FUTURESECOLOGY

JT Energy Storage Ltd (Windel Energy)

BESS Egremont, Cumbria

ECOLOGICAL IMPACT ASSESSMENT (EcIA)

Report Reference Number: FE496/EcIA01

May 2025

Please note that the report is likely to be valid for a period of 12 months[1]. Where specific protected species surveys are undertaken the validation period of these surveys differs and must be considered carefully when utilising the data present within this report. For example, bat nocturnal emergency surveys are likely to be valid for a period of two seasons (a season being May – September) to support a planning application though to apply for a European Protected Species Licence surveys must be up to date and should be conducted in the current or most recent optimal survey season.

Futures Ecology Ltd
Carrwood Park, Swillington Common Farm, Selby Rd, Leeds LS15 4LG

Company Number: 12125083

REV	Issue Status	Author or Reviewer	Name & Qualifications	Position	Date
-	Draft 1	Author	D. Heppenstall BSc (Hons)	Assistant Ecologist	06/05/2025
		Reviewer	J. Eales BSc	Managing Director	07/05/2025
	Draft 2	Author	A. Eales BSc (Hons)	Ecology Director	13/05/2025
		Reviewer	J. Eales BSc	Managing Director	14/05/2025
	Final	Reviewer	A. Eales BSc (Hons)	Ecology Director	15/05/2025

[1] https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf

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1.0 EXECUTIVE SUMMARY

1.1 An Ecological Impact Assessment has been undertaken following published guidelines on the likely effects upon biodiversity as a result of a proposed 30MW Battery Energy Storage System (BESS) and underground grid connection.

1.2 The assessment draws from a desk study and field surveys of the Site and surrounding area undertaken in February 2025.

1.3 The Site is c.1.18ha in extent and comprises a main BESS Site and cable route. Habitats associated with the Site comprised mostly semi-improved grassland and hardstanding, with some scattered scrub, broadleaved trees, and a dry ditch.

1.4 The assessment identified that the following Important Ecological Features could be affected by the Proposed Development or warrant consideration due to the legal protection afforded to them:

- River Ehen SAC / SSSI
- Lake District High Fells SAC
- River Derwent & Bassenthwaite Lake SAC
- Solway Firth SPA / SAC
- River Ehen (Ennerdale Water to Keekle at Cleator Moor) SSSI
- Clints Quarry SAC / SSSI
- Longlands Lake LWS
- Habitats of Principal Importance (HPIs)
- Offsite woodland
- Broadleaved trees
- Ditch (D1a)
- Bats (foraging / commuting habitat)
- Red squirrel
- Reptiles
- Breeding birds
- Wintering birds
- Hedgehog
- Butterflies / moths

1.5 Proposed mitigation is provided as discussed in the Flood Risk Assessment and Drainage Strategy (KRS, 2025) to reduce potential impacts as a result of construction phase surface water drainage that could potentially have an adverse effect on the River Ehen SAC/SSSI. Details regarding the management of potential pollution events, silt and erosion control in line with Pollution Prevention Guidance (PPG) will be set out in the Construction and Environmental Management Plan (CEMP) to be secured by planning condition.

1.6 Impacts during the installation of the Proposed Development on retained habitats will be minimised through the careful control of ground works activities through industry best practice measures as provided in this document.

1.7 Precautionary working methods are required to minimise the risk to bats, red squirrel *Sciurus vulgaris,* reptiles, nesting birds, and hedgehog *Erinaceus europaeus*.

1.8 To comply with relevant legislation, any removal of vegetation will be timed to avoid the bird nesting season where possible (March to August inclusive, although dates do vary depending on the species and weather conditions) or appropriate pre-start assessments will be undertaken by an Ecological Clerk of Works to minimise the risk of a breach of legislation during works.

1.9 With the implementation of the above mitigation measures, no significant adverse residual effects are envisaged upon any Important Ecological Features as a result of the Proposed Development.

2.0 INTRODUCTION

2.1 The following report has been prepared by Futures Ecology Ltd on behalf of JT Energy Storage Ltd (Windel Energy). It provides the results of ecological assessments undertaken on land to the east of Dalzell Street, north of Egremont, Cumbria (grid reference: NY 00891 13778) in support of a planning application for a proposed Battery Energy Storage System (BESS) and associated buried grid cable route.

2.2 The initial habitat appraisal and preliminary protected species surveys were undertaken on 23rd February and 15th April 2025.

2.3 This document has been prepared with reference to the Chartered Institute of Ecology and Environmental Management's (CIEEM) Ecological Impact Assessment (EcIA) Guidelines[2]. The key findings of the ecological assessments and the application of the mitigation hierarchy have been employed at each stage of the development design process to minimise impacts and maximise the ecological benefit of the scheme.

2.4 The key objectives of an EcIA are to:

- gain an understanding of the baseline ecology of the Site and immediate surrounding area;
- determine whether the Site supports or has the potential to support protected species;
- identify any likely ecological constraints and use this to inform the development design process;
- Assess the likely significant impacts of the proposals on the Important Ecological Features;
- Identify mitigation measures likely to be required;
- identify the opportunities offered by the potential project to deliver ecological enhancement.

2.5 This report should be read in conjunction with the following appendices and reporting:

- Wintering Bird Report, Futures Ecology, May 2025, Report Ref: FE496/WBR01,
- Biodiversity Impact Assessment (BIA) Futures Ecology, May 2025, Report Ref: FE496/BIA01.

2.6 The EcIA has been undertaken with reference to the Site Layout Plan (SOL Architecture, April 2025, Plan reference: 030.301.05).

SITE LOCATION AND CONTEXT

2.7 The Site comprises land to the east of Dalzell Street between the villages of Bigrigg, Cleator and Moor Row (NGR: E: 300842, N: 513769). The larger settlements of Egremont, Cleator Moor and Whitehaven are all located within a 5km radius of the Site. The Lake

[2] CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine. Version 1.3 updated September 2024

District National Park boundary lies approximately 2.7km to the north-east. The Site is wholly located within the administrative boundary of Cumberland Council.

2.8 The Site boundary including the underground cable route to the point of connection at Woodend substation measures 1.18ha. The proposed cable route will follow Dalzell Street southwards to the point of connection at Woodend substation.

2.9 The Site area, excluding the cable route, wherein the Proposed Development will be located will be approximately 0.58ha. The Site area for the triangular field to the northern portion of the Site to be used for BNG purposes is 0.32ha.

2.10 The Site comprises pasture land, which has most recently been used for the grazing of livestock. The Site is split across two fields, separated by an access track. The Site boundaries are demarcated by hedgerow and scattered trees.

2.11 Access to the site is via the existing track taken from Dalzell Street, a local road. Dalzell Street connects with the A5086 and the A595, approximately 1-1.25km to the south of the Site.

2.12 The Site is adjoined to the eastern boundary by National Cycle Route 72, a long-distance route, which connects Ravenglass, Cumbria with South Shields, Tyne & Wear. To the north and south of the Site is agricultural land. To the western boundary is Dalzell Street.

2.13 Habitats in the main BESS Site comprise semi-improved grassland with some scattered scrub, a short treeline, and a dry ditch. The cable route is entirely hardstanding. The main BESS Site lies directly west of a narrow stretch of woodland along an embankment, through which the long-distance National Cycle Route 72 passes.

2.14 Landscape immediately around the Site comprises mostly agricultural land, and beyond are the small rural villages of Moor Row (c. 480m northwest), Cleator (c. 675m east), and Bigrigg (c. 732m west).

DEVELOPMENT PROPOSALS

2.15 Proposals comprise the clearance of the arable land to facilitate the construction of a 30MW Battery Energy Storage System (BESS) development with associated ancillary structures, hardstanding, landscape screening and biodiversity enhancements. A buried cable route will be installed along Dalzell Street to the point of grid connection at the existing Woodend Substation to the south of the Site.

2.16 The Proposed Development comprises the following key components:

- 16 no. battery storage containers providing a total capacity of 60MWh. Each BESS unit typically resembles a storage container, measuring 6.1m in length, 2.5m width and 2.9m in height.
- 8 no. inverter stations, measuring 6.1m in length, 2.5m in width and 2.9m in height
- Spare parts container, measuring 12.2m in length, 2.5m in width and 2.6m in height
- 2 Substations (note: the substations are positioned back-to-back, read as a single unit):
    - Client substation: 7.5m length, 3.5m width and 3.3m in height
    - DNO substation: 7.5m in length, 5.35m in width and 3.3m in height

- Access track comprised of crushed stone
- Fencing – 3m high palisade fence
- CCTV cameras
- Water tank: 10.45m depth and 3.9m in height
- Aux transformer: 4.7m in length, 3.8m in width and 2.4m in height
- Landscaping and biodiversity enhancements

2.17 Surface water from the main BESS Site will be connected to the onsite ditch D1a, which may be linked hydrologically to the River Keekle via offsite ditch D1b.

2.18 The construction phase is estimated to be 6 months. Construction activities on site would take place between the hours of 07:00 to 19:00, on weekdays and Saturdays. No construction related activity would take place on Sundays or bank holidays. Any works outside of these hours would be limited to emergency works, unless otherwise agreed in writing with the Council.

2.19 A temporary construction lay down area will be created during the construction phase, to the west of the proposed substation compound to facilitate ease of access. The compound will house containerised office cabins, mobile welfare units, canteens, storage and waste skips, parking areas and space for storage, download and turning area.

2.20 The compound will be surrounded by temporary security fencing, this is typically Heras style fencing, which is secured with precast concrete blocks rather than posts knocked into the ground.

2.21 Temporary lighting of the compounds may be necessary during construction hours in winter months, using mobile lighting towers but will be limited to the construction hours outlined above.

2.22 On completion of the main construction works, the compound area will be fully restored and landscaped.

2.23 A temporary wheel washing facility would be installed on site to prevent transfer of soil onto nearby public roads and discharging into highway drains, if found to be necessary.

2.24 For the purpose of this impact assessment, the Site is considered to constitute two elements. See below for further details regarding the Proposed Development.

BESS Site

2.25 Two fields separated by an access track comprising the main BESS construction area and associated landscape buffers within the southern field, and the biodiversity enhancement area in the northern field.

2.26 Construction within the BESS construction area will have permanent effects on the baseline habitats and as such, the area has been considered in relation to short-term construction phase impacts as well as long-term / permanent effects of the Proposed Development.

Cable Route

2.27 The installation of a buried cable to the point of grid connection. This will be within land comprising entirely hardstanding.

2.28 It is anticipated that following completion of the installation works no habitats are to be permanently impacted and all be reinstated within 2 years of completion. As such this element of the scheme has been considered in relation to temporary / construction phase impacts.

3.0 BASELINE METHODOLOGY

DESK STUDY

3.1 Prior to the field survey, aerial photographs and mapping tools were reviewed using online mapping resources at a minimum scale of 1:25,000; Google Maps; and the Multi Agency Geographic Information for the Countryside (MAGIC) to assess the landscape context of the survey area and surrounding areas.

3.2 The MAGIC website was used to obtain information about:

- Statutory designated sites of international, national, and local importance;
- Impact Risk Zones (IRZs) for Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites; and
- Approved European Protected Species Mitigation (EPSM) licences.

3.3 To support the field survey and compile baseline information of relevance to the Site, ecological information was sought from third party organisations:

- Cumbria Biodiversity Data Centre (CBDC)[3];
- Natural England Open Dataset[4];
- Woodland Trust Ancient Tree Inventory (ATI)[5]; and
- Landscape Information Service (LandIS)[6].

3.4 The search area for designated sites and protected species is determined by the likely Zone of Influence (ZoI) and the likely significant effect. The search areas for the various levels of site designation and for protected / notable species is detailed below:

- Sites of international statutory designation such as Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar Sites are searched for within a 10km radius around the Site.

