Inula conyza</i>, yellow-wort <i>Blackstonia perfoliata</i>, wild strawberry <i>Fragaria vesca</i>, wild parsnip <i>Pastinaca sativa</i> and pyramidal orchid <i>Anacamptis pyramidalis</i>. However, the grassland recorded along the proposed cable route is considered to be more neutral in character (see species list in Appendix 7) with Yorkshire fog <i>Holcus lanatus</i> and creeping cinquefoil <i>Potentilla reptans</i>, abundant. This grassland meets the description of Other Neutral Grassland in the UK habitat classification, and due to the lack of calcareous indicators, is not considered to be calcareous grassland. This habitat does not qualify as an HPI and is of medium distinctiveness. It forms part of the LWS and contributes to local ecological networks beyond the Site and is therefore considered to be of Local importance.	Moderate	Local
Mixed scrub	Mixed scrub with hawthorn, blackthorn <i>Prunus spinosa</i>, dog rose <i>Rosa canina</i> and bramble <i>Rubus fruticosus</i> agg. is present at Wymondley substation. This habitat does not qualify as an HPI. It is of medium distinctiveness and it forms part of the LWS and contributes to local ecological networks beyond the Site and has been considered of Local importance.	Moderate	Local
Bramble scrub	Low bramble scrub is present at Wymondley substation. This habitat does not qualify as an HPI. It forms part of the LWS and contributes to local ecological networks beyond the Site and has been considered of Local importance.	N/A	
Tall forbs	There is an area of tall ruderal vegetation, heavily dominated by common nettle <i>Urtica dioica</i> on a mound of soil on the proposed cable route within the eastern part of Wymondley substation. This habitat does not qualify as an HPI, is of low distinctiveness, is in poor condition, and is not a habitat for which the LWS is designated and is deemed of Site level importance.	Poor	Site
Other woodland; broadleaved	There is an area of young plantation woodland along the proposed cable route within Wymondley Transforming Station LWS behind the hedgerow along Blakemore Rd. The ground flora is very limited. This habitat does not qualify as an HPI and is considered to be of 'Other woodland; broadleaved', which is of medium distinctiveness. It is not mentioned in the designation of the LWS. It is considered to be of Site level importance.	Moderate	Site

Species-rich native hedgerow with trees	There are two hedgerows with trees along both sides of Blakemore Road at the point where the cable route crosses, and another south of the BESS along Stevenage Road. These are considered to be in good condition, due to the range of woody species present, the limited gaps and their height and width. Species present include blackthorn <i>Prunus spinosa</i> , hawthorn <i>Crataegus monogyna</i> , ash <i>Fraxinus excelsior</i> , hazel <i>Corylus avellana</i> , oak <i>Quercus robur</i> , and horse chestnut <i>Aesculus hippocastanum</i> , with an undergrowth of bramble <i>Rubus fruticosus</i> , common nettle <i>Urtica dioica</i> , and willowherb <i>Epilobium</i> sp. This habitat is an HPI and is of high distinctiveness. The hedgerows connect the LWS and the woodland around the pond to the wider landscape and are therefore attributed a Local level of importance.	Good	Local
Off-Site Habitats	Descriptions and notes		
Line of trees	There are other lines of trees south of the Site (see Photograph 3). These contain of oak, hornbeam <i>Carpinus betulus</i> , and sycamore <i>Acer pseudoplatanus</i> . This habitat is considered to be of Site level importance.	Moderate	Local
Woodland	There is an area of plantation woodland adjacent to the north (i.e. outside) of the proposed BESS (see Photograph 4). Species present include ash and sycamore, with little understory, with some bramble and common nettle. This habitat matches the UK habitat description of 'Other Woodland; Broadleaved'. The condition of this habitat was not assessed during the habitat survey (since this habitat is outside the Site but is likely to be Poor).	N/A	Local
Ponds	There are nine ponds within 250 m of the Site (see Figure 2). The closest of these (Pond 6) is located 80 m from the cable route and 170 m from the BESS. Ponds 2 and 5 were dry and the time of the survey in June 2024. The potential of these ponds to support GCN is considered separately below.	Not surveyed	Local

Protected and notable species

3.5 Table 5 describes the results of the extended habitat survey and desk study regarding the presence of protected species at the Site and the importance of the Site for these species.

Table 5: Protected and notable species within 2 km of the development area (see Appendix 1 for further details on legislation)

Species	Description and justification of valuation of importance	Importance of feature
Badger	HERC returned 108 records of badger <i>Meles meles</i> from within 2 km of the Site since 2000. There were two records of badger in the woodland adjacent to the north of the Site boundary in 2017. During the badger survey of 20 November, a disused badger sett was recorded during the badger survey approximately 10 m north of the cable route within Wymondley Transforming Substation LWS. No evidence of badger activity was found near the proposed BESS on 15 August. However, the woodlands and hedgerows on and adjacent to the Site provide suitable sett-building and foraging opportunities for badger. Due to the lack of evidence of badgers near the BESS, it is considered unlikely that badgers are currently using this area. Given badgers are a highly mobile species, their presence near the BESS in future cannot be discounted. The presence of badgers at in the vicinity of the cable route is likely, although no active setts have been found within 30 m of the proposed cable route to date.	Local

Bats	<u>Local bat assemblage:</u> The desk study returned 98 records of eight species of bats within 2 km of the Site since 2000. <u>On-site assemblage:</u> Seven species were recorded on Site during static detector surveys and nighttime walkover surveys in 2024. A total of 8,764 bat passes were recorded from the static detectors over the total of 10 days in August and September. Analysis of these showed that common pipistrelle <i>Pipistrellus pipistrellus</i> and soprano pipistrelle <i>Pipistrellus pygmaeus</i>, accounted for 49.2% (4,299 passes) and 47.5% (4,149) of passes respectively. The less frequently recorded species included noctule species <i>Nyctalus</i> (1.2%, 105 passes), <i>Myotis</i> species <i>Myotis</i> (1%, 88 passes), barbastelle <i>Barbastella barbastellus</i> (0.6%, 51 passes), and brown long eared bat <i>Plecotus auritus</i> (0.5%, 40 passes). Additionally, Nathusius' pipistrelle <i>Pipistrellus nathusii</i>, (1 pass) and serotine <i>Eptesicus serotinus</i> (1 pass) were recorded once on Site. In terms of the bat assemblage at the Site, applying the UK Bat Mitigation Guidelines approach, the score is as follows: three widespread species (common pipistrelle, soprano pipistrelle, and brown long-eared bat, one point per species), two less abundant species (noctule and <i>Myotis</i> species, two points per species), three rare species (Leisler's bat, serotine, Nathusius' pipistrelle, three points per species), and one very rare species (barbastelle, four points per species). The total number of points is 20 and thus, the Site could be considered to reach the 'County' importance threshold (20 points). However, since only one pass of Nathusius' pipistrelle and serotine were recorded, these are not considered to be part of the assemblage, since at this low level of usage by these species, the Site is not an important resource for them. Therefore, with 14 points, the bat assemblage at the Site is considered to be of Local importance. <u>Habitat suitability:</u> The habitats adjacent to the Site, including line of trees, pockets of woodland, and ponds provide suitable commuting and foraging habitat for bats. Most of the static detector bat call activity was recorded at Location 1, on the edge of the woodland along the northern boundary of the Site (see Figures 3a and 3b). During the Night-time bat walkover (NBW) survey, bats were observed foraging around trees near the pond south of the Site. Barbastelles were observed passing through the south of the Site along the lines of trees. Results of the NBW are shown on Figures 3a and 3b. <u>Roosting potential:</u> The hawthorns in the line of trees to be impacted by the proposal presented negligible roosting features for bats. The red line boundary and cable route were designed to avoid impact on any other trees with bat roosting suitability. Overall, given the above considerations, the Site is considered to be of value to bats at the Local level.	Local
Dormouse	The data search returned no records of hazel dormouse <i>Muscardinus avellanarius</i>. The woodland and hedgerows within and close to the Site have some suitability for this species. However, due to the minimal presence of such habitats at the Site, and the minimal effect of the proposed development on these habitats, effect of the proposed development on these habitats, surveys for this species were not considered necessary to inform this assessment. This assessment assumes dormouse could be present in such habitats in low numbers. Due to the small extent of such habitats, their value to this species is considered to be limited to the Local level.	Local
Other mammals	There was one record of otter <i>Lutra lutra</i> within 2 km of the Site, from 2022. The Site has no aquatic habitat suitable for this species and it is unlikely to be present. Otter is therefore not considered further within this report.	None