[3] https://www.cbdc.org.uk/
[4] https://naturalengland-defra.opendata.arcgis.com/datasets/great-crested-newts-edna-pond-surveys-for-district-level-licensing-england/explore?location=52.627247%2C-0.857662%2C6.58
[5] https://ati.woodlandtrust.org.uk/
[6] https://www.landis.org.uk/soilscapes/

- Sites of national or regional importance with a statutory designation of Site of Special Scientific Importance (SSSI) or National Nature Reserve (NNR) within 2km.
- Sites of local importance with statutory designation of Local Nature Reserve (LNR), or non-statutory designation of Site of Importance for Nature Conservation (SINC) or the equivalent Local Wildlife Site (LWS) within 1km; and
- Records of notable / protected species (i.e., including Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and local Biodiversity Action Plan (LBAP) species within 1km and bats within 2km.
- European Protected Species (EPS) licences relating to bats and GCN within 2km.

BASELINE SURVEYS

Personnel

3.5 The initial habitat and protected species surveys for the Site were undertaken by J. Wheeldon MCIEEM, BSc (Hons) who has over 20 years' experience in undertaking these surveys. J. Wheeldon is registered to use a Natural England Class Licence Level 2 to survey for bats (WML-CL18: 2015-12340-CLS-CLS), great crested newts (WML-CL08: 2015-12340-CLS-CLS), and white clawed crayfish (WML-CL11: 2015-20902-CLS-CLS).

3.6 The further habitat survey was undertaken by D. Heppenstall BSc (Hons) who has 1 years' experience of conducting and leading field surveys for habitats and protected species across a wide range of sites and is suitably qualified based on the CIEEM competencies.

Habitat Appraisal

3.7 The initial habitat appraisal was undertaken on 23rd February 2025, with a further survey on 15th April 2025 to assess the northern field.

3.8 The surveys were undertaken following guidance from Joint Nature Conservation Committee (JNCC) (2016)[7] which comprised a walkover of the survey area mapping habitats present using the JNCC standard habitat codes, broadly describing and classifying the principal habitat types as well as other features of interest. The frequencies at which plant species occurred were noted using the DAFOR[8] method. Whilst the plant species lists obtained should not be regarded as exhaustive, sufficient information was obtained to determine broad habitat types.

3.9 For the purpose of the Biodiversity Impact Assessment (BIA) the habitat types were also described and evaluated in accordance with the UK Habitat Classification System (UKHab, 2023)[9].

3.10 Habitats were also assessed for their potential to support protected or notable species including any incidental sightings of birds recorded during the walkover. Where potentially suitable habitats were observed during the scope of this assessment, detailed protected species surveys were undertaken using methodology detailed below.

[7] JNCC (2016) Handbook for Phase1 Habitat Survey – a technique for environmental audit. ISBN 0 86139 636 7
[8] DAFOR – Dominant, Abundant, Frequent, Occasional and Rare
[9] UKHab (2023) The UK Habitat Classifications – Habitat Definitions Version 2.0

3.11 The distribution and extent of any invasive species listed on Schedule 9, Section 14 of the Wildlife and Countryside Act 1981 (as amended) (as amended) and in Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019 were also noted during the survey.

Badger *Meles meles*

3.12 A badger survey was undertaken on the Site and 30m beyond the boundary where possible and undertaken by an ecologist with over 20 years' experience of undertaking field surveys. The survey followed standard methodology as outlined by Natural England (2015)[10] and Harris *et al* (1989)[11], Creswell *et al.* (1990)[12]. Field signs searched for include: setts, earth mounds, bedding material, mammal paths, latrines, snuffle holes, prints, hairs, scratching posts etc.. The identification of some signs on their own does not necessarily provide conclusive evidence of the presence of badgers.

Barn Owl

3.13 An inspection of all trees within the Site was undertaken to locate any potential nest sites or evidence of barn owl. Habitats were assessed for their potential as foraging habitat. The survey was undertaken using methods detailed by Shawyer (2012)[13] and the Barn Owl Trust (2010)[14]. The survey area was searched during daylight hours for potential or active nest and roost sites for barn owl. Features searched for include:

- Buildings which comprise used and disused agricultural, domestic and industrial;
- Mature trees, either isolated or within cluster which can be in either hedgerows, open fields or woodlands edge. A hole/cavity of >80mm back by a large cavity.
- Stacks of hay bales located either inside or outside buildings, trees or other structures,
- Appropriately sized nest boxes in or outside buildings, trees, poles or other structures.

3.14 An inspection was made of any potential feature listed above, where access was feasible, with the aid of binoculars for signs of barn owl activity. Signs searched for include:

- Adult, young or juvenile barn owls,
- White droppings / faecal splashing,
- Pellets,
- Feathers,
- Eggs and broken egg shells.

[10]Natural England (2015) Badger Surveys and Mitigation accessed May 2021 https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects#survey-methods (accessed December 2019)
[11] Harris, S., Creswell, P., & Jefferies, D. (1989). *Surveying Badgers.* The Mammal Society.
[12] Cresswell, P., Harris, S., & Jeffries, D.J. (1990) The history, distribution, status, and habitat requirements of the badger in Britain. Nature Conservancy Council.
[13] Shawyer, C.R (2012) Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment – Developing Best Practice in Survey and Reporting. Wildlife Conservation Partnership.
[14] The Barn Owl Trust (2010) Leaflet No. 8 Survey Technique. Devon

3.15 Potential roosting or nesting sites were classified as high, medium, low or negligible depending on the quality of the feature, location, the proximity to potential sources of disturbance and quality of potential foraging areas.

3.16 Habitats within the survey area were assessed on their appearance and structure as a potential foraging resource. Habitats were classified in accordance with those detailed in Table 1 below.

Table 1 - Barn Owl Habitat Classification in accordance with Shawyer (2012)

Habitat Type	Habitat Description
Type 1	Optimum habitat for supporting a good population of field vole *Microtus agrestis* and therefore of the highest value to barn owls. This habitat type is generally permanent, unimproved or semi-improved grassland with a heterogenous appearance and often of mixed height with fully or partly collapsed dead grass stems. This habitat usually has little to no management other than light grazing. Examples include unmanaged fields, wasteland, ditches, field margins and road verges.
Type 2	Sub optimal for field voles but of value to barn owls in areas of sporadic Type 1 habitats. Can comprise improved or semi-improved grassland with a homogenous appearance and even-height sward. Very little in terms of a litter layer of dead vegetation to form a 'thatch'. Examples include mature clover/grass leys with some management from occasional fertilization, annual topping or light grazing.
Type 3	Very poor habitat for field voles and most other small mammals. Generally improved grassland with homogenous sward which is kept short for much of the year. No tussock structure and devoid of any litter layer. Management comprises close mowing for hay or silage, heavily grazed by sheep, horses or cattle or used for public amenity. Acid grassland and those overgrown by scrub are also suboptimal for barn owl.

Bats

Ground Level Tree Assessments (GLTA)

3.17 All trees within the Site were assessed for their potential to support roosting bats using statutory guidance (Natural England, 2019)[15] and best practice survey methodology (Collins, 2023[16] and Mitchell-Jones & McLeish 2004[17]).

3.18 The trees were inspected from the ground using close focussing binoculars, a high-powered torch, and an endoscope where appropriate. Potential Roosting Features (PRF) for bats such as holes / cavities, loose bark, cracks / splits, occluded bark, and gaps behind ivy stems (please note that this list is not exhaustive) were sought . Other factors such as orientation of the feature, its height from the ground, the direct surroundings and its location in respect to other features may enhance or reduce the potential value of the PRF. Signs indicating possible use by bats were also recorded such as bat droppings, odour, scratches, staining, and audible sounds.

[15] Bats: surveys and mitigation for development projects: https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects accessed February 2025.
[16] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologist: Good practice Guidelines (4th edition), The Bat Conservation Trust, London.
[17] Mitchell-Jones, A.J. and McLeish, A.P. (eds) (2004) Bat Workers' Manual (3rd edn). JNCC, Peterborough

3.19 An assessment was made on the level of bat roosting potential offered by the trees, based on the presence of the features detailed above. Table 3 below outlines the suitability categories as per the Bat Survey Guidelines[16].

Table 2 – Suitability of Trees for Bat Roosts – Based on Table 4.2 of Collins (2023)[16]

Classification / Suitability	Description	Likely Further Survey Work
NONE	Either no PRFs in the tree or highly unlikely to be any.	None.
FAR	Further assessment required to establish if PRFs are present in the tree.	Aerial Assessment or further GLTA required by a licensed or accredited bat licence worker.
PRF	A tree with at least one PRF present.	PRF Inspection Survey (Aerial Assessment). If this is not possible alternative access methods such as a MEWP (Mobile Elevated Work Platforms) and / or nocturnal survey work must be considered.

3.20 Upon completion of the above assessment the PRFs are assigned the following:

- PRF-I – PRF is only suitable for individual bats or very small numbers of bats due to size of or lack of suitable surrounding habitats. No further survey work is required,
- PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony. These will require further aerial (close) inspection and / or nocturnal surveys which comprise three visits between May – September, with at least two in the period May – August. East visit should be at least three weeks apart.

Foraging / Commuting Habitat

3.21 The potential for the Site and immediate surrounds to support foraging and commuting bats was also assessed, with particular regard being given to the presence of continuous treelines providing good connectivity in the landscape, and the presence of varied habitat such as scrub, woodland, grassland and open water in the vicinity.

Great Crested Newt (GCN) *Triturus cristatus*

Aquatic Habitat

3.22 OS mapping and online aerial imagery were analysed for the presence of on and off-site water bodies within 500m of the Site in accordance with Natural England guidance[18].

3.23 Where access was possible the waterbodies were evaluated using the HSI scoring system development by Oldham *et al* (2000)[19] as part of the field surveys.

[18] Natural England: *Standing Advice Sheet: Great Crested Newts* Paragraph 4: 4.1
[19] Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M (2000) Evaluating the suitability of habitat for the great crested newt Triturus cristatus. Herpetological Journal **10**(4), 143-155pp

3.24 The scoring system produces a value of habitat suitability calculated from scores achieved under a variety of categories which include; the location within the UK, pond area, frequency of drying out, water quality, percentage shade, presence of waterfowl, presence of fish, number of other ponds within 1km, quality of surrounding terrestrial habitat, percentage coverage by macrophytes.

3.25 Pond suitability is then determined using the scale shown below in Table 4.

Table 3 - HSI Scores as a Measure of Pond Suitability

HSI Score	Pond Suitability
<0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

Terrestrial Habitats

3.26 An assessment of the suitability of the terrestrial habitats within the Site to support GCN was completed within the Site. Suitable terrestrial habitat includes shelter habitat such as scrub and rank vegetation and habitat that could provide suitable hibernation sites such as rubble piles, tussock grassland and compost heaps.

Environmental eDNA Assessments

3.27 GCN presence / absence surveys were undertaken using environmental DNA (eDNA) methods.

3.28 The method used to collect the eDNA samples followed the Technical Advice Notes for field and laboratory sampling of GCN environmental DNA, dated 30th September 2014[20].

3.29 Samples were taken on 15th April 2025 by J. Harries, accredited by Level 1 Licence holder J. Eales (Licence Ref: CL08 2015-17861-CLS-CLS) using sample kits obtained from ADAS Biotechnology.

3.30 The laboratory analysis, undertaken by ADAS Biotechnology, provides one of the following outcomes described in Table 4 below.

Table 4: Description of Possible Results of Great Crested Newt eDNA Analysis

Result	Description
Positive	A positive result means that GCN are present in the water or have been present in the water in the recent past (eDNA degrades over around 7-21 days).
Negative	A negative result means that DNA from the GCN has not been detected in your sample.

[20] Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.

Result	Description
Inconclusive	This occurs where the DNA from the GCN has not been detected but the controls have indicated that either: the sample has been degraded and/or the eDNA was not fully extracted (poor recovery); or the PCR inhibited in some way. This may be due to the water chemistry or may be due to the presence of high levels of sediment in samples which can interfere with the DNA extraction process.

Red Squirrel

3.31 Habitats onsite and surrounding the Site were assessed for their suitability to support red squirrel. This involved a review of aerial imagery to determine the extent of woodland and connectivity via suitable hedgerows in relation to the Site. Hedgerows and any woodland / trees onsite were also assessed to determine whether they would provide suitable habitat with appropriate connectivity across the landscape.

Reptiles

3.32 An assessment of the suitability of the habitats present to support common reptile species was completed at the time of the habitat survey. This involved a review of habitats and habitat structure suitable for the shelter of reptiles such as areas of scrub and woodpiles, grassland with well developed, varied structure; and also, the appropriate juxtaposition of areas suitable for basking shelter and forage/hunting. This assessment was based on the methodology detailed in the Herpetofauna Workers Manual (Gent and Gibson, 1998)[21], and Froglife Advice Sheet 10 – Reptile Survey (Froglife 1999)[22].

Water Vole

3.33 The potential for ditches and standing water within the Site to support water vole was assessed. Suitable habitat includes:

- Dry areas above water level for nesting, either in burrows or above-ground woven nests;
- Steep bank profiles;
- Suitable bank substrate for burrowing;
- Daily water level fluctuations;
- Herbaceous marginal and bankside vegetation; and
- Suitable water depth.

[21] Gent, A.H., & Gibson, S.D., *eds* 1998. *Herpetofauna Workers' Manual*. Peterborough, joint Nature Conservation Committee.
[22] Froglife 1999. Froglife Advice Sheet 10: Reptile Survey. Froglife, London

Other Notable Species

3.34 Any sightings, evidence of or suitable habitats for other protected fauna, local Biodiversity Action Plan (BAP) species or otherwise notable species was recorded during the survey.

Survey Limitations

3.35 The initial survey was undertaken in February which is considered suboptimal for the majority of habitat assessments, particularly grassland, however, a further survey was undertaken in April during the optimal season which confirmed the habitat conditions recorded prior.

IMPACT ASSESSMENT METHODOLOGY

Importance

4.25 Ecological features are those that are considered to be important and potentially affected by the project. Importance may relate, for example, to the quality or extent of designated sites or habitats, to habitat/species rarity, to the extent to which they are threatened throughout their range, or to their rate of decline (CIEEM 2024[2]).

Geographical Context

4.26 The importance of an ecological feature is considered within a defined geographical context. For the purposes of the assessment this is:

- International (European)
- National (United Kingdom)
- Regional (North West England)
- County (Cumbria)
- Local (Egremont)

4.27 The assessment of the importance of the ecological features and the potential likelihood of an effect of the Proposed Development will identify which ecological features could be significantly affected by the proposal. Only these features will be taken forward for further assessment.

4.28 Where further surveys are required to determine whether an effect would be significant, the precautionary principle would be applied, and a significant effect assumed.

Further Assessment

Significance

4.29 In order to assess the significance of effects, Important Ecological Features that could potentially be affected by the Proposed Development have been identified and described and the potential effects quantified using a range of characteristics:

- Positive / negative
- Extent
- Magnitude
- Duration
- Frequency / timing
- Reversibility

4.30 For the purposes of this assessment, a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g., for a designated site) or broad (e.g., national / local nature conservation policy) or more wide-ranging (enhancement of biodiversity)[2].

Mitigation, Compensation and Enhancement

4.31 Where significant effects have been identified, the mitigation hierarchy has been considered: avoiding significant effects where possible, applying mitigation measures to minimise unavoidable significant effects and compensating for any remaining significant effects.

4.32 The assessment will include mitigation, compensation and enhancements which are proposed.

Residual Effects

4.33 Upon completion of the above, residual significant effects will then be identified. It is then only necessary to assess and report significant residual effects (those that remain after mitigation measures have been considered).

Cumulative Effects

4.34 Consideration is given to the effects that may arise cumulatively from the Proposed Development in combination with other plans and projects proposed/consented but not yet built and operational.

4.0 LEGISLATION, PLANNING POLICY AND GUIDANCE

4.1 The policy and guidance framework for nature conservation is provided by various national, regional, and local planning policies as outlined below, with further details, as necessary, within relevant subsequent sections.

Legislative Framework

4.2 The following legislation and European Directives afford protection to wildlife and have been used to inform this assessment.

- The Environment Act 2021[23]
- The Conservation of Habitats & Species Regulations 2017 (as amended)[24];
- The EC Habitats Directive (Directive 92/43/EEC)[25] as translated into UK law by The Conservation of Habitat and Species Regulations 2017 (as amended);
- The EC Birds Directive (Directive 79/409/EEC)[26]; as translated into UK law by The Conservation of Habitat and Species Regulations 2017 (as amended);
- Wildlife and Countryside Act 1981 (as amended) (WCA)[27];
- Natural Environment and Rural Communities Act 2006 (NERC)[28];
- The Wild Mammals (Protection Act 1996) (as amended)[29];
- Invasive Alien Species (Enforcement and Permitting) Order 2019[30]
- The Protection of Badgers Act 1992[31].
- The Hedgerow Regulations Act 1997[32].

National Planning Policy

4.3 The latest National Planning Policy Framework (NPPF, 2024)[33] sets out the Government's planning policies for England and how these are expected to be applied within the planning system. It provides a framework for local councils to produce local plans and determine planning applications in order to achieve more sustainable developments. In relation to ecology and biodiversity, Chapter 15: Conserving and enhancing the natural environment, is of relevance to this report.

4.4 The Government Circular, Biodiversity and geological conservation: circular 06/2005[34], defines statutory nature conservation sites and protected species as a material consideration in the planning process.

4.5 The former UK Biodiversity Action Plan (BAP) has been used to compile the statutory lists of priority species and habitats as required under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (also referred to as Habitats and Species of Principal Importance). These lists continue to be regarded as conservation priorities under the NPPF, although the UK Biodiversity Action Plan (BAP) has now been superseded by the UK Post-2010 Biodiversity Framework[35] and Biodiversity 2020[36].

[23] https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted
[24] HMSO. The Conservation of Habitats and Species Regulations 2017 (as amended) - No.1012
[25] EC (1992) Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (The EC Habitats Directive).
[26] EC (1979), Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive).
[27] HMSO. The Wildlife and Countryside Act 1981 (as amended).
[28] HMSO. (2006), Natural Environment and Rural Communities Act.
[29] https://www.legislation.gov.uk/ukpga/1996/3/contents
[30] https://www.legislation.gov.uk/uksi/2019/527/contents
[31] HMSO. The Protection of Badgers Act 1992 (as amended).
[32] HMSO. The Hedgerow Regulations Act 1997
[33] Ministry of Housing, Communities & Local Government (December 2024). National Planning Policy Framework. London
[34] https://assets.publishing.service.gov.uk/media/5a78c5e7ed915d04220653ab/147570.pdf
[35] JNCC and Defra (on behalf of the Four Countries' Biodiversity Group) (2012) UK Post-2010 Biodiversity Framework. July 2012.
[36] DEFRA (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services.

Local Planning Policy

4.6 Planning decisions should be made in accordance with the adopted development plan, in this case the Copeland Local Plan (2021-2039)[37], prior to the development of the new Cumberland Local Plan, with the key local policies concerned with ecology being:

- Strategic Policy N1: Conserving and Enhancing Biodiversity and Geodiversity,
- Strategic Policy N2: Local Nature Recovery Networks;
- Strategic Policy N3: Biodiversity Net Gain;
- Strategic Policy N9: Green Infrastructure; and
- Policy N14: Woodlands, Trees and Hedgerows.

Local Biodiversity Action Plan

4.7 Local BAPs are a key element for securing the requirements of the NPPF at a local level, consequently this assessment has taken due consideration of the priority habitats and species within the Cumbria Biodiversity Action Plan[38] From a review of habitat and species action plans within Cumbria, the following are of relevance to this scheme: Bats, Red Squirrel *Sciurus vulgaris*, Water Vole *Arvicola amphibius*, Barn Owl *Tyto alba*, Song Thrush *Turdus philomelos*, and Great Crested Newt *Triturus cristatus*.

Other guidance

Birds of Conservation Concern

4.8 Leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of 245 bird species regularly found in Britain and, using standardised criteria, have assessed and assigned all bird species onto lists of conservation concern[39].

4.9 Birds are placed into one of three lists - Red, Amber or Green and although these listings offer no further legal protection, they are meant to guide conservation action for the individual species. The listings reflect an individual species' global and European conservation status as well as that within the UK and additionally measure the importance of the UK population in international terms.

[37] https://www.copeland.gov.uk/sites/default/files/attachments/copeland_local_plan.pdf
[38] Armstrong, I. et al. (2001) The Cumbria Biodiversity Action Plan 2001. Chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.barrowbc.gov.uk/sites/default/files/attachment/5897.pdf
[39] Stanbury *et a*l (2021), The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114, 723-747. https://britishbirds.co.uk/sites/default/files/BB_Dec21-BoCC5-IUCN2.pdf

5.0 RESULTS

DESK STUDY

5.1 A summary of relevant information provided by third party consultees is provided below. The original data has not been included in this report and a summary of the relevant findings is provided upon Figure 1.

Statutory Designated Sites

5.2 No statutory designated sites occur within the Site.

5.3 Four internationally designated sites occur within 10km of the Site:

- River Ehen SAC is situated 812m southeast of the Site boundary. This closest point is at the south-eastern extent of the buried cable route. The main BESS construction area is located 800m (straight line distance) from the River Ehen SAC.
- Lake District High Fells SAC is situated at its closest point 2.74km east of the Site boundary.
- River Derwent & Bassenthwaite Lake SAC is situated at its closest point (the main BESS area) 8.6km northeast of the Site boundary.
- Solway Firth SPA is situated at its closest point (the main BESS area) 6.22km northwest of the Site boundary. Further details regarding the sites' qualifying features and locations in relation to Site are provided in Table 5 below.

5.4 Two sites of national importance with a statutory designation were located within 2km of the Site boundary:

- River Ehen (Ennerdale Water to Keekle Confluence) SSSI is situated 812m southeast of the Site boundary. This closest point is at the south-eastern extent of the buried cable route. The main BESS construction area is located 754m from the River Ehen SSSI.
- Clints Quarry SSSI is situated at its closest point 1.53km south of the Site boundary. This closest point is at the south-eastern extent of the buried cable route. The main BESS construction area is located 1100m (straight line distance) from the Clints Quarry SSSI.

5.5 Further details regarding the sites' qualifying features and locations in relation to Site are provided in Table 5 below.

5.6 Consultation with MAGIC online resource confirms that the Site lies within the Impact Risk Zone (IRZ) for River Ehen (Ennerdale Water to Keekle Confluence) SSSI. Given that part of the proposals comprise installation of cabling to connect the BESS scheme to the National Grid the proposals do fall within a category that would require local authority consultation with Natural England due to their potential impact, this being:

- *Pipelines and underground cables, pylons and overhead cables (excluding upgrades and refurbishment of existing network).*

5.7 No sites of local importance with a statutory designation were located within 1km of the Site boundary.

5.8 The statutory sites represent an Important Ecological Feature of importance at **International** level and will be subject to a Stage 1 Screening Assessment[40].

Non-Statutory Designated Sites

5.9 No sites of local importance with non-statutory designation occur within the Site.

5.10 Two sites of local importance with non-statutory designation were present within 1km of the Site boundary. Longlands Lake LWS is situated 20m east of the Site boundary, and River Ehen Ponds is situated 665m south of the Site boundary.