Breeding birds	HERC returned 10,288 records of 99 bird species within 2 km of the Site. Of these, 13 species are listed as Species of Principal Importance (SPI): corn bunting <i>Emberiza claudra</i>, yellowhammer <i>Emberiza cintrina</i>, reed bunting <i>Emberiza schoeniclus</i>, grasshopper warbler <i>Locustella naevia</i>, yellow wagtail <i>Motacilla flava</i>, spotted flycatcher <i>Muscicapa striata</i>, house sparrow <i>Passer domesticus</i>, Grey partridge <i>Perdix perdix</i>, marsh tit <i>Poecile palustris</i>, dunnock <i>Poecile palustris</i>, bullfinch <i>Pyrrhula pyrrhula</i>, starling <i>Sturnus vulgaris</i>, and song thrush <i>Turdus philomelos</i>. Due to the presence of large trees in the vicinity of the Site there is some potential for bird species protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended; see Appendix 1) to breed in the vicinity, such as red kite <i>Milvus milvus</i> and barn owl <i>Tyto alba</i>. The grassland area in the western portion of the Site is considered unlikely to support ground-nesting bird species or wintering birds, as the fields are small and tall trees and power lines (which would provide vantage points for predatory birds) are present in the vicinity. The line of trees and adjacent woodland have suitability for nesting by low numbers of woodland and garden bird species. The scrub and woodland along the cable route in and near the substation offer suitable nesting habitat for tree and scrub nesting species. Due to the dominance of the Site by modified grassland, it is considered, overall, to be of Local value for nesting birds.	Local
Reptiles	HERC returned 14 records of four species of reptile from within 2 km of the Site since 2000. This included slow-worm <i>Anguis fragilis</i>, grass snake <i>Natrix helvetica</i>, adder <i>Vipera berus</i> and common lizard <i>Zootoca vivipara</i>. These species are protected under the Wildlife and Countryside Act 1981 (as amended). The other neutral grassland within the substation is likely to offer suitable habitat for reptiles. The modified grassland on Site is not considered to provide any habitat suitability for these species due to a lack of habitat structure and cover.	Local

Great crested newts	HERC returned 10 post-2000 records of GCN from the search area. GCN is a European Protected Species. The closest record was from 360 m north of the Site, beyond the A602 Wymondley Bypass, which likely forms a dispersal barrier to this species. There were no additional Natural England records within 1 km of the Site. The desk study identified nine ponds within 250 m of the Site and the Site falls within an Amber Zone for GCN (Natural England, 2024⁵), indicating that the area contains suitable habitat for GCN and individuals are likely to be present. Figure 2 shows the location of these ponds. <u>Onsite pond:</u> Pond 7, in the south of the Site was surveyed for GCN <i>Triturus cristatus</i> using eDNA in June 2024, and the result was negative, i.e. no GCN eDNA was detected (see Appendix 4). On this basis breeding GCN are considered unlikely to be present in this pond. <u>Offsite ponds:</u> Ponds 2 and 5 were dry and the time of the survey in June 2024. 2024 was not a particularly dry year, and therefore these ponds are likely to be unsuitable as breeding habitat for GCN and are not considered further. Ponds 1 and 3 are over 500 m from the proposed BESS works and a minimum of around 190 m from the proposed cable route. Pond 4 is over 200 m from the proposed BESS works and a minimum of 130 m from the proposed cable route. It is separated from these by Stevenage Road, which may form a partial barrier. Pond 6 is over 170 m from the proposed BESS works a minimum of 80 m from the proposed cable. Pond 8 is a minimum of 210 m from the proposed BESS works and minimum of 160 m from the proposed cable route. It is separated from these by Stevenage Road, which may form a partial barrier. Pond 9 is a minimum of 240 m from the proposed BESS works and a minimum of 380 m from the proposed cable route. It is separated from these by Stevenage Road, which may form a partial barrier. <u>Onsite habitat suitability:</u> The modified grassland at the BESS and on the eastern part of the cable route is likely to be of limited value to great crested newt, due to the lack of habitat structure. Given this, and the fact that the Site and cable route run approximately parallel with the A602 Wymondley Bypass, it is unlikely to provide useful connecting habitat for this species. The other neutral grassland and scrub within the substation at the western part of the cable route has higher habitat value for this species but is located a considerable distance (a minimum of 230 m) from the nearest pond (Pond 3). Given the lack of breeding habitat within the Site, the limited value of terrestrial habitats within the Site and its distance to ponds, the Site is unlikely to provide habitat of significant value to GCN. It is considered, overall, to be of Local value for this species.	Local
Other amphibians	HERC returned around 12 records of common toad <i>Bufo bufo</i> from within the search area. This species is a SPI. One record from Pond 7, within the Site. There were further records from the village of St Ippolyts, at least 400 m west of the Site. The suitability and connectivity of terrestrial habitat at the Site for common toad is likely to be limited, as described for GCN above. The Site is considered, overall, to be of Local value for this species.	Local

⁵ Natural England (2024) GCN Risk Zones (Hertfordshire)

Invertebrates	HERC returned 580 records of invertebrates from within 2 km of the Site since 2000. This included six butterfly species protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended): marsh fritillary <i>Euphydryas aurinia</i>, small heath <i>Coenonympha pamphilus</i>, small blue <i>Cupido minimus</i>, dingy skipper <i>Erynnis tages</i>, white-letter hairstreak <i>Satyrus w-album</i>. It also included and cinnabar moth <i>Tyria jacobaeae</i> which is a SPI. The Other neutral grassland at the western end for the cable route is likely to be suitable for a range of notable invertebrate species. The modified grassland, which constitutes the majority of the Site, offers limited suitability. Therefore, due to the small areas of higher-value habitats, the Site as a whole is unlikely to form an important area of habitat for invertebrates beyond the local level.	Local
Plants	HERC returned 84 post-2000 plant records of plant species from within the search area. Of these, 1 species is an SPI, (cornflower <i>Centaurea cyanus</i>), and 1 species listed as Near Threatened or Vulnerable on the UK red list (wild strawberry <i>Fragaria vesca</i>). None of these species were detected during the habitat surveys, although it is possible that the latter species is present on the cable route within the substation. There were records of seven non-native invasive plant species that are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) making it an offence to plant or cause them grow in the wild (Virginia creeper <i>Parthenocissus quinquefolia</i>, wall cotoneaster <i>Cotoneaster horizontalis</i>, variegated yellow archangel <i>Lamium galeobdolon</i> ssp. <i>argenteum</i>, rhododendron <i>Rhododendron ponticum</i>, Japanese knotweed <i>Fallopia japonica</i>, Himalayan balsam <i>Impatiens glandulifera</i>, and montbretia <i>Crocus x crocosmiiflora</i>). None of these records are from the Site itself or were found during the habitat surveys.	Site

Features to be scoped in or out from further assessment

- 3.6 Ecological features to be excluded from further assessment and those to be taken forward within the assessment are summarised in Table 6 below, with a rationale for exclusion given where appropriate. All features of Local or greater importance are taken forward to further assessment, together with species which are protected or SPI. Net change sat the Site will be addressed in the Biodiversity Net Gain Assessment section.

Table 6: Features taken forward to assessment

Feature	Importance	Action	Notes/rationale for exclusion
Designated sites			
Wymondley Transforming Station LWS	District	Taken forward	There is potential for direct impacts on this Local Wildlife Site. The proposed cable route goes through the habitats it is designated for.
Other Local Wildlife Sites	District	Scoped out	There is no potential for significant direct or indirect impacts on the other Local Wildlife Sites
Ancient woodland	District	Scoped out	There is no potential for significant direct or indirect impacts on offsite ancient woodland.
Habitats			
Modified grassland (at BESS)	Site	Scoped out	This habitat is common and widespread. Its intrinsic (albeit low) contribution to biodiversity is appropriately captured in the Biodiversity Gain Assessment.
Pond 7 (at BESS)	Site	Taken forward	The proposals include the construction of an underground drainage pipe to Lawn Pond (Pond 7), including a headwall at the edge of the pond, causing a direct impact on this habitat. The inclusion of this pond in the drainage scheme for the BESS, linked to the proposed bioswale, presents a risk of hydrological and pollution impacts requiring further consideration.
Lowland mixed deciduous woodland (on BESS drainage route)	Site	Taken forward	Avoidance and mitigation are required to limit the impacts of the development on this habitat during the construction phase of the project, since it is present on the route of the drainage pipe between the BESS and Pond 7. The potential value to species is captured under other receptors. No adverse impacts are anticipated during the operational phase.
Line of trees (on cable route)	Site	Taken forward	The proposed construction of the cable route will cause a direct impact to up to 20 m of the line of trees on Site. No adverse impacts are anticipated during the operational phase.
Other neutral grassland (on cable route within substation)	Local	Taken forward	This habitat is designated as part of Wymondley Transforming Station LWS and open trenching for the construction of the cable route could have a direct impact on this habitat.