5.11 The presence of this site within 1km of the Site represent an IEF of importance at a **County** level.

Table 5: Statutory and Non-Statutory Designated Sites

Site Name	Designation	Proximity to Site (approximate)	Description
River Ehen	SAC; SSSI	110m southeast	The River Ehen is a relatively small, oligotrophic river. It supports the largest population of freshwater pearl mussels (*Margaritifera margaritifera*) in England, a species critically dependent on the presence of Atlantic salmon (*Salmo salar*) and trout for its life cycle. The river's clear, nutrient-poor waters and well-oxygenated gravel beds provide ideal habitats for these mussels and spawning grounds for salmonids.
Lake District High Fells	SAC	7.7km east	This site encompasses approximately 27,003 hectares of mountainous terrain, including the summit of Scafell Pike. The area is characterized by a variety of habitats, including montane heaths, grasslands, and blanket bogs. The high-altitude environments support specialized flora such as dwarf willow (*Salix herbacea*) and alpine catchfly (*Silene suecica*), while the lower slopes are home to species-rich woodlands dominated by sessile oak (*Quercus petraea*). The diverse habitats support bird species like peregrine falcon (*Falco peregrinus*), merlin (*Falco columbarius*), and raven (*Corvus corax*).
River Derwent & Bassenthwaite Lake	SAC	8.6km northeast	This site includes the River Derwent and Bassenthwaite Lake, both characterized by oligotrophic to mesotrophic waters. The aquatic habitats support extensive, species-rich beds of macrophytes, including the floating water-plantain (Luronium natans). The river and lake system provide habitats for fish species such as Atlantic salmon (Salmo salar), sea lamprey (Petromyzon marinus), river lamprey (Lampetra fluviatilis), and the vendace (Coregonus albula), a rare fish species in the UK. The surrounding wetlands and woodlands support otters (Lutra lutra) and marsh fritillary butterflies (Euphydryas aurinia).
Solway Firth	SPA; SAC	6km northwest	A large estuarine/marine site on west coast of Great Britain. The SPA includes the classified Upper Solway Flats and Marshes SPA with extensive areas of intertidal mudflats, fringing saltmarshes and grazing marshes. The offshore sediments of the marine extension are substantially sand, associated with mud and gravel

[40] https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site Last accessed 07/05/2025

Site Name	Designation	Proximity to Site (approximate)	Description
			towards the edges of the firth, especially in the smaller tributary estuaries. The series of sandbanks north east of the Isle of Man is the result of strong currents and an abundant supply of sand. The inner firth is shallow, as is Wigtown Bay, but further west towards the northeastern Irish Sea the water deepens steadily to over 40 m.
River Ehen (Ennerdale Water to Keekle at Cleator Moor)	SAC; SSSI	115m southeast from the Cable Route 815m from BESS Compound	This section of the River Ehen is recognized for its high-quality freshwater habitats, supporting the nationally significant population of freshwater pearl mussels (*Margaritifera margaritifera*) and important spawning grounds for Atlantic salmon (*Salmo salar*). The river's natural flow regime and substrate composition are crucial for maintaining the ecological integrity of these species.
Clints Quarry	SAC; SSSI	350m south	Clints Quarry is a disused limestone quarry that has developed a diverse range of habitats, including calcareous grassland, scrub, and wetland areas. The quarry supports a rich assemblage of plant species, including several orchids (*Orchidaceae*) and other *calcicole* flora. The varied habitats provide niches for invertebrates, birds, and bat species that utilize the quarry's features for roosting and foraging.
Longlands Lake	LWS	20m east	Longlands Lake, formed from a former iron ore mining site, has developed into a valuable wetland habitat. The lake and its surrounding habitats, including reedbeds, woodland, and grassland, support a variety of wildlife. Bird species such as kingfisher (*Alcedo atthis*), heron (*Ardea cinerea*), and various waterfowl are commonly observed. The aquatic environment supports amphibians and a range of invertebrates, contributing to the site's biodiversity.
River Ehen Ponds	LWS	665m south	River Ehen Ponds are a series of ponds formed from iron ore mining. They have good marginal vegetation and associated wetland habitats. Approximately 0.5ha of the site is covered by open water, while species rich marshy grassland covers the remaining 1.5ha.

Habitats of Principal Importance (HPIs)

5.12 No HPIs occur within the Site. There are a total of 31 parcels of HPI within 1km of the Site (see Figure 1 for their approximate location in relation to the Site), including:

- 23 parcels of *Deciduous woodland*, the closest parcel located 35m east;
- 3 parcels of *Good quality semi-improved grassland*, the closest parcel located 370m south; and
- 5 parcels of *No main habitat but additional habitats present*, the closest parcel located 480m south.

5.13 HPIs represent an IEF of importance at a **Local** level.

Ancient Woodland Inventory

5.14 There are no parcels of ancient woodland within 1km of the Site boundary. Furthermore, there are no individual notable, veteran or ancient trees within 1km, according to the Woodland Trust ATI[5].

Soil Type

5.15 The Site includes three types of soil, as defined by LandIS[6].

5.16 The Site consists of

'*Soilscape 17: Low fertility slowly permeable seasonally wet acid loamy and clayey soils*',

'*Soilscape 6: Low fertility freely draining slightly acid loamy soils*', and

'*Soilscape 24: Low to moderate fertility loamy restored soils mostly from quarry and opencast spoil*'.

5.17 The main BESS Site comprises predominantly Soilscape 17, with a small area of Soilscape 6, while the cable route comprises areas of all three soil types.

Protected / Notable Species Records

5.18 Records of protected and notable species provided by desk study consultees are provided in Table 6 below. The species records have been filtered to comprise relevant protected and / or notable species within 1km (and bats within 2km) of the survey area. The locations are shown on Figure 1.

5.19 Exact locations of certain individual species have not been disclosed due to their sensitivity, at the request of CBDC.

Table 6: Summary of Relevant Protected Species Records

Species	Latin	Conservation status	Total no. of records	Location / Minimum distance of records from Site boundary (m)	Grid ref. accuracy of nearest record (m)
Bat species					
Unknown Bat	*Chiroptera*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	Field records: 2 Roosts: 2 Total: 4	Field record: 136m southeast Roost: 241m east	Field record: 1m Roost: 10m
Common Pipistrelle	*Pipistrellus pipistrellus*	WCA (Sch5), Regs (Sch2), CBAP	Field records: 12 Roosts: 3 Total: 15	Field record: 680m east Roost: 136m southeast (maternity)	Field record: 1m Roost: 1m
Daubenton's Bat	*Myotis daubentonii*	WCA (Sch5), Regs (Sch2), CBAP	Field records: 3 Roosts: 1 Total: 4	Field record: 221m east Roost: 512m east	Field record: 1m Roost: 100m
Unknown *Myotis*	*Myotis*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	Field records: 1 Roosts: 0 Total: 1	Field record: 136m southeast Roost: n.a.	Field record: 1m Roost: n.a.

Natterer's Bat	*Myotis nattereri*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	Field records: 1 Roosts: 0 Total: 1	Field record: 512m east Roost: n.a.	Field record: 100m Roost: n.a.
Noctule	*Nyctalus noctula*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	Field records: 6 Roosts: 0 Total: 6	Field record: 136m southeast Roost: n.a.	Field record: 1m Roost: n.a.
Unknown *Pipistrelle*	*Pipistrellus*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	Field records: 3 Roosts: 0 Total: 3	Field record: 498m east Roost: n.a.	Field record: 100m Roost: n.a.
Soprano Pipistrelle	*Pipistrellus pygmaeus*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	Field records: 5 Roosts: 2 Total: 7	Field record: 490m southeast Roost: 390m southeast	Field record: 100m Roost: 10m
Whiskered Bat	*Myotis mystacinus*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	Field records: 1 Roosts: 0 Total: 1	Field record: 1728m northeast Roost: n.a.	Field record: 1000m Roost: n.a.
Other mammal species					
American Mink	*Neovison vison*	WCA (Sch9)	2	304m east	100m
Otter	*Lutra lutra*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	6	125m southeast	1m
Polecat	*Mustela putorius*	NERC (SPI), CBAP	1	688m southwest	1m
Hedgehog	*Erinaceus europaeus*	NERC (SPI), CBAP	55	34m south	1m
Red Squirrel	*Sciurus vulgaris*	WCA (Sch5), NERC (SPI), CBAP	44	117m south	100m
Bird species					
Barn Owl	*Tyto alba*	WCA (Sch1_part1), CBAP)	2	[within 1km]	1000m
Black-headed Gull	*Chroicocephalus ridibundus*	BoCC (Amber)	6	33m north	1000m
Common Bullfinch	*Pyrrhula pyrrhula*	BoCC (Amber), NERC (SPI), CBAP	10	33m north	1000m
Brambling	*Fringilla montifringill*	WCA (Sch1_part1)	1	[within 1km]	1000m
Common Sandpiper	*Actitis hypoleucos*	BoCC (Amber)	3	33m north	1000m
Common Cuckoo	*Cuculus canorus*	BoCC (Red), NERC (SPI), CBAP	1	33m north	1000m
Eurasian Curlew	*Numenius arquata*	BoCC (Red), NERC (SPI), CBAP	4	33m north	1000m

Dunnock	*Prunella modularis*	BoCC (Amber), NERC (SPI), CBAP	15	33m north	1000m
Dipper	*Cinclus cinclus*	BoCC (Amber)	15	33m north	1000m
Fieldfare	*Turdus pilaris*	BoCC (Red), WCA (Sch1_part1)	3	[within 1km]	1000m
Gadwall	*Mareca strepera*	BoCC (Amber)	1	33m north	1000m
Goldeneye	*Bucephala clangula*	BoCC (Red)	7	[within 1km]	1000m
Greenfinch	*Chloris chloris*	BoCC (Red)	1	33m north	1000m
Greylag Goose	*Anser anser*	BoCC (Amber)	1	33m north	1000m
Grey Partridge	*Perdix perdix*	BoCC (Red), NERC (SPI), CBAP	1	33m north	1000m
Grey Wagtail	*Motacilla cinerea*	BoCC (Amber)	8	33m north	1000m
Herring Gull	*Larus argentatus*	BoCC (Red), NERC (SPI)	10	33m north	1000m
House Martin	*Delichon urbicum*	BoCC (Red)	4	33m north	1000m
House Sparrow	*Passer domesticus*	BoCC (Red), NERC (SPI), CBAP	9	33m north	1000m
Kestrel	*Falco tinnunculus*	BoCC (Amber)	11	33m north	1000m
Kingfisher	*Alcedo atthis*	BoCC (Amber), WCA (Sch1_part1)	4	33m north	1000m
Lapwing	*Vanellus vanellus*	BoCC (Red), NERC (SPI), CBAP	1	33m north	1000m
Lesser Redpoll	*Acanthis cabaret*	BoCC (Red), NERC (SPI), CBAP	1	33m north	1000m
Linnet	*Linaria cannabina*	BoCC (Red), NERC (SPI), CBAP	1	33m north	1000m
Mallard	*Anas platyrhynchos*	BoCC (Amber)	13	33m north	1000m
Mistle Thrush	*Turdus viscivorus*	BoCC (Red)	4	33m north	1000m
Moorhen	*Gallinula chloropus*	BoCC (Amber)	10	33m north	1000m
Oystercatcher	*Haematopus ostralegus*	BoCC (Amber)	1	33m north	1000m
Peregrine	*Falco peregrinus*	WCA (Sch1_part1)	4	[within 1km]	1000m

Pied Flycatcher	*Ficedula hypoleuca*	BoCC (Amber)	1	33m north	1000m
Pochard	*Aythya ferina*	BoCC (Red)	12	33m north	1000m
Redshank	*Tringa totanus*	BoCC (Amber)	1	33m north	1000m
Redwing	*Turdus iliacus*	BoCC (Amber), WCA (Sch1_part1)	3	498m south	100m
Reed Bunting	*Emberiza schoeniclus*	BoCC (Amber), NERC (SPI), CBAP	8	33m north	1000m
Rook	*Corvus frugilegus*	BoCC (Amber)	16	33m north	1000m
Scaup	*Aythya marila*	BoCC (Red), NERC (SPI), CBAP	3	335m southeast	100m
Sedge Warbler	*Acrocephalus schoenobaenus*	BoCC (Amber)	4	33m north	1000m
Shoveler	*Spatula clypeata*	BoCC (Amber)	1	33m north	1000m
Skylark	*Alauda arvensis*	BoCC (Red), NERC (SPI), CBAP	1	33m north	1000m
Snipe	*Gallinago gallinago*	BoCC (Amber)	3	33m north	1000m
Song Thrush	*Turdus philomelos*	BoCC (Amber), NERC (SPI), CBAP	11	33m north	1000m
Sparrowhawk	*Accipiter nisus*	BoCC (Amber)	2	33m north	1000m
Spotted Flycatcher	*Muscicapa striata*	BoCC (Red), NERC (SPI), CBAP	2	33m north	1000m
Starling	*Sturnus vulgaris*	BoCC (Red), NERC (SPI), CBAP	7	33m north	1000m
Stock Dove	*Columba oenas*	BoCC (Amber)	3	33m north	1000m
Swift	*Apus apus*	BoCC (Red)	3	33m north	1000m
Tawny Owl	*Strix aluco*	BoCC (Amber)	1	498m south	100m
Teal	*Anas crecca*	BoCC (Amber)	1	33m north	1000m
Tree Pipit	*Anthus trivialis*	BoCC (Red), NERC (SPI), CBAP	1	33m north	1000m
Whinchat	*Saxicola rubetra*	BoCC (Red)	2	280m southeast	100m
Whitethroat	*Curruca communis*	BoCC (Amber)	3	33m north	1000m
Whooper Swan	*Cygnus cygnus*	BoCC (Amber), WCA (Sch1_part1)	3	33m north	1000m
Willow Warbler	*Phylloscopus trochilus*	BoCC (Amber)	9	33m north	1000m

Wood Warbler	*Phylloscopus sibilatrix*	BoCC (Red), NERC (SPI), CBAP	1	33m north	1000m
Woodpigeon	*Columba palumbus*	BoCC (Amber)	13	33m north	1000m
Wren	*Troglodytes troglodytes*	BoCC (Amber)	14	33m north	1000m
Yellowhammer	*Emberiza citrinella*	BoCC (Red), NERC (SPI), CBAP	3	33m north	1000m
Amphibian species					
Common Frog	*Rana temporaria*	WCA (Sch5)	14	390m north	100m
Common Toad	*Bufo bufo*	WCA (Sch5), NERC (SPI), CBAP	16	263m southwest	1m
Great Crested Newt	*Triturus cristatus*	WCA (Sch5), NERC (SPI), Regs (Sch2), CBAP	9	263m southwest	1m
Palmate Newt	*Lissotriton helveticus*	WCA (Sch5)	7	263m southwest	1m
Smooth Newt	*Lissotriton vulgaris*	WCA (Sch5)	4	498m south	100m
Reptile species					
Common lizard	*Zootoca vivipara*	WCA (Sch5), NERC (SPI)	1	610m southwest	1000m
Slow worm	*Anguis fragilis*	WCA (Sch5), NERC (SPI)	1	915m southeast	100m
Molluscs					
Freshwater Pearl Mussel	*Margaritifera margaritifera*	WCA (Sch5), CBAP	1	[within 1km]	1000m
Insects					
Cinnabar	*Tyria jacobaeae*	NERC (SPI), CBAP	9	399m south	100m
Dingy Skipper	*Erynnis tages*	NERC (SPI), CBAP	79	399m south	100m
Grayling	*Hipparchia semele*	NERC (SPI), CBAP	6	303m west	1000m
Latticed Heath	*Chiasmia clathrata*	NERC (SPI), CBAP	1	399m south	100m
Small Heath	*Coenonympha pamphilus*	NERC (SPI), CBAP	30	303m west	1000m
Wall	*Lasiommata megera*	NERC (SPI), CBAP	41	399m south	100m
White Ermine	*Spilosoma lubricipeda*	NERC (SPI), CBAP	1	498m south	100m
Plants					

Himalayan Balsam	*Impatiens glandulifera*	WCA (Sch9)	8	106m northeast	1m
Japanese Knotweed	*Fallopia japonica*	WCA (Sch9)	11	160m east	1m

Status Key: Regs - The Conservation of Habitats and Species Regulations 2017 (*as amended*). WCA - The Wildlife and Countryside Act 1981 (*as amended*). Sch 1 - Schedule 1. Sch 2 – Schedule 2. Sch5 - Schedule 5. Sch8 - Schedule 8. Sch9 - Schedule 9. NERC - England Natural Environment and Rural Communities Act (2006) Section 41. SPI - Species of Principal Importance. BoCC - Birds of Conservation Concern. CBAP – Cumbria Biodiversity Action Plan.

5.20 There are no records of badger *Meles meles* setts within 1km of the Site boundary.

5.21 A search of the MAGIC online resource revealed there were two European Protected Species Licences (EPSL) relating to bats within 2km of the Site boundary. The details of which are listed below:

- Licence reference: EPSM2013-6035 for whiskered myotis, brandt's bat, and natterer's myotis located c.1.1km west (06/08/2013 to 30/09/2014); and
- Licence reference: EPSM2010-2371 for common pipistrelle located c.1.8km north (12/10/2010 to 30/11/2011).

5.22 There are no EPSL's relating to GCN, however, there are two records of GCN pond surveys from Natural England's Open Dataset[41] within 1km of the Site boundary, both with absent results. The details of which are listed below:

- Grid reference: NY0091314246, located c.380m north (15/04/2019); and
- Grid reference: NY0078012270, located c.680m south (09/05/2019).

5.23 The Site falls within a Green Zone within the Natural England District Level Licensing scheme[42] for Cumbria. There are three risk zones under the DLL scheme:

- Red zones have great crested newt populations of regional, national or international importance – developers cannot use district level licensing in these zones
- Amber zones have great crested newt populations, habitats and dispersal routes – developers can use district level licensing in these zones
- Green zones have fewer areas with great crested newts – developers can use district level licensing in these zones

HABITATS

5.24 The location of habitats recorded are presented in Figure 2 and described below. The botanical species recorded in association with each habitat are listed below in Appendix A1. UKHab habitat codes are provided in brackets, in each heading.

[41] https://data.gov.uk/dataset/8643f1b9-b419-4ee8-8e9c-18200e0edc31/great-crested-newt-edna-habitat-suitability-index-pond-surveys-for-district-level-licensing-2017-2018-2019
[42] https://www.gov.uk/guidance/great-crested-newts-district-level-licensing-for-local-planning-authorities

Poor Semi-improved Grassland (Modified grassland; g4)

5.25 The Site comprised two fields of poor semi-improved grassland.

5.26 The southern field (Photographs 1 and 2) had a low species diversity, with evidence of heavy sheep grazing, although no stock were present at the time of survey. This area contained abundant creeping bent *Agrostis stolonifera,* crested dog's-tail *Cyanosurus cristatus,* and locally abundant rough meadowgrass *Poa trivialis.* There was also frequent Yorkshire fog *Holcus lanatus*, field buttercup *Ranunculus acris,* and locally frequent common sorrel *Rumex acetosa.* Red fescue *Festuca rubra* and creeping bent *Agrostis capillaris* were both reorded occasionally. Common nettle *Urtica dioica* was rarely noted.

5.27 Additionally, there was a wetter area towards the eastern boundary, with additional species noted including occasional soft rush *Juncus effusus* and sharp flowered rush *Juncus articulatus*, and rare marsh thistle *Cirsium palustre* and cuckoo flower *Cardamine pratensis.*

5.28 The northern field (Photographs 3 and 4) was mown short, however, had a higher species diversity. This area contained abundant creeping bent *Agrostis stolonifera* and crested dog's-tail *Cyanosurus cristatus,* and frequent red fescue *Festuca rubra,* Yorkshire fog *Holcus lanatus,* and white clover *Trifolium repens.* Occasionally noted, were dandelion *Taraxacum officinale,* common hogweed *Heracleum sphondylium,* and broad-leaved dock *Rumex obtusifolius.* Common mouse-ear *Cerastium fontanum*, common sorrel *Rumex acetosa,* daisy *Bellis perennis,* creeping buttercup *Ranunculus repens,* ribwort plantain *Plantago lanceolata* and marsh thistle *Cirsium vulgare* were noted rarely.

5.29 This habitat is not listed of importance within the local biodiversity action plan or as a habitat of principal importance (NERC Act 2006). The habitats were of limited botanical / structural diversity and therefore not considered an IEF in the context of this assessment.

Photograph 1: Poor semi-improved grassland southern field (23/02/2025).

Photograph 2: Poor semi-improved grassland southern field (23/02/2025).

Photograph 3: Poor semi-improved grassland northern field (15/04/2025).

Photograph 4: Poor semi-improved grassland northern field (15/04/2025).

Hardstanding (Other developed land; u1b6)

5.30 The cable route comprised a minor, single-lane road.

5.31 Given the nature of this habitat, it is not considered to represent an IEF in the context of this assessment and will not be considered further.

Broadleaved Trees (Treeline; w 33, individual rural trees)

5.32 Treeline TL1 (Photograph 5) was located on the southern boundary of the main BESS Site and comprised frequent common hawthorn *Crataegus monogyna,* occasional sycamore *Acer pseudoplatanus* and common ash *Fraxinus excelsior,* and rare elder *Sambucus nigra.*

5.33 The treeline provides opportunities for birds and other wildlife; furthermore, trees, woodland and hedgerows also have specific consideration within the local planning policy framework. As such, the trees are considered to represent an IEF of importance at **Local** level.

5.34 A small group of individual trees (unknown species) (Photograph 6), comprising four multi-stemmed small trees, was located along the southern edge of the northern field, within the centre of the main BESS Site.

Photograph 5: TL1 along the southern boundary of the main BESS Site (23/02/2025).

Photograph 6: Four individual trees at the southern edge of the northern field (15/04/2025).

Ditch (Ditch; 50)

5.35 The Site comprised a predominantly dry ditch (D1a) (Photograph 7), containing a small amount of collected standing water, with no aquatic or marginal vegetation of note. It ran along the southern boundary of the main BESS Site, adjacent to treeline TL1, continuing through a culvert under the cycle route embankment (Photograph 8).

5.36 This feature does not represent a local priority habitat; however, it did have connectivity to a wider network of ditches across the wider landscape via offsite ditch D1b. As such, this feature is considered to represent an IEF with importance at a **Local** level.

Photograph 7: Dry ditch D1a along the southern boundary of the main BESS Site, adjacent to TL1 (23.02.2025).

Photograph 8: Culvert under the cycle route embankment (23.02.2025).

Offsite Woodland (Broadleaved and Mixed Woodland; w1)

5.37 A cycle route embankment comprising a narrow stretch of broadleaved woodland was present adjacent to the main BESS Site. This ran along the eastern BESS Site boundary.

5.38 The woodland provides opportunities for birds and other wildlife; furthermore, trees, woodland and hedgerows also have specific consideration within the local planning policy framework. As such, the woodland is considered to represent an IEF of importance at **Local** level, and will be taken into further consideration.

Badger

5.39 From the desk study, no badger setts were recorded within 2km of the Site boundary, however, one record of a dead badger was noted.

5.40 No badger signs were noted within the Site boundary. Onsite habitats offered some limited foraging opportunity, being dominated by grassland, however, there was no suitable habitat for sett creation within the Site boundary, or immediately adjacent to the Site.

5.41 Badgers are relatively common and widespread in England and whilst legally protected, the emphasis of The Protection of Badgers Act 1992 is focused on protection from persecution, rather than on conservation. Given the lack of records and suitable habitat onsite, badgers are not considered to represent an IEF in the context of this assessment.

Barn owl

5.42 From the desk study, two barn owl records were noted within 1km of the Site boundary.

5.43 Habitat onsite was classified as Type 3, in accordance with those detailed in Table 1. This is not considered to provide suitable habitat for supporting a substantial population of small mammals, given the highly grazed nature of the grassland.

5.44 Barn owl are listed on Schedule 1 of the WCA, a SPI and a local action plan species listed in the Cumbria Biodiversity Action Plan[38]. Given the low number of records and lack of suitable habitat onsite, barn owl are not considered to represent an IEF in the context of this assessment.