Mixed scrub (on cable route within substation)	Local	Taken forward	This habitat is designated as part of Wymondley Transforming Station LWS and open trenching for the construction of the cable route could have a direct impact on this habitat.
Tall forbs (on cable route within substation)	Site	Scoped out	No impacts to this habitat are anticipated since direction drilling (rather than open trenching) of the cable route will be used on its vicinity. Its intrinsic contribution to biodiversity is appropriately captured in the Biodiversity Gain Assessment.
Other woodland; broadleaved (on cable route within substation)	Site	Scoped out	No impacts to this habitat are anticipated since direction drilling (rather than open trenching) of the cable route will be used on its vicinity. Its intrinsic contribution to biodiversity is appropriately captured in the Biodiversity Gain Assessment.
Species rich native hedgerows (BESS and cable route)	Local	Scoped out	No impacts to this habitat are anticipated since direction drilling (rather than open trenching) of the cable route will be used on its vicinity. Its intrinsic contribution to biodiversity is appropriately captured in the Biodiversity Gain Assessment.
Adjacent off-Site Habitats			
Line of trees	Local	Scoped out	Offsite. No direct or indirect impacts to this habitat are anticipated. The potential value to species is captured under other receptors.
Woodland (north of BESS)	Local	Taken forward	Avoidance and mitigation are required to limit the impacts of the construction stage of the development on this habitat. The potential value to species is captured under other receptors. No adverse impacts are anticipated during the operational phase.
Ponds	Local	Scoped out	The remaining ponds are distant from the Site and any drainage discharge will already have gone through the SUDS and Lawn Pond (Pond 7). Therefore, no direct or indirect impacts are anticipated.
Species			
Badger	Site	Taken forward	Badgers are likely present near the cable route area and their presence around the BESS area, and future sett construction, cannot be discounted. Being a widespread species, badger is protected under animal welfare rather than conservation legislation. This species is taken forward in this assessment to inform legal compliance during the construction stage of the development.
Bats	Local	Taken forward	Due to the known presence of bats on Site, this protected species is taken forward in this assessment to inform compliance with planning policy and wildlife legislation.
Hazel dormouse	Local	Taken forward	This European Protected Species taken forward in this assessment to inform planning policy and legal compliance.
Other mammals	No importance	Scoped out	There is minimal suitability on Site for other notable mammal species.

Breeding birds	Local	Taken forward	Nesting birds are likely to be present in adjacent habitat near the BESS and within the cable route. This species group is taken forward in this assessment to inform compliance with planning policy and wildlife legislation.
Reptiles	Local	Taken forward	Reptiles may be present along the western part of the proposed cable route. This species group is taken forward in this assessment to inform compliance with planning policy and wildlife legislation.
Great crested newt	Local	Taken forward	This European Protected Species taken forward in this assessment to inform compliance with planning policy and wildlife legislation.
Common toad	Local	Taken forward	This SPI taken forward in this assessment to inform planning policy.
Invertebrates	Site	Scoped out	The invertebrate interest of the Site is captured under the impact assessment for habitats.
Plants	Site	Scoped out	The botanical interest of the Site is captured under the impact assessment for habitats.

4 Impact

Construction phase

4.1 The likely ecological impacts of activities at the Site during the construction phase of the project are described in Table 7 below.

Table 7: Potential impacts and mitigation during construction phase

Feature	Effect	Activity	Impacts Assessment	Significance of effect
Designated sites				
Wymondley Transforming Station LWS	Loss or damage to the LWS	Construction of cable route	The North Hertfordshire Local Plan Policies SP12 and NE4 (see Appendix 1) set out the requirement for protecting locally designated sites. In particular, paragraph d) of Policy NE4 outlines the requirement for 12-metre buffers to LWS and provision of 12 metres of new complementary habitat around LWSs. The cable route was designed to avoid penetration into the LWS with the use of directional drilling where possible. The impacts to the habitats that this LWS is designated for are covered in separate assessments below. Given the temporary nature of the works, the provision of 12 meters of new complementary habitat around this LWS is not considered necessary or proportionate to the impacts.	Minor adverse impact at the Local level.
Habitats				
Pond 7 (BESS)	Damage to pond	Construction of a headwall	The proposals include the installation of an underground drainage pipe to Lawn Pond (Pond 7), including a headwall at the edge of the pond, causing a direct impact on this habitat. Without any mitigation measures, the integrity of the pond may be damaged and pollution from construction materials may occur.	Adverse impact at the Site level.
Lowland mixed deciduous woodland (Drainage from BESS)	Damage to woodland	Construction of an underground drainage pipe and headwall	Avoidance and mitigation are required to limit the impacts of the development on this habitat from the construction works.	Adverse impact at the Site level.
Line of trees (cable route)	Loss or damage of individual trees within the line	Construction of cable route	The line of trees just west of the BESS site is composed of immature hawthorn trees, which are, individually, of low ecological importance. If directional drilling is utilised to install the cable route, as planned, the effects would be	Adverse impact at the Site level.

			minor.	
Other neutral grassland (cable route)	Loss of a habitat a LWS is designated for	Cable route construction	Without any measures to avoid and mitigate impacts, open trenching for the construction of the cable route, would cause the loss of small areas of this habitat.	Adverse impact at the Site level.
Mixed scrub (cable route)	Loss of a habitat a LWS is designated for	Cable route construction	Without any measures to avoid and mitigate impacts, open trenching for the construction of the cable route would cause the loss of small areas of this habitat.	Adverse impact at the Site level.
Adjacent off-Site Habitats				
Woodland and line of trees	Pollution and damage	Construction of the BESS	Without any avoidance measures, this habitat may be damaged from machinery, trampling, and storage of materials when the BESS is constructed.	Adverse impact at the Site level.
Protected species				
Badgers	Reduced population through killing and injury of individuals.	Site clearance and construction, landscaping and excavations	Without appropriate protection measures during construction, individuals may be trapped in excavations during the construction of the BESS. Setts may be destroyed and individuals injured or killed during directional drilling of the cable route.	Adverse impact at the Site level.
Bats	Temporary loss of foraging habitat	Construction of BESS on modified grassland	Loss of low-quality foraging habitat on the modified grassland habitat will occur during the construction phase.	Adverse impact at the local level
	Creation of foraging and connecting habitat	Landscaping, including planting of trees, scrub, meadow grassland and SuDS creation.	The landscaping set out in Appendix 2 will increase the habitat value of the BESS for bats and will benefit bat populations at the local level.	
	Loss of roosting habitat and injury / death of individuals	Tree felling for the construction of the cable route via open trenching	If individual trees which support roosting bats are felled, roosts could be destroyed, and bats could be injured or killed. However, the proposed development does not involve the felling of any trees with bat roosting potential. No potential roosting features for bats will be affected.	
	Disturbance	Light, noise and increased human presence during construction of	The potential for light and noise from the construction of the BESS to disturb nearby roosting or foraging bats has been considered. However, given the lack of roosting habitat in the vicinity of the BESS, and this effect is likely to be limited to the effect of lighting during construction on foraging bats	

		the BESS	on the BESS boundaries may disturb bats.	
Hazel dormouse	Reduced population through killing and injury of individuals.	Site clearance and construction, landscaping and excavations	The cable installation may involve the removal of a small section of a line of trees immediately west of the BESS, and the removal of small areas of mixed and bramble scrub within the substation. Without appropriate precautions during the work, there is a small risk of killing, injury or disturbance of individual dormice. Given the small extent of area affected and the short duration of the works, this would not affect populations of this species beyond the local level. However, to ensure legal compliance, a precautionary non-licensed approach during construction is considered appropriate, as set out in the following section.	Adverse impact at the local level
	Loss of habitat and habitat connectivity	Site clearance and construction, landscaping and excavations	Without appropriate mitigation, in the form of habitat restoration and planting, the cable works described above would cause a loss of habitat at the Site level and could affect habitat connectivity at the Site level.	
	Creation of foraging and connecting habitat	Landscaping, including planting of scrub	The landscaping set out in Appendix 2 will increase the habitat value of the BESS for dormice and will benefit dormouse populations at the Site level.	
	Disturbance	Light, noise and increased human presence during construction of the BESS	The potential for light and noise from the construction of the BESS to disturb nearby dormice has been considered. However, given the limited suitability of nearby habitats for this species, such effects are likely to be negligible.	
Breeding Birds	Temporary loss of foraging habitat	Construction on modified grassland habitat	Loss of low-quality foraging habitat on the modified grassland habitat will occur during the construction phase.	Adverse impact at the Site level
	Creation of foraging and nesting habitat	Landscaping, including planting of trees, scrub, grassland and SuDS creation.	The landscaping set out in Appendix 2 will increase the habitat value of the BESS for foraging birds and will provide increased nesting opportunities for tree and shrub nesting birds. This will benefit breeding bird populations at the Site level.	
	Killing, injuring, of individuals, and destruction of nests	Vegetation clearance / tree removal	Without appropriate protection measures during vegetation clearance, individuals may be killed or injured and active nests may be destroyed during clearance of vegetation (specifically, of scrub on the cable route at Wymondley	

			substation and tree felling activities near the BESS).	
Reptiles	Injury / death to individuals	Site clearance / installation of cable route	Without appropriate protections during construction, individuals passing through the Site or hibernating may be harmed during construction of the cable route with Wymondley substation. However, given the limited physical extent and short duration of these works, no impacts at the population level are anticipated.	Adverse impact at the local level
	Creation of habitat	Landscaping, including planting of scrub and grassland, and SuDS creation.	The landscaping set out in Appendix 2 will increase the habitat value of the BESS site for reptiles. This is likely to benefit reptile populations at the Site level.	
Great crested newts	Injury / death to individuals	Site clearance / installation of cable route	There is no breeding habitat for this species at the Site (surveys found it to be absent from the onsite pond). The potential for individuals passing through the Site or hibernating or foraging on-site to be harmed during construction has been considered. <u>BESS site:</u> The closest offsite pond to the BESS is located 170 m away, and the BESS currently supports intensively managed modified grassland with low suitability for this species. <u>Cable route:</u> The eastern part of the cable route is also dominated by this habitat and is 80 m from the nearest off-site pond at its closest point. The western part of the cable route (within Wymondley substation is) supports more suitable habitat but is more than 190 m from the Site. Given these distances, poor habitat suitability, the limited physical extent of the works and their short duration, it is considered unlikely that individual GCNs would be affected by the proposed works. However, to ensure legal compliance, and because offsite ponds could not be accessed for survey, a precautionary non-licensed method statement is considered appropriate, as set out in the following section.	Adverse impact at the local level
	Creation of habitat	Landscaping, including planting of scrub and	The landscaping set out in Appendix 2 will increase the habitat value of the BESS for amphibians such as great crested newts. There is potential for the proposed	

		grassland, and SuDS creation.	development to increase local populations of this species, if present.	
Common toad	Injury / death to individuals	Site clearance / installation of cable route	The potential for individuals passing through the Site or hibernating or foraging on-site to be harmed during construction, has been considered. However, the small area of suitable habitat to be affected (mainly within the substation) means that this is considered unlikely.	Adverse impact at the Site level
	Creation of habitat	Landscaping, including planting of scrub and grassland, and SuDS creation.	The landscaping set out in Appendix 2 will increase the habitat value of the BESS for amphibians such as common toad.	