Bats

5.45 At least nine different species of bat were recorded within 2km of the Site (common pipistrelle, soprano pipistrelle, an unidentified *Pipistrellus* species, noctule, whiskered bat, Daubenton's bat, Natterer's bat, an unidentified *Myotis* species, and an unidentified bat species). The majority of these records were bats in flight, with the nearest being a common pipistrelle maternity roost, as well as an unknown bat species, unknown *Myotis* species, and Noctule bat in flight. These were all recorded at the same location, 136m from the proposed cable route and over 1km from the BESS construction area within Longlands Lake LWS.

Bat Roosts – Trees

5.46 No onsite trees had any potential roost features (PRFs).

5.47 As such, the potential bat roosting potential offered by the onsite trees is not considered to represent an IEF in the context of this assessment and will not be considered further.

Bat Foraging / Commuting Habitat

5.48 During the initial protected species survey boundary features such as treelines, scattered scrub, as well as the offsite woodland were considered to provide suitable commuting corridors and foraging resources for bats. The grassland fields were considered to represent lower value habitats for bats given their reasonably intensive management. Overall, the Site habitats were valued at a Moderate level (in accordance with Table 4.1 of the BCT Survey Guidelines[16]). Most of the bat species recorded in the desk study are listed as species of principal importance under the NERC Act 2006. All bat species have species action plans within the Cumbria Biodiversity Action updated species list (2009)[43]. Therefore, generalist bat species are considered to represent an IEF and considered of importance at no more than a **Local** level.

Great Crested Newts (GCN)

5.49 Nine records of GCN were noted within 1km of the Site, the closest located 263m southwest of the southern extent of the cable route. There were no EPSL's relating to GCN within 1km of the Site boundary, however, there were two records of absent GCN

[43] https://www.cumbriawildlifetrust.org.uk/sites/default/files/2018-05/cumbria-biodiversity-action-plan-species-updated-list-2009.pdf

surveys from Natural England's Open Dataset[4], located c.380m north and c.680m south of the Site boundary.

5.50 From the desk study there were ten ponds, three ditches, and two main watercourses identified within 500m of the Site boundary. Refer to Figure 3 for their locations.

5.51 An assessment was made to determine whether any offsite ponds have connectivity to the Site and whether they would then constitute an IEF with regards to GCN. Further, details regarding the ponds, their assessment, their location and any background information is detailed in the Table provided at Appendix B.

5.52 The conclusions of the Table at Appendix B are based on an assessment using available data, whilst considering current guidance and available literature, to determine the likelihood of impacts resulting from the Proposed Development to GCN.

5.53 Ponds scoped in for further survey were determined from the extent and quality of suitable commuting habitat available which links the Site to each pond. Ponds that were scoped in that were beyond the upper limit of routine commuting distances (Natural England, 2004[44]; Jehle, 2000[45]) were done so due to the presence of aquatic stepping stone habitats (other ponds) within 250m or the lack of suitable habitats close to offsite ponds, which might otherwise encourage GCN dispersal to more distant habitats (including habitats on Site).

5.54 As such, two ponds and one ditch were scoped in for further surveys comprising an environmental DNA (eDNA) assessment: P1, P2, and D3.

HSI and eDNA Assessments

5.55 A HSI assessment was undertaken on two ponds and one ditch, the results of which are provided in Table 7 and the Table provided at Appendix B with the raw data shown in Appendix C. Environmental DNA (eDNA) assessments were undertaken on the waterbodies on 15th April 2025, the results of which are provided in Table 7 below. Further information regarding the analysis and findings is provided in Appendix D.

Table 7 – Great Crested Newt HSI and eDNA Results

Pond Reference	HSI Score	eDNA Result
P1	0.74 - Good	Negative
P2	0.81 - Excellent	Negative
D3	0.46 - Poor	Negative

Conclusion

5.56 Environmental DNA assessments confirmed the absence of GCN in all of the three waterbodies tested (P1, P2, D3).

5.57 The grassland habitat onsite is considered unlikely to support GCN given its grazed / mown nature creating a short, uniform sward.

[44] English Nature (2004) An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt *Triturus cristatus* English Nature Research Report 576.
[45] Jehle, R., 2000. The terrestrial summer habitat of radio-tracked great crested newts *Triturus cristatus* and marbled newts *T. marmoratus*. Herpetological Journal, 10, pp. 137-142.

5.58 The treeline, scattered scrub, and onsite ditch D1a have potential to provide suitable foraging, commuting and shelter habitat for GCN.

5.59 GCN are listed as an SPI (NERC Act 2006) and a target species in the Cumbria Biodiversity Action Plan updated species list (2009)[43]. Given the negative results of presence / absence surveys in relation to P1, P2 and D3 undertaken in April 2025, GCN are considered to be likely absent from the Site and as such do not represent an IEF and will not be considered further in this assessment.

Red Squirrel

5.60 From the desk study, 44 records of red squirrel were noted within 1km of Site, the closest located 117m south of the southern extent of the cable route.

5.61 The broadleaved woodland immediately offsite could provide a resource for this species, and offers a potential suitable corridor connecting to the wider landscape.

5.62 Red squirrel have a species action plan listed within the Cumbria Biodiversity Action Plan[38]. The red squirrel still occurs throughout most of Cumbria, with the largest populations in the north of the county.

5.63 Given the numerous records of this species within 1km of the Site boundary and the suitable woodland habitat adjacent to the Site, this species is considered to represent an IEF and considered of importance at a **Local** level.

Reptiles

5.64 From the desk study, two records of reptile species were noted within 1km of the Site. One record of common lizard *Zootoca vivipara* was located 610m southwest, and one record of slow worm *Anguis fragilis* was located 915m southeast.

5.65 The Site was generally considered sub-optimal for reptiles given its lack of a suitable habitat mosaic and intensive grazing / management; however, the ditch D1a was considered to be suitable for grass snake *Natrix natrix.*

5.66 All common reptile species are listed as SPI (NERC Act 2006). Four reptile species are present across Cumbria: common lizard *Zootoca vivipara,* slow worm *Anguis fragilis,* grass snake *Natrix natrix,* and adder *Vipera berus.* These four species are all listed within the Cumbria Biodiversity Action Plan updated species list (2009)[43].

5.67 Given the lack of records and suitable mosaic habitat onsite, reptiles would be unlikely to use the Site, but due to the presence of the ditch, their presence cannot be ruled out. As such, reptiles are considered to represent an IEF and considered of importance at a **Local** level.

Other Amphibians

5.68 From the desk study, there were fourteen records of common frog *Rana temporia* (nearest record 390m north), sixteen records of common toad *Bufo bufo* (nearest record 263m southwest), seven records of palmate newt *Lissotriton helveticus* (nearest record 263m southwest), and four records of smooth newt *Lissotriton vulgaris* (nearest record 498m south) identified within 1km of the Site boundary.

5.69 The Site was generally considered sub-optimal for amphibians given its lack of suitable aquatic features within or immediately adjacent to the Site boundary. The terrestrial habitat was also sub-optimal given the grazed nature of the grassland.

5.70 Of the species identified within the desk study, common toad *Bufo bufo* is listed as an SPI (NERC Act 2006) and as a priority species within the Cumbria Biodiversity Action Plan updated species list (2009)[43].

5.71 Given the lack of suitable habitat onsite, amphibians are not considered to represent an IEF in the context of this assessment and will not be considered further.

Water Vole

5.72 This species is listed as an SPI (NERC Act 2006) and as a priority species in the Cumbria Biodiversity Action Plan updated species list (2009)[43]. From the desk study, there were no records of water vole noted within 1km of the Site.

5.73 There was a ditch (D1a) located onsite along the southern boundary, however it is considered to be unsuitable for this species, given the lack of standing water and aquatic marginal vegetation. There were also no field signs noted during the habitat walkover.

5.74 Given the unsuitability of the onsite ditch D1a and no other suitable onsite habitat, water vole are not considered to represent an IEF in the context of this assessment and will not be considered further.

Otter

5.75 This species is listed as an SPI (NERC Act 2006) and as a priority species in the Cumbria Biodiversity Action Plan updated species list (2009)[43]. From the desk study, six records of otter were noted within 1km of the Site, the closest being 125m southeast of the south-eastern extent of the cable route.

5.76 There was a ditch (D1a) located onsite along the southern boundary, however it is considered to be unsuitable for this species, given the lack of standing or flowing water.

5.77 Given the unsuitability of the onsite ditch D1a and no other suitable onsite habitat, otter are not considered to represent an IEF in the context of this assessment and will not be considered further.

Breeding birds

5.78 From the desk study, 57 different urban, farmland, and wetland bird species were recorded within 1km of the Site. Of the species recorded from the desk study, 23 are on the BOCC Red List[39], and 31 are on the Amber List. Nineteen of these species are also listed as priority species in the Cumbria Biodiversity Action Plan updated species list (2009)[43].

5.79 Habitats onsite comprising broadleaved trees and scrub are suitable for a range of birds, although these were very limited in extent. The grassland fields were considered to represent a very limited resource for nesting birds due to their regular disturbance and management from livestock, mowing and the presence of farm dogs.

5.80 Given the very limited potential resource offered by the Site, breeding birds are not considered to represent an IEF and would be considered of importance at no more than **Site** level.

Wintering Birds

5.81 From the desk study, 57 different urban, farmland, and wetland bird species were recorded within 1km of the Site. Of the species recorded from the desk study, 23 are on the BOCC Red List[39], and 31 are on the Amber List. Nineteen of these species are also listed as priority species in the Cumbria Biodiversity Action Plan updated species list (2009)[43].

5.82 Seven wintering bird surveys were undertaken between December 2024 and March 2025. Full details of the surveys undertaken are provided in the Wintering Bird Report (Futures Ecology, May 2025, Report Ref: FE496/WBR01). The Site was initially considered close enough to potentially provide a resource for those bird species forming part of the Solway Firth SPA winter assemblage during periods of high tide. As such, in December and January surveys incorporating two full tidal cycles comprising a diurnal high and low tide as well as a nocturnal high tide were undertaken. From those surveys very few bird species were recorded and none associated with the Solway Firth SPA assemblage were recorded on Site or within the buffer. As such the surveys were scaled back to one visit for February and March undertaken at high tide.

5.83 During the wintering bird surveys, a total of 38 bird species were recorded within the survey area, of those, 22 are species of conservation concern. Pink-footed geese and lapwing were both observed flying over on one occasion. Black-headed gull and common gull were both observed flying over on three occasions, while herring gull were recorded flying over on five.

5.84 Pink-footed geese *Anser brachyrynchus* form part of the migratory species assemblage of Solway Firth SPA protected under Article 4.2. Lapwing *Vanellus vanellus*, black-headed gull *Chroicocephalus ridibundus,* common gull *Larus canus,* and herring gull *Larus argentatus* all form part of the 20,000+ wildfowl and wader assemblage supported by the SPA.

5.85 Given that all the above species were only recorded on one occasion flying over, it is not considered that the Site provides a resource for SPA assemblage species.

5.86 Given the number of species recorded during the surveys using the Site and within the buffer, the wintering bird assemblage is considered to represent an IEF and considered of importance at no more than **Local** level.

Other Notable Species

5.87 Fifty-five records of hedgehog *Erinaceus europaeus* were noted within 1km of the Site boundary, the nearest being 34m south. The habitat onsite, with the exception of the scattered scrub and treeline, is considered to be sub-optimal for this species. However, given the presence of more suitable habitat immediately offsite such as the adjacent woodland, the presence of this species being onsite cannot be ruled out. This species is listed as a priority species in the Cumbria Biodiversity Action Plan updated species list

(2009)[43] and NERC Act 2006 as a species of principal importance. As such hedgehog would be considered to be an IEF of importance at a **Local** level.

5.88 One freshwater pearl mussel record was noted within 1km of the Site boundary. The onsite ditch D1a is considered to be unsuitable for this species, given the lack of standing water. This species is listed as a priority species in the Cumbria Biodiversity Action Plan updated species list (2009)[43]. Given the unsuitability of the onsite ditch and no other suitable onsite habitat, freshwater pearl mussel is not considered to represent an IEF in the context of this assessment and will not be considered further. Impacts to this species, as a designating feature, in relation to the River Ehen SAC / SSSI are considered separately under designated sites.