Operational phase

4.3 The likely ecological impacts of activities at the Site during the operational phase of the project are described in Table 8 below.

Table 8: Potential impacts and mitigation during the operational phase

Feature	Potential Effect	Activity	Impacts Assessment	Significance of effect
Habitats				
Pond 7	Pollution	Day-to-day drainage from the BESS	The drainage strategy for the proposed development (065238-SLR-GEN-XX-DR-D-0500-P01_Drainage GA) involves surface water from rainfall at the BESS being collected via pipework under the BESS and temporarily stored in the swale SuDS system. This is then discharged at or below the current greenfield rate to Pond 7 and then the ditch network to the south of this. Given the settlement and reduced discharge rate provided by the SuDS, and the baseline poor condition of this pond, significant impacts are not anticipated.	Negligible adverse effect
		Drainage from the BESS during a fire incident	Without mitigation, discharge of fire-fighting water from the Site via the drainage and SuDS could result in pollution of Pond 7 from by alkaline discharge from batteries. However, the drainage system will have a pollution control valve to be closed prior to the application of firefighting water, and the SuDS have been designed to accommodate sufficient water to avoid such discharges. In such circumstances, the used/polluted firewater	

			would be removed from the Site via a tanker for treatment (065238-SLR-GEN-XX-DR-D-0500-P01_Drainage GA). Given these inbuild measures, and the baseline poor condition of the pond, significant impacts are not anticipated.	
Other neutral grassland within BESS area	Degradation of habitat condition	Under- or over-management.	If management of the new other neutral grassland within the BESS area is not appropriate to the target condition of the habitat, this habitat may degrade and the objectives of the BNG delivery for this project may not be met. However, A Habitat Monitoring and Management Plan (HMMP) will be required under the BNG general planning condition, and therefore this situation is considered unlikely.	Negligible adverse effect
Protected species				
Bats	Disturbance from lighting	Light spill from operational phase lighting at the Site	If lighting is installed at the BESS, light spill onto adjacent habitats (such as woodland, SuDS and grassland) could cause disturbance to bats and reduce the suitability of these habitats for foraging and commuting.	Adverse effect at the local level
	Disturbance from noise	Noise from operational phase plant at the Site	Noise generation from the BESS is considered unlikely to have any ecological impacts.	
Dormouse	Disturbance from lighting	Light spill from operational phase lighting at the Site	If lighting is installed at the BESS, light spill onto adjacent habitats (such as woodland and trees) could cause disturbance to dormouse and reduce the suitability of these habitats for foraging and commuting. However, the habitats in the vicinity of the BESS are considered to be of low value to this species (the woodland is plantation woodland with very little understorey and the line of trees is species poor).	Adverse effect at the Site level
	Disturbance from noise	Noise from operational phase plant at the Site	Noise generation from the BESS is considered unlikely to have any ecological impacts.	

5 Mitigation

- 5.1 The design of the Proposed Development has been undertaken in accordance with the mitigation hierarchy in order first to avoid impacts on important ecological features where possible, then minimise, mitigate or compensate for these impacts as appropriate. Table 9 below sets out these measures, as well as enhancement measures. This includes mitigation designed into the development (e.g. planting specified in Appendix 2) and additional mitigation measures. The former have been taken into account in the impact assessment tables in the previous section of the report. The latter have been taken into account in the final column of Table 9: 'significance of residual effect'.

Securing Mitigation

- 5.2 Before construction begins, it is recommended that a Construction Environmental Management Plan (CEMP) and a Habitat Management and Monitoring Plan (HMMP), secured by planning condition and composed and agreed with the planning authority, are produced. The CEMP document will set out measures to protect ecological features during construction, including appointing of an Ecological Clerk of Works (ECoW) where necessary to provide onsite ecological supervision. The HMMP document will set out method statements for the creation and maintenance of habitats, landscaping features and ecological enhancements, including details of ongoing monitoring of condition of these features by an ecologist. The implementation of the CEMP and HMMP should also be secured by planning condition.

- 5.3 *Table 9: Mitigation measures to avoid and mitigate for the adverse impacts and enhancement measures*

Feature	Avoid	Mitigation	Enhancement	Significance of residual effect
Habitats				
Pond 7	An attenuation pond / bioswale will be created south of the BESS to ensure drainage does not overflow and damage the lawn pond (Pond 7). Systems will be put in place to stop water entry into the Pond if there is a risk of pollution (such as during the application of fire-fighting water).	Government guidance on pollution prevention and control is to be employed at all times during the enabling and construction works and during and maintenance and operational phases.	Appropriate supplementary planting of appropriate native species will be carried out in the pond to provide ecological enhancements, as shown in Appendix 2. Detail will be provided in the HMMP.	Negligible adverse
Lowland mixed deciduous woodland (on BESS drainage)	Protection measures will be used to avoid disturbance beyond the works footprint. This will be detailed in the CEMP.	Disturbed ground will be re-instated where possible and native ground vegetation will be allowed to regrow.	Native shrub and tree planting will be carried out around the pond to fill in existing gaps in the understory.	Negligible adverse effect

route)				
Line of trees (on cable route)	The proposed development was designed with the retention of the majority of the adjacent line of trees. The width of the gap required for cable installation will be minimised.	Replacement native trees will be planted to fill gap created in the existing line of trees during cable installation.	Around 27 additional native trees will be planted across the BESS, with further trees within the new sections of hedgerow.	Negligible adverse effect
Other neutral grassland (on cable route)	The access routes around Site have been designed to avoid impacts, where possible, on current and proposed higher distinctiveness habitats during the operational phase of the BESS. Directional drilling will be used for the cable route construction where possible near Wymondley substation. This will be detailed in the CEMP.	Where open trenching is used for the cable route construction, the turf will be mown several weeks prior to the works and again immediately before. Turves will be carefully removed and stored during the works, and reinstated after the cable has been installed. This will be detailed in the CEMP and will minimise any habitat degradation. Areas that will not be dug but which will be subject to vehicle movement or materials storage will be protected using matting to spread loads.	Once the cable route is positioned, the habitat will be managed appropriately, and remedial measures will be undertaken where necessary. Grassland will be created around the BESS. This will be detailed in the HMMP. On-going habitat management at Wymondley substation would be subject to the existing management of that site by National Grid.	Neutral residual effect
Scrub (on cable route)	Directional drilling will be used where possible. This will be detailed in the CEMP.	No mitigation for loss of scrub where open trenching is used for the cable route construction is possible, see enhancement measures.	Once the cable route is positioned, planting of a species rich neutral grassland mix where scrub was lost through open trenching will be undertaken. This will be detailed in the HMMP.	Neutral residual effect
Adjacent off-Site Habitats				
Woodland and line of trees	A 10 m buffer from BESS has been incorporated from the woodland located offsite, adjacent to the Northern and Eastern edge of the Site. This will avoid any potential impact of construction and operation of the BESS on the woodland. An arboriculture report confirms there will be no impact on root protection zones (see 250325-1.0-WYCR ISS BESS1H-AIA-	See 10 m buffer, described to left.	The proposed scrub, tree and grassland planting at the BESS will enhance the habitat connectivity of the woodland and line of trees habitats adjacent to the Site. Overall, the residual effect is therefore considered to be neutral.	Neutral residual effect.

	JBW). Details of protective fencing during construction (to prevent accidental incursion of the woodland and root protection zone are to be provided in the CEMP).			
Protected species				
Badgers	Surveys to date indicate no active badger setts that could be affected by the proposed works (including the cable route). Due the risk of new setts being constructed, precautionary checks by a qualified ecologist are to be carried out prior to and during vegetation clearance for construction. This is to include preconstruction badger update survey, and a watching brief during scrub clearance, both to be carried out by a professional ecologist. They will also provide toolbox talk to the clearance team, who will follow a precautionary method statement (to be set out in the CEMP). During construction, precautionary measures are to be taken to avoid accidental impacts on individual badgers, e.g., excavations are to be covered overnight, or ramps provided to allow badgers and other trapped small animals to escape. A method statement to achieve this will be set out within the CEMP.	If any new active setts within 30 m of the Site and/or cable route are found during the precautionary checks prior to construction, or during vegetation clearance, appropriate mitigation (licensed by Natural England as appropriate) is to be put in place under advice from a professional ecologist.	The proposed habitat creation at the BESS will provide foraging opportunities for badgers.	Neutral residual effect.
Bats	The development was designed to retain trees where possible to	The proposed tree felling avoids trees with potential to support bat roosts.	The proposed grassland, scrub and wetland creation, and tree	Beneficial effect at the local level.

	avoid loss of roosting, foraging, and commuting habitat for bats. The 10 m buffer of woodland from BESS will help avoid disturbance for bats using this habitat. Prior to construction, a sensitive lighting scheme for the BESS will be completed and agreed with the local planning authority, with reference to industry guidance (ILP and Bat Conservation Trust, 2018). Where external lighting is necessary, it will be designed to minimise overall intensity and lateral light spill, and to feature an emitted light colour spectrum with low impacts on wildlife. This will be detailed in the CEMP and a lighting strategy. All lighting at the Site is to be motion activated, with no lighting continuously on, in order to avoid disturbance to bats using new onsite and existing adjacent habitats. The tolerances of the motion activation will be suitably set to avoid activation by bats.	However, as a precaution, in case the felling plans change, all tree felling will be preceded by an inspection by a professional ecologist. If a potential bat roost is found during the felling, works that could affect that feature will stop. The ecologist will then advise on next steps, which, if required, may include securing a European Protected Species mitigation licence before work resumes. The precautionary checks will be set out in the CEMP.	planting, will provide enhanced foraging opportunities for local bat populations, and will increase habitat connectivity for bats at the Site level. Three woodcrate bat boxes are to be installed in suitable locations on trees adjacent to the BESS, taking into account the ecological requirements of bats and safety considerations. These will include boxes selected for their suitability for barbastelle bat, given the confirmed presence of this species on Site. This will be detailed in the HMMP. Overall, the residual effect on bats is considered to be beneficial at the local level.	
Hazel dormouse	The lighting mitigation described under bats above would avoid lighting disturbance to dormice.	Construction of the cable route is to be preceded by removal of any woody vegetation to be affected by hand and outside the dormouse hibernation period (typically November to mid-March, but weather dependent), subject to breeding bird precautions, noted above. Alternatively, if removal is required in winter (e.g. to avoid impacts on nesting birds), woody and bramble vegetation should be cut by hand to 30 cm stumps	The proposed hedgerow planting will increase the habitat value of the BESS for dormice and will benefit dormouse populations at the Site level.	Neutral residual effect.

		over the winter period, avoiding ground disturbance. Stumps should be removed outside the hibernation period (e.g. mid-March to October, weather dependent). These precautionary measures for dormouse are to be set out a 'precautionary non-licensed method statement' within the CEMP, which will include toolbox talk to clearance staff by a professional ecologist.		
Breeding Birds	Clearance of vegetation will be undertaken, where possible, outside bird nesting season (March to August inclusive).	Where clearance of woody or bramble vegetation occurs during the bird nesting season, it will be preceded by a toolbox talk and check by a suitability-qualified ecologist, who will search the area to be cleared for nests. In the event an active nest is found, work will stop in a buffer area around the nest (to be advised by the ecologist) until a repeat visit by the ecologist confirms that the breeding attempt has concluded.	The proposed grassland, scrub and wetland creation, and tree planting, will provide enhanced foraging and nesting opportunities for local bird populations. Three woodcrate bird boxes are to be installed in suitable locations on trees adjacent to the BESS, taking into account the ecological requirements of nesting birds and safety considerations. These will be general purpose boxes, also suitable for the SPI species house sparrow. This will be detailed in the HMMP. Overall, the residual effect on birds is considered to be beneficial at the local level.	Beneficial effect at the local level.
Reptiles	There are no areas of habitat suitable for reptiles at the BESS and minimal areas of suitable habitat along the cable route. Suitable areas are largely limited to the grassland and scrub with the BESS.	Construction of the cable route is to be preceded by habitat management (mowing and strimming of grassland, scrub and other vegetation) to make the area unsuitable for reptiles. Digging and other ground disturbance will take place either outside the hibernation period for reptiles (typically November to mid-March, but weather dependent), or	The proposed grassland, scrub and wetland creation at the BESS will provide enhanced habitat for nearby reptile populations. As an additional enhancement for these species, a reptile and amphibian hibernaculum (a hibernation and sheltering site) will be installed within BESS,	Beneficial effect at the Site level.

		after checks by a professional ecologist to confirm that suitable hibernation habitat will not be affected. If hibernation habitat would be affected, this is to be cleared outside the hibernation period. These precautionary measures for retilers are to be set out in the CEMP, which will include toolbox talk to clearance staff by a professional ecologist.	comprising a pile of inert rubble and hardwood logs ca. 1m x 2m x 1m high, and dug 0.5 m into the ground, partially covered with soil and turf. Details to be provided in the HMMP.	
Great crested newts	The impact assessment has concluded that GCN are unlikely to be affected by the proposed development. However, because offsite ponds could not be accessed for survey, a precautionary non-licensed methods statement is to be followed for works at the Site, as set out to the right.	Construction of the cable route is to be preceded by habitat management (mowing and strimming of grassland, scrub and other vegetation) to make the area unsuitable for amphibians (although due to limited habitat structure, is currently already has low suitability). Digging and other ground disturbance will take place either outside the hibernation period for amphibians (typically November to mid-March, but weather dependent), or after checks by a professional ecologist to confirm that suitable hibernation habitat will not be affected. If hibernation habitat would be affected, this is to be cleared outside the hibernation period. The professional ecologist will also identify any areas that could provide shelter for GCN. These features be checked and remove prior to (or where necessary, during) the clearance works. If GCN are found, works will stop and the ecologist will advise the developer on how to proceed, and on whether a Natural England licence is necessary for any element of the works. This advice will be	The proposed grassland, scrub and wetland creation at the BESS will provide enhanced habitat for nearby GCN populations, if present. As an additional enhancement for these species, a reptile and amphibian hibernaculum (a hibernation and sheltering site) will be installed within BESS, comprising a pile of inert rubble and hardwood logs ca. 1m x 2m x 1m high, and dug 0.5 m into the ground, partially covered with soil and turf. Details to be provided in the HMMP.	Beneficial effect at the Site level.

		followed. Any other amphibian species encountered during the checks will be carefully moved to a suitable location in a lidded bucket. These precautionary measures for GCN are to be set out in a 'precautionary non-licensed method statement' within the CEMP, which will include toolbox talk to clearance staff by a professional ecologist.		
Common toad	The impact assessment has concluded that this species is unlikely to be affected by the proposed development.	The precautions listed under reptiles and GCN above would provide benefits to local toad populations.	The habitat creation measures under reptiles and GCN above would provide benefits to nearby toad populations.	Beneficial effect at the Site level.

Habitat creation and enhancement measures

- 5.5 The proposed habitats on Site are shown in Appendix 2 and Figure 4. These informed the Biodiversity Net Gain Assessment set out in Section 6 of this report. The landscape specifications in Appendix 2 outline methods for creating and managing the proposed habitats. The target condition assessment criteria of created and enhanced habitats based on these landscape specifications are set out in Appendix 6. The proposed habitat creation and enhancement measures include:
- Enhancement of Modified grassland in 'Poor' condition to Other neutral grassland in 'Poor' condition. This will be achieved by sowing of a grass and wildflower mix and a management regime of annual cuts and weed control. Prior to sowing, the topsoil will be cultivated according to the results of a soil test determining the characteristics of the soil, including soil fertility and textural class.
 - Creation of a Bioswale in 'Good' condition (although 'Moderate' condition was used in the BNG calculation on a precautionary basis). This will be achieved by sowing of a grass and wildflower mix composed of species suitable for seasonally wet soils and a management regime of annual cuts and weed control. Prior to sowing, the topsoil will be cultivated according to the results of a soil test determining the characteristics of the soil, including soil fertility and textural class.
 - Native hedgerow (with or without trees) in 'Good' condition (a 'Moderate' condition was used in the BNG calculation on a precautionary basis). Native tree and shrub species will be planted randomly and spaced 30 cm apart in two rows 40 cm apart. Shrub planting should be carried out in the late autumn and winter months when trees and shrubs are dormant. Trees and shrubs will be protected with appropriate bio-degradable tree guards, stakes and ties.
 - Creation of scrub in 'Moderate' condition through native shrub planting, with random spacing in the late autumn and winter months when shrubs are dormant. Shrubs will be protected with appropriate bio-degradable tree guards, stakes and ties.
 - Planting of 27 individual trees within the proposed wetland, grassland, scrub, and hedgerow in the late autumn and winter months when trees are dormant. Trees will be protected with appropriate bio-degradable tree guards, stakes and ties.
- 5.6 In line with BNG requirements, it is recommended that detailed method statements for the creation, enhancement and management of the proposed habitats are set out in a 30-year Habitat Management and Monitoring Plan (HMMP) to be submitted alongside a Biodiversity Gain Plan (BGP). The HMMP will also include a schedule of works, monitoring requirements, and remedial actions to ensure the delivery of these targets.