5.89 Seven different species of butterfly and moth were identified within 1km of the Site boundary, the closest being grayling *Hipparchia semele* and small heath *Coenonympha pamphilus,* both located 303m west. Most onsite habitat was considered sub-optimal for these species, given the intensively managed, grazed nature of the grasslands. All seven species recorded are listed as priority species in the Cumbria Biodiversity Action Plan updated species list (2009)[43] and the NERC Act 2006. As such these species would be considered to be an IEF of importance at a **Local** level.

Summary of Ecological Features & Further Assessment Requirements

5.90 Table 8 below provides a summary of the ecological features identified on which further assessment is required and their geographical scale of significance.

Table 8: Summary of Important Ecological Features

Ecological Feature	Geographical Context	Important Ecological Feature IEF	Further Consideration
River Ehen SAC / SSSI	International	Yes	Yes
Lake District High Fells SAC	International	Yes	Yes
River Derwent & Bassenthwaite Lake SAC	International	Yes	Yes
Solway Firth SPA / SAC	International	Yes	Yes
River Ehen (Ennerdale Water to Keekle at Cleator Moor) SSSI	International	Yes	Yes
Clints Quarry SAC / SSSI	International	Yes	Yes
Longlands Lake LWS	County	Yes	Yes
River Ehen Ponds LWS	County	Yes	Yes
HPIs	Local	Yes	Yes
Offsite woodland	Local	Yes	Yes
Poor semi-improved grassland	N/A	No	No
Hardstanding	N/A	No	No

Ecological Feature	Geographical Context	Important Ecological Feature IEF	Further Consideration
Broadleaved trees	Local	Yes	Yes
Ditch (D1a)	Local	Yes	Yes
Badger	N/A	No	No
Barn owl	N/A	No	No
Bats (tree roosts)	N/A	No	No
Bats (foraging / commuting habitat)	Local	Yes	Yes
Great crested newts	N/A	No	No
Red squirrel	Local	Yes	Yes
Reptiles	Local	Yes	Yes
Other amphibians	N/A	No	No
Water vole	N/A	No	No
Otter	N/A	No	No
Breeding birds	Local	Yes	Yes
Wintering birds	Local	Yes	Yes
Hedgehog	Local	Yes	Yes
Freshwater pearl mussel	N/A	No	No
Butterflies / moths	Local	Yes	Yes

6.0 IMPACT ASSESSMENT

PROPOSALS

6.1 The Proposed Development comprises the construction and installation of a Battery Energy Storage System (BESS) and associated infrastructure, landscaping and buried grid cable route.

6.2 The main BESS construction area comprises one of two field compartments at the northern extent of the application redline. Surface water from the main BESS Site will be discharged into the onsite ditch D1a.

6.3 The remaining field compartment, north of the BESS will be used entirely for biodiversity enhancements.

6.4 A buried cable route will be installed along Dalzell Street (entirely in hardstanding) to the point of grid connection at the existing Woodend Substation to the south of the BESS.

RIVER EHEN SAC / SSSI

6.5 The River Ehen is a small, oligotrophic river, located at its closest, 110m southeast of the Site boundary. It supports the largest population of freshwater pearl mussels *Margaritifera margaritifera* in England.

6.6 Surface water from the Proposed Development will discharge into existing ditch D1a at the southern boundary of the main BESS area. Ditch D1a connects into offsite ditch D1b which then terminates approximately 460m downstream at NY 01175 13421 as shown on online mapping resources. The point of possible termination is approximately 120m west of the River Keekle (which is a tributary of the River Ehen) and is separated by managed football pitches. The closest point of the River Keekle to the termination of D1b is also adjacent to Cleator Wastwater Treatment Works (located adjacent the eastern bank of the River Keekle.

6.7 Due to the possible direct hydrological connection between the SAC and the Site (via ditch D1, the network of field drainage ditches and the River Keekle) a likely significant effect on the River Ehen SAC / SSSI cannot be ruled out as a result of the following impact pathways:

- Construction Phase: release of pollutants (hydrocarbons, construction materials) into ditch system, transported by surface water run-off,
- Construction Phase: release of sediments / silts into ditch system, transported by surface water run-off

6.8 As such, the local authority is required to undertake a *Stage 2: Appropriate Assessment* of the proposals taking account of any proposed mitigation, to determine whether the proposal would have an adverse effect on the integrity of the designated site. Therefore, further information is provided below regarding proposed mitigation relating to the above impact pathways, in order to demonstrate that the proposals would not adversely affect the integrity of the SAC. This information is taken from the Flood Risk Assessment and Drainage Strategy (KRS, 2025).

The following information provides detail on Site drainage during the Construction Phase to include how pollution / silt mitigation measures will be implemented to protect these features during construction. These measures will reduce the potential for vehicle movement on wet ground, which can increase the potential for compaction. In summary, the Pollution Prevention Guidance (PPG) and Government guidance will be referred to and the following methods of surface water management will be put in place during the construction phase to ensure pollution, sediment and erosion control.

Excavated Ground and Exposed Ground

To limit the volume of runoff reaching the exposed ground, runoff diversion and interception devices will be placed upstream of exposed ground. To help control sediment in runoff from leaving the Site or entering drainage, silt bunds will be placed downstream of exposed ground to intercept runoff.

Stockpiles

Soil stockpiles will be located away from any Site drainage systems and measures to intercept runoff will be incorporated, such as small perimeter bunds around the base of the stockpiles. Concrete should also be stored to prevent release into drains.

Oils and Hydrocarbons

Simple measures will be taken to prevent oil and hydrocarbons becoming pollutants, such as:

- *Maintenance of machinery and plant.*
- *Drip trays.*
- *Regular checking of machinery and plant for oil leaks.*
- *Correct storage facilities.*
- *Check for signs of wear and tear on tanks.*
- *Care with specific procedures when refuelling.*
- *Designated areas for refuelling.*
- *Emergency spill kit located near refuelling area.*
- *Regular emptying of bunds.*
- *Tanks located in secure areas to stop vandalism.*

The pollution, sediment and erosion control mitigation measures as detailed above will ensure that the effects on receptors and SuDs components during the construction phase are negligible.

6.9 It is anticipated that the details of all construction phase surface water management and pollution prevention measures would be secured through the condition of a Construction Environment Management Plan (CEMP).

6.10 Please note that any mitigation relating to the River Ehen SAC would also have similar implications for the River Ehen SSSI. As such, this assessment would be considered to address mitigation that may also be required in relation to the SSSI.

LAKE DISTRICT HIGH FELLS SAC

Potential Impacts

6.11 Lake District High Fells is located 7.7km east of the Site boundary. The Proposed Development is not considered to result in any likely significant effects (LSE) upon the SAC due to the following:

- the Proposed Development does not occur within the SAC thus there will be no direct loss of habitats within it.

- the Proposed Development is several kilometres away and the size of the development is small, therefore, impacts arising from increased road traffic are considered to be imperceptible from usual road traffic air pollution.
- the Proposed Development is located 7.7 km from the SAC and does not include any increase in residences/residents, therefore, there are not considered to be any impacts from arising from the urban edge effect[46].
- There will be no increase in recreational pressure once the Proposed Development is complete due to the non-residential nature of the development.

Mitigation

6.12 None required.

Residual Effect

6.13 **Neutral.**

RIVER DERWENT & BASSENTHWAITE LAKE SAC

Potential Impacts

6.14 River Derwent & Bassenthwaite Lake is located 8.6km northeast of the Site boundary. The Proposed Development is not considered to result in any likely significant effects (LSE) upon the SAC due to the following:

- the Proposed Development does not occur within the SAC thus there will be no direct loss of habitats within it.
- the Proposed Development is several kilometres away and the size of the development is small, therefore, impacts arising from increased road traffic are considered to be imperceptible from usual road traffic air pollution.
- the Proposed Development is located 8.6 km from the SAC, and there will be no increase in residences/residents, therefore there are not considered to be any impacts from the urban edge effect[46].
- There are no direct hydrological links between the Site and the SAC.
- There will be no increase in recreational pressure once the Proposed Development is complete due to the non-residential nature of the development.

Mitigation

6.15 None required.

[46] Urban Edge Effect - fly tipping; dumping of garden waste and resultant introduction of invasive/alien plants; traffic causing air pollution and rat running along minor roads and tracks; off-road vehicles leading to track erosion; disturbance to (conservation) grazing livestock; increased incidence of wildfire; and predation from domestic pets and urban scavengers.

Residual Effect

6.16 **Neutral.**

SOLWAY FIRTH SPA / SAC

Potential Impacts

6.17 Solway Firth is located 6km northwest of the Site boundary. The Proposed Development is considered unlikely to result in any likely significant effects (LSE) upon the SPA / SAC due to the following:

- the Proposed Development does not occur within the SAC thus there will be no direct loss of habitats within it.
- the Proposed Development is several kilometres away and the size of the development is small, therefore, impacts arising from increased road traffic are considered to be imperceptible from usual road traffic air pollution.
- the Proposed Development is located 6km from the SPA / SAC and there will be no increase in residences / residents, there are not considered to be any impacts from the urban edge effect[46].
- There will be no increase in recreational pressure once the Proposed Development is complete due to the non-residential nature of the development.

Mitigation

6.18 None required.

Residual Effect

6.19 **Neutral.**

CLINTS QUARRY SAC / SSSI

Potential Impacts

6.20 Clints Quarry is located 350m south of the Site boundary, from the southern extent of the cable route. The Proposed Development is not considered to result in any likely significant effects (LSE) upon the SPA / SAC due to the following:

- the Proposed Development does not occur within the SAC thus there will be no direct loss of habitats within it.
- given the nature of the Proposed Development, impacts arising from increased road traffic are considered to be imperceptible from usual road traffic air pollution.
- the Proposed Development is located 350m from the SAC / SSSI and the development is non-residential, there are not considered to be any impacts from the urban edge effect[46].
- There will be no increase in recreational pressure once the Proposed Development is complete due to the non-residential nature of the development.

Mitigation

6.21 None required.

Residual Effect

6.22 **Neutral.**

LONGLANDS LAKE LWS

Potential Impacts

6.23 Longlands Lake LWS is located 20m east of the Site boundary, at the south-eastern extent of the grid cable route. The main BESS construction area is located 726m from the LWS.

6.24 Due to the proximity of the LWS to the grid cable works, potential impacts during the construction phase may arise from pollutant spillages or surface water runoff, causing an adverse effect on water quality within the lake and on terrestrial habitats surrounding the lake. This could cause a temporary **significant adverse** effect at up to **County** level.

6.25 Impacts to the LWS during the grid cable works may also arise from direct damage or indirect impacts from noise or dust. This could cause a permanent **significant adverse** effect at up to **County** level.

6.26 As discussed above there is a possible hydrological connection between the Site and the River Keekle and River Ehen. As such, there could similarly be a hydrological connection to Longlands Lake LWS. As such, if a hydrological connection exists, potential impacts from the construction of the BESS area could, therefore, arise as a result of pollutant spillages or as a result of silt laden surface water run-off. At this point, the straight-line distance to the LWS is c.1430m. Furthermore, inherent construction phase best practice pollution prevention would likely reduce any possible impact to a negligible level.

6.27 There will be no increase in recreational pressure on the LWS due to the non-residential nature of the Proposed Development.

Mitigation

6.28 Measures to prevent/minimise impacts to the LWS during the construction phase will be set out in a CEMP and will broadly comprise the following:

- The LWS will be protected during the construction phase through the implementation of a CEMP. This will outline the industry best practice guidelines to prevent direct damage and reduce dust, noise and pollution during the construction phase.
- A rapid response protocol is required to be in place, to prevent unexpected spillages from causing a severe pollution incident. This document should be developed with reference to relevant Pollution Prevention Guidelines and advice from the Environment Agency.
- The use of bio-oils as far as practical will be adopted throughout the construction period.

- An appropriate surface water management plan will be implemented, to avoid the release of silt laden surface water into the local watercourse network.