Monitoring

- 5.7 It is recommended that that monitoring of the Site occurs through the Operational Phase of the development. This monitoring will aim to determine the success of mitigation and enhancement measures outlined above, inform potential remedial action and contribute to the knowledge base for future similar developments. It will also assess the success of habitat creation needed for Biodiversity Net Gain Purposes and inform any remedial measures where necessary.
- 5.8 The habitat monitoring survey will be undertaken annually for first 2 years and thereafter every 5 years to year 30. It will be carried out with reference to the UK Habitats classification and the condition of the habitats will be assessed following the Statutory Biodiversity metric condition assessment guidance. During the walkover, the habitats present will be recorded and mapped. Indicative lists of plant species will be recorded for each habitat type. Relative abundance of plant species will be estimated by the surveyor using the DAFOR scale, and representative quadrats

taken to provide information on the number of species per meter squared. Photographs will be taken to provide supporting evidence.

Residual effects

- 5.9 Following the implementation of the designed-in and residual mitigation measures set out above, no significant adverse residual effects are identified.

Cumulative effects

- 5.10 The proposed development is not considered likely to cause any significant ecological effects in combination with other proposed developments.

6 Biodiversity Net Gain Assessment

- 6.1 A summary of the Biodiversity Net Gain assessment is provided here. The full calculation spreadsheet has been provided to the planning authority separately. The habitat condition assessment data using relevant UK Habitat classification criteria for pre-development habitats and justification of the condition expected to be achieved for proposed habitats are provided in Appendix 5 and Appendix 6, respectively.

The relevant date for pre-development

- 6.2 The relevant date for the pre-development (i.e. baseline) habitat types and habitat conditions is the date of the baseline habitat survey carried out on 20 June 2024.

Irreplaceable habitats

- 6.3 The Site does not support any irreplaceable habitats.

Application of the biodiversity gain hierarchy

- 6.4 The design of the Proposed Development has fully considered the biodiversity gain hierarchy.
- 6.5 The biodiversity gain hierarchy as set out in The Biodiversity Gain Requirements (Town and Country Planning) (Modifications and Amendments) Regulations 2024 requires consideration of the retention, enhancement, and creation of habitat types equal to or greater than distinctiveness score of four (medium) in the first instance and then any other habitats thereafter. This has been considered for this development in this report, which is summarised as follows:
- There are no very high distinctiveness habitats on Site.
 - Impacts to high distinctiveness habitats on Site (Lowland mixed deciduous woodland and Species-rich native hedgerows with trees) have been avoided.
 - Impacts to medium distinctiveness habitats on Site have been avoided where possible. Adverse effects could not be avoided on limited areas of medium distinctiveness (mixed scrub, and other neutral grassland) habitats that have a distinctiveness score of four;
 - Adverse effects could not be avoided to low distinctiveness which are habitats that have a distinctiveness score of two (modified grassland and line of trees);
 - Adverse effects to these habitats will be mitigated for onsite through creation of new habitat of higher distinctiveness and/or greater value to protected and priority species.

Restoration of grassland within Wymondley substation

- 6.6 The calculation assumes that existing grassland on the cable route within Wymondley substation will be protected during construction through the use of matting or other surface coverings to spread the load of vehicles.
- 6.7 Where digging is required, grassland turves will be removed, stored and replaced once the trench has been refilled. This should be carried out between September and April, or turves will need shading or watering whilst in storage to avoid drying out.
- 6.8 If these measures are followed, habitat type and condition will be retained/restored within 2 years and there will not be any loss of Other neutral grassland from the development. In line with Defra guidance on that Statutory Biodiversity Metric, this habitat is therefore considered to be retained.

Retention of habitats in directional drill areas

- 6.9 Habitats in the vicinity of, and west of, Blakemore End Road will be retained in their baseline condition because directional drilling will be used in this area, avoiding any impacts.

Significant on-site enhancements

- 6.10 The following elements of the habitat creation and enhancement are considered to be significant applying guidance from Defra (2024c):
- Creation of habitats of medium or higher distinctiveness in the biodiversity metric, including other neutral grassland, mixed scrub and rural trees.

Trading rules

- 6.11 All trading rules have been followed; the loss of low or medium distinctiveness habitats were mitigated for through the creation of the same or higher distinctiveness habitats.

Baseline (pre development) habitat types

- 6.12 The baseline habitats and their condition is recorded on Site are described in Table 4 of this report. Condition assessment data for each habitat is included in Appendix 5.
- 6.13 Use of the Statutory Biodiversity Metric indicates that the baseline habitats at the Site have a value of 16.88 Area Habitat Units and 7.19 Hedgerow Units.

Proposed (post development) habitats types

- 6.14 The proposed habitat outcomes are considered to be achievable, can be legally secured and are appropriate to the location and setting of the Site and the locally surrounding habitats. The habitats within the Proposed Development are presented on Figure 4. Condition assessment sheets have been completed to illustrate how target condition will be achieved are included in Appendix 6.
- 6.15 Following the Proposed Development, the Site is predicted to support habitats with a value of 21.44 Area Habitat Units and 9.43 Hedgerow Units.

The anticipated change in biodiversity value results using the Defra Statutory Biodiversity Metric

- 6.16 The above values indicate a net increase of 4.56 Area Habitat Units and 2.24 Hedgerow Units against the baseline, and therefore a biodiversity net gain of **27.02%** for Area Habitats and **31.14%** for Hedgerows. Therefore, the Proposed Development is in line with local and national planning policy, which requires a biodiversity net gain of at least 10%.

Consideration of Biodiversity Net Gain Good practice principles for development

- 6.17 With reference to Ciria CIEEM IEMA (2019) Biodiversity Net Gain Good practice principles for development, the principles summarised in Table 10 were considered during the development design, completion of ecology related desk and field surveys and the biodiversity gain assessment.

Table 10: Biodiversity Net Gain- Application of good practice principles for development

Table 5 Biodiversity gain - the application of good practice principles for development		
Principle Number	Summary heading of principle	Rationale
1	Apply the mitigation hierarchy	The mitigation hierarchy has been applied; see paragraphs 6.4 to 6.8 above.
2	Avoid losing biodiversity that cannot be offset by	This development will not result in the loss of any irreplaceable habitats. Any other losses are offset by gains.

Table 5 Biodiversity gain - the application of good practice principles for development		
Principle Number	Summary heading of principle	Rationale
	gains elsewhere	
3	Be inclusive and equitable	The proposed works are on private land and will not adversely impact local people. They will contribute to local biodiversity and local ecological networks.
4	Address risks	The Statutory Biodiversity Metric embeds risks associated with habitat creation, spatial multipliers and time to target condition. A precautionary approach to habitat creation has been taken in this assessment, and the proposed habitat types are considered readily achievable at the Site. It is proposed that the appropriate management and monitoring of proposed habitats will be covered within a Habitat Management and Monitoring Plan (HMMP), to enable progress towards target habitat types and conditions to be measured. Any shortfalls will therefore be detected at an early stage, allowing remedial actions. This gives confidence in delivery of the Biodiversity Gain outcomes.
5	Make a measurable net gain contribution	To determine and measure the net gain, the Statutory Biodiversity Metric has been used which provides biodiversity unit values for all existing and proposed habitats. The use of this metric demonstrates that the proposed development is likely to deliver a clear biodiversity net gain.
6	Achieve the best outcomes for biodiversity	The landscaping design for the Site was decided upon by balancing the aspiration to maximise post-development habitat value, whilst ensuring that the proposals are realistic given the site-specific constraints (e.g. likely presence of residual soil nutrients in Modified grassland). Habitat types are appropriate to local soil and landscape conditions. The creation methods and management may allow a greater level of habitat enhancement than has been assumed here, i.e., this calculation indicates the realistic minimum BNG that could be achieved.
7	Be additional	There are no habitat enhancement or creation requirements for protected species licencing within the Site. The habitat creation and enhancement can all count "in full" towards the BNG applying guidance from Defra (2024c).
8	Create a net gain legacy	The newly created habitats will provide visible and tangible improvement in local habitat quality, and associated ecosystem services benefits.
9	Optimise sustainability	The proposed habitats do not require intensive creation methods such import or removal of soils. They utilise existing soils and topography, and native species.
10	Be transparent	This application is supported by robust ecological baseline information and assessment of impacts (as detailed within this report). The baseline and proposed habitat plans (Figure 1 and Figure 4 respectively) clearly show the habitat changes that will occur as a result of the proposed development. In this Biodiversity Net Gain assessment, BSG Ecology has provided clear and detailed information and justification on baseline and future habitat types and habitat conditions.

7 References

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8 Figures

Figure 1: Baseline Habitat Map

Figure 2: Pond Locations

Figure 3a: Night-time Bat Walkover Survey – August 2024

Figure 3b: Night-time Bat Walkover Survey – September 2024

Figure 4: Proposed Habitat Map

9 Photographs



Photograph 1: Modified grassland



Photograph 2: Lawn Pond (pond 7)



Photograph 3: Offsite line of trees south of the proposed cable route.



Photograph 4: Young plantation woodland offsite north of the Site

10 Appendices

Appendix 1: Summaries of Relevant Policy, Legislation and Other Instruments

Appendix 2: BESS Plans

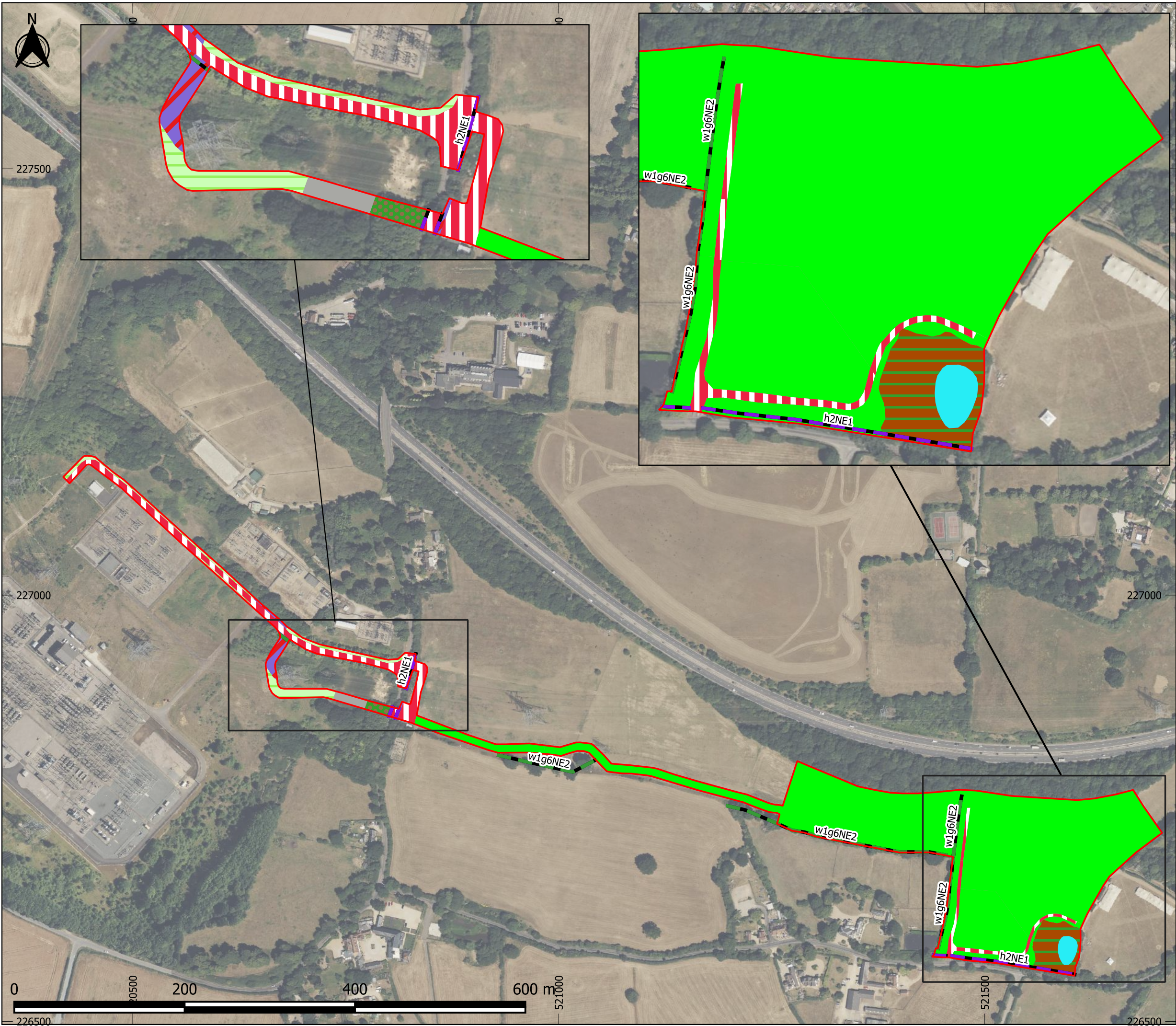
Appendix 3: Cable Route Plans

Appendix 4: GCN eDNA Results

Appendix 5: Condition Assessment Results

Appendix 6: Proposed Condition Assessments of Created Habitats

Appendix 7: Species List of Other Neutral Grassland



- Legend
- Site boundary
 - Line of Trees (w1g6NE2)
 - Native Species Rich Hedgerow with trees (h2NE1)
 - Developed land; sealed surface
 - Lowland mixed deciduous woodland
 - Mixed scrub
 - Modified grassland
 - Other neutral grassland
 - Other woodland; broadleaved
 - Ponds (non-priority habitat)
 - Tall forbs

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PROJECT TITLE
WYMONDLEY

DRAWING TITLE
Figure 1: Baseline Habitats

DATE: 09/04/2025
DRAWN: MZ
CHECKED: BP
APPROVED: TF
SCALE: 1:4,250
VERSION: 1.1

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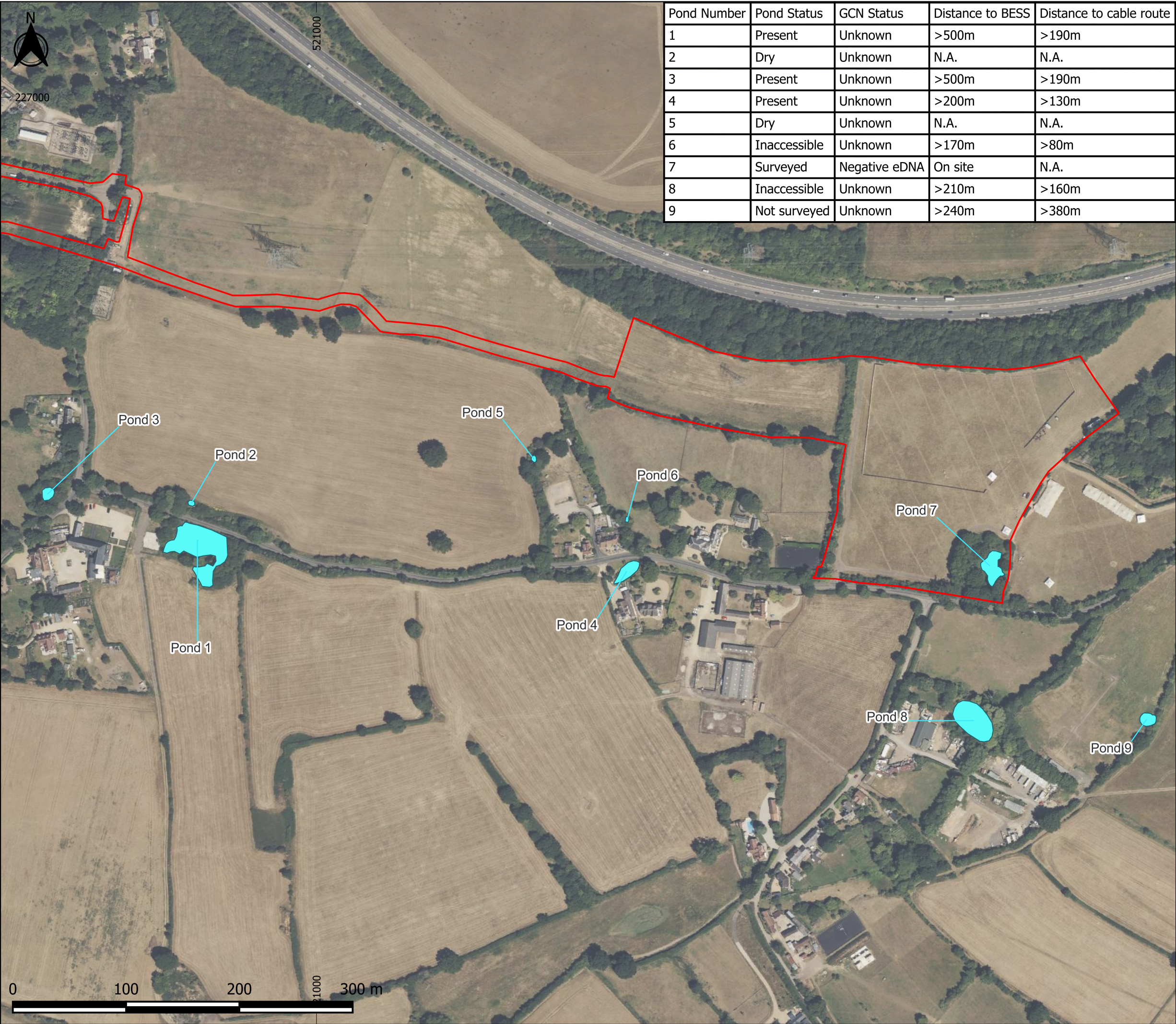
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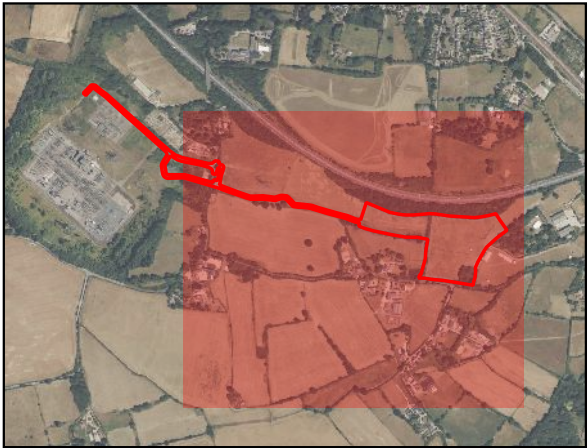
Projection: OSGB 1936/British National Grid - EPSG 27700