Residual Effect

6.29 With the implementation of the above mitigation, the residual effect on the LWS will be **Neutral**.

RIVER EHEN PONDS LWS

Potential Impacts

6.30 This LWS is located 665m south of the Site boundary, from the southern extent of the cable route. Given the temporary nature of the cable route works, that only existing tarmac / hardstanding will be affected and the separation distance between the works and the LWS, no impacts arising from the cable connection works are considered likely.

6.31 As discussed above there is a possible hydrological connection between the Site and the River Ehen. As such, if a hydrological connection exists, potential impacts from the construction of the BESS area could, therefore, arise as a result of pollutant spillages or as a result of silt laden surface water run-off. At this point, the distance to the LWS is c.1430m. Furthermore, inherent construction phase best practice pollution prevention would likely reduce any possible impact to a negligible level.

6.32 Due to the possible hydrological links between the river and the Site, potential impacts during the construction phase to the River Ehen may arise from pollutant spillages or surface water runoff, causing an adverse effect on water quality within the River Ehen Ponds LWS. This could cause a temporary **significant adverse** effect up to **County** level.

6.33 Given the underlying distance between the river and the Site, no impacts are expected to arise from direct damage or indirect impacts from noise or dust during the construction phase.

6.34 There will be no increase in recreational pressure on the river due to the non-residential nature of the Proposed Development.

Mitigation

6.35 Measures to prevent/minimise impacts to the River Ehen during the construction phase will be set out in a CEMP and will broadly comprise the following:

- A rapid response protocol is required to be in place, to prevent unexpected spillages from causing a severe pollution incident. This document should be developed with reference to relevant Pollution Prevention Guidelines and advice from the Environment Agency.
- An appropriate surface water management plan will be implemented, to avoid the release of silt laden surface water into the local watercourse network.
- The use of bio-oils as far as practical will be adopted throughout the construction period.

Residual Effect

6.36 With the implementation of the above mitigation, the residual effect on the SSSI will be **Neutral**.

HABITATS OF PRINCIPAL IMPORTANCE (HPI)

Potential Impact

6.37 Several areas are mapped as HPI within 1km of Site, the closest being a parcel of Deciduous Woodland 35m east of the Site, i.e. 35m from the south-eastern extent of the cable route. Proposed works in proximity to this parcel relate to the temporary disturbance of tarmac / hardstanding to install the grid cable connection.

6.38 Impacts to the Deciduous woodland HPI during the construction phase may arise from direct damage or indirect impacts from noise or dust as a result of grid cable installation. This could cause a permanent **significant adverse** effect at a **Local** level. No impacts will arise as a result of the construction of the main BESS area due to the separation distance between the Site and HPI parcels.

6.39 Impacts during the construction phase to any other HPI parcels are considered to be imperceptible/nugatory given the intervening distance between the HPIs and the Site.

6.40 There will be no increase in recreational pressure on the publicly accessible HPIs once the Proposed Development is complete due to the non-residential nature of the development.

Mitigation

6.41 The Deciduous woodland HPI parcel will be protected during the construction phase through the implementation of a CEMP. This will outline industry best practice guidelines to prevent direct damage and reduce dust, noise and pollution during the construction phase.

Residual Effect

6.42 With the implementation of the above mitigation, the residual effect on the HPI will be **Neutral**.

BROADLEAVED TREES

Potential Impact

6.43 Broadleaved trees were present within treeline TL1. Potential impacts to the retained trees include direct damage and indirect impacts from noise, dust and/or pollution during the construction phase. This could have a localised, **not-significant adverse** effect at a **Local** scale prior to mitigation.

6.44 Direct lighting of these areas could also lead to crepuscular / nocturnal species avoiding the habitats, such as foraging, roosting, or commuting bats. This could have a **not-significant** adverse effect at **Local** level, prior to mitigation.

Mitigation

6.45 Retained trees will be protected during the construction phase through the implementation of a CEMP. This will outline the industry best practice guidelines to prevent direct damage and reduce dust, noise and pollution during the construction phase. This will include the implementation of Root Protection Areas (RPAs) for the retained trees, which will be avoided wherever possible.

6.46 The implementation of a sensitive lighting design in accordance with BCT Guidance**Error! Bookmark not defined.**, with particular avoidance of light spill upon retained trees and other boundary habitats.

Residual Effect

6.47 With the implementation of the above mitigation, the residual effect on retained habitats will be **Neutral**.

Compensation / Enhancement

6.48 The scheme will provide new areas of tree planting. In the long term, this will provide an enhancement to the local tree resource, providing additional tree cover once the trees have had time to establish. This will result in a **not-significant positive** effect at a **Local** level.

DITCHES

Potential Impact

6.49 Potential impacts to the retained onsite ditch D1a include direct damage and indirect impacts from dust and/or pollution during the construction phase. This could have a localised, **not-significant adverse** effect at a **Local** scale prior to mitigation.

Mitigation

6.50 The ditch will be protected during the construction phase through the implementation of a CEMP. This will outline the industry best practice guidelines to prevent direct damage and reduce dust and pollution during the construction phase.

6.51 A rapid response protocol is required to be in place, to prevent unexpected spillages from causing a severe pollution incident. This document should be developed with reference to relevant Pollution Prevention Guidelines and advice from the Environment Agency.

6.52 An appropriate surface water management plan will be implemented, to avoid the release of silt laden surface water into the local watercourse network.

6.53 The use of bio-oils as far as practical will be adopted throughout the construction period.

Residual Effect

6.54 With the implementation of the above mitigation, the residual effect on retained habitats will be **Neutral**.

BATS – FORAGING AND COMMUTING HABITAT

Potential Impact

6.55 The Site incorporates a small treeline and ditch that may form suitable commuting and foraging routes for a range of locally common bat species. During the construction phase, potential impacts on these retained features include direct damage and indirect impacts from noise, dust and/or pollution during the construction phase. This could have a temporary, **not-significant adverse** effect at a **Local** scale prior to mitigation.

6.56 Direct lighting of the retained features during the construction and operational phases could lead to disturbance which could have an a temporary to permanent, **not-significant adverse** effect at **Local** level prior to mitigation.

Mitigation

6.57 The retained treeline will be protected during the construction phase through the implementation of a CEMP. This will outline the industry best practice guidelines to prevent direct damage and reduce dust, noise and pollution during the construction phase. See Appendix E for a toolbox talk relating to bats.

6.58 The implementation of a sensitive lighting design in accordance with BCT Guidance**Error! Bookmark not defined.**, with particular avoidance of light spill upon retained trees, ditches, and other adjacent habitats.

Residual Effect

6.59 With the implementation of the above mitigation, the residual effect on retained habitats will be **Neutral**.

Compensation / Enhancement

6.60 The scheme will provide new areas of native tree and scrub planting, which will provide new suitable foraging and commuting habitat for this species in the long term. The proposed species-rich wildflower grassland will also increase the availability of invertebrate prey species.

6.61 It is anticipated that following the creation of biodiversity net gain measures the newly created habitats will result in a **not-significant positive** effect on foraging / commuting habitats for the local population of bat species at a **Local** scale.

RED SQUIRREL

Potential Impact

6.62 The offsite woodland immediately east of the Site boundary may provide foraging and commuting habitat, while onsite trees and scrub may provide some limited foraging resources for red squirrel.

6.63 During the construction phase, potential impacts on these retained features include direct damage and indirect impacts from noise, dust and/or pollution. This could have a temporary, **not-significant adverse** effect at a **Local** scale prior to mitigation.

6.64 During the operational phase, potential impacts on retained boundary trees and offsite woodland could include impacts resulting from development light spill. This could have a permanent, **not-significant adverse** effect at a **Local** level, prior to mitigation.

Mitigation

6.65 The retained trees and offsite woodland will be protected during the construction phase through the implementation of a CEMP. This will outline the industry best practice guidelines to prevent direct damage and reduce dust, noise and pollution during the construction phase. This will include the implementation of Root Protection Areas (RPAs) for the retained trees and offsite woodland, which will be avoided wherever possible. See Appendix E for a toolbox talk relating to red squirrel.

6.66 The implementation of a sensitive lighting design, with particular avoidance of light spill upon retained trees and the offsite woodland.

Residual Effect

6.67 With the implementation of the above mitigation, the residual effect on this species will be **Neutral**.

Compensation / Enhancement

6.68 The scheme will provide new areas of tree planting, native scrub and species-rich wildflower grassland. This will provide new suitable habitat for this species in the long term. This will have **significant positive** effect on a **Local** level.

REPTILES

Potential Impact

6.69 The onsite ditch D1a has the potential to support grass snake. Grass snake are common and widespread in England. Operations in close proximity to the ditch could result in the degradation of habitat as well as the killing and injury of, at most, a small number / individual grass snake.

6.70 The killing and injury of individuals would result in a permanent **not significant adverse** effect at a **Local** level and a **breach of the WCA** without mitigation. Damage to retained habitats could have a temporary to permanent **not-significant adverse** effect at **Local** level prior to mitigation.

Mitigation

6.71 Mitigation measures implemented to ensure no breach of the legislation, and no long-term degradation of habitat comprise:

- Toolbox talks to all contractors onsite regarding the presence of reptiles (see Appendix E),
- A buffer will be implemented around the onsite ditch (minimum 5m) inside which works will be minimised.
- An ECoW will be present onsite where operations are in close proximity to or within ditch D1a,
- Avoidance measures will be implemented to avoid encouraging reptiles into the working areas, such as avoiding creating brash or excavated soil piles with voids. Brash can either be used to create log piles in the biodiversity enhancement area at the northern extent of the Site or should be removed from Site promptly. Spoil will be compacted to minimise its suitability for sheltering reptiles.

Residual Effect

6.72 With the implementation of the above mitigation, the residual effect on reptiles will be **Neutral**.

Compensation / Enhancement

6.73 The scheme will provide new areas of tree planting, native scrub and species-rich wildflower grassland. These new habitats once established will provide a mosaic of habitats and increase in foraging and shelter opportunities for reptiles. Long term management of the habitats will include rotational cutting of habitats to increase structural diversity and therefore further improve the value of this resource for reptiles.

BREEDING BIRDS

Potential Impact

6.74 Proposals will result in the permanent loss of habitats under the footprint of the development. This includes the loss of semi-improved grassland and scattered scrub. The broadleaved trees associated with TL1 will be retained within the scheme. The on-Site habitats represent a limited resource for a typical assemblage of common farmland species that would be expected in this location.

6.75 The proposed works are considered likely to temporarily displace a small number of common breeding farmland birds which will have a **not-significant adverse** effect at a **Site** level, which would be **imperceptible** at a **Local** level.

6.76 Construction operations and vegetation clearance have the potential to disturb breeding and kill / injure bird species which could result in a breach of legislation in relation to nesting birds. In the absence of mitigation this will result in a **not-significant adverse** effect on a **Local** level.

6.77 During the construction phase, potential impacts on retained habitats include direct damage and indirect impacts from noise, dust and/or pollution. This could have a temporary, **not-significant adverse** effect at a **Local** scale prior to mitigation.

6.78 In addition, direct lighting of retained / newly created habitats during construction and the operational phase could lead to species avoidance of the habitats. In the absence of mitigation this could have a **not significant adverse** effect at a **Local** level.

Mitigation

6.79 To comply with relevant legislation, any removal of vegetation should be timed to avoid the nesting season where possible (March to August inclusive, although dates do vary depending on the species and weather conditions). Where it is not feasible, affected areas should be checked for nests in advance by an experienced ecologist. Any active nests identified should be left with a minimum buffer of 5m to be identified by the ecologist, until such time as all birds have fledged. See Appendix E for a toolbox talk relating to nesting birds.

6.80 The displacement of breeding birds and other species utilising the Site for foraging purposes during the construction phase due to disturbance and habitat loss cannot be fully mitigated. However, the implementation of best practice working methods in relation to noise, dust and pollution will help to minimise these impacts. These will be secured through a Construction and Environmental Management Plan (CEMP), which would be conditioned with any planning consent.

6.81 During the construction phase, fencing and buffers will be implemented to protect retained habitats