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Legend

Ponds and Other Water Bodies



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PROJECT TITLE
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DRAWING TITLE
Figure 2: Ponds

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DRAWN: MZ APPROVED: TF VERSION:1.1

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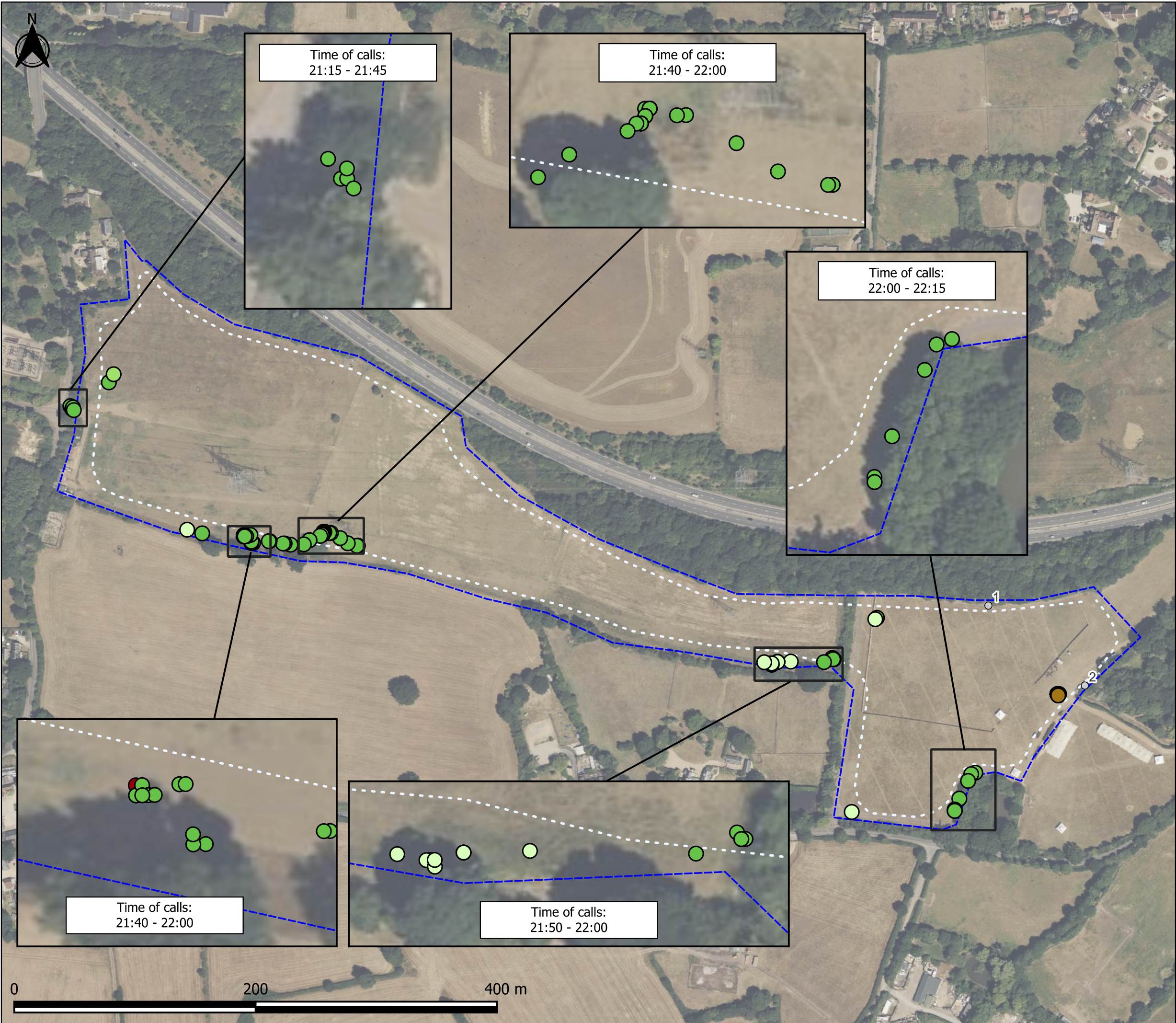
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Legend

- Survey boundary
- Survey transect
- Static Point

Bat Transect Passes

- Barbastelle bat
- Nyctalus bat
- Common pipistrelle bat
- Common or Nathusius' pipistrelle
- Soprano pipistrelle bat

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Figure 3a: Night-time Bat Walkover Survey – August 2024

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Legend

- Survey boundary
- Survey transect
- Static Point

Bat Transect Passes

- Barbastelle bat
- Nyctalus bat
- Noctule bat
- Common pipistrelle bat
- Common or Nathusius' pippistrelle
- Soprano pipistrelle bat

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Figure 3b: Night-time Bat Walkover Survey – September 2024

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DRAWN: BH	APPROVED: TF	VERSION:1.0

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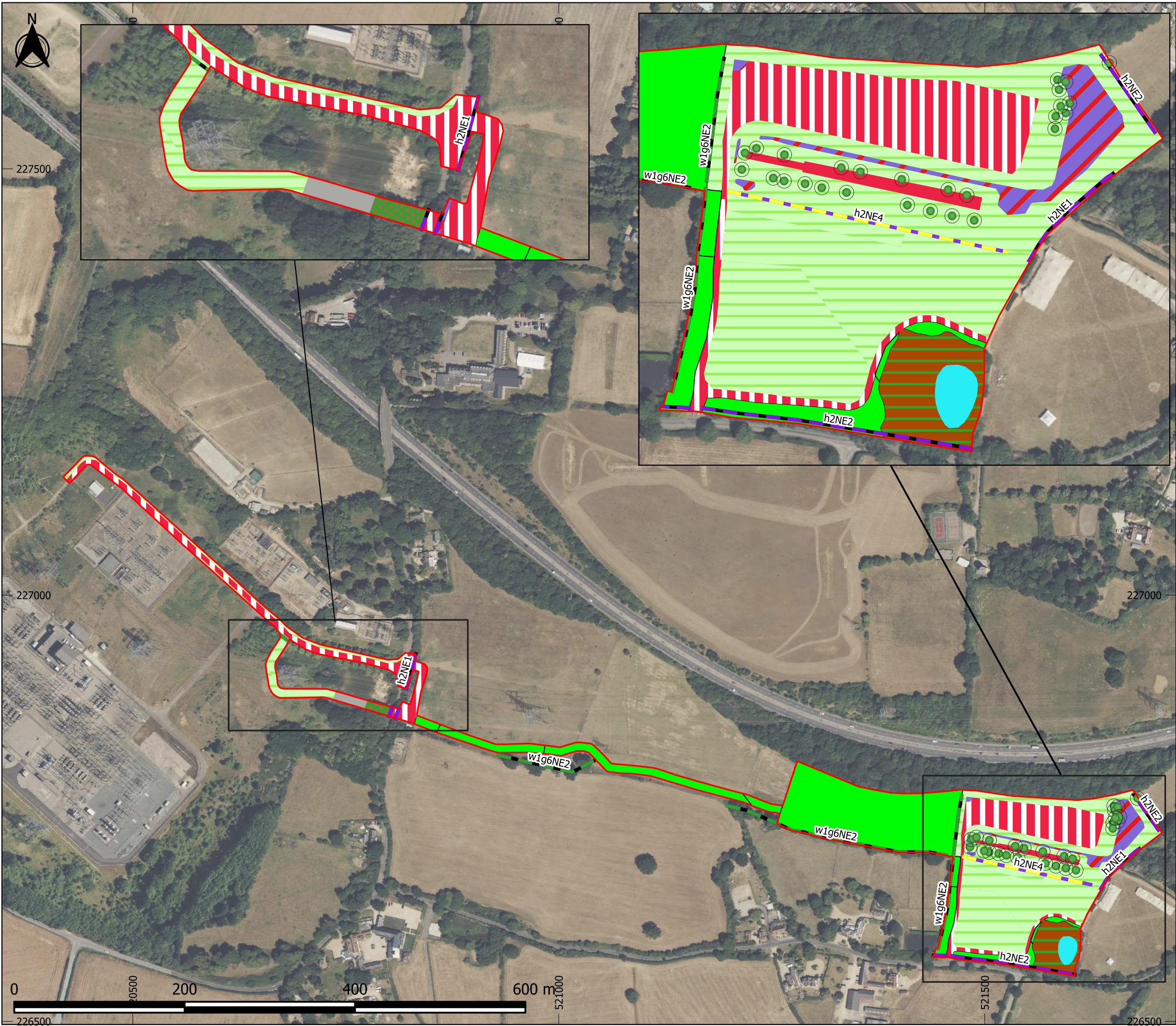
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Sources: BSG Ecology survey data



- Legend
- Site boundary
 - Proposed Small Rural Tree
 - Line of Trees (w1g6NE2)
 - Native Hedgerow with trees (h2NE4)
 - Native Species Rich Hedgerow (h2NE2)
 - Native Species Rich Hedgerow with trees (h2NE1)
 - Bioswale
 - Developed land; sealed surface
 - Lowland mixed deciduous woodland
 - Mixed scrub
 - Modified grassland
 - Other neutral grassland
 - Other woodland; broadleaved
 - Ponds (non-priority habitat)
 - Tall forbs

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Figure 4: Proposed Habitats

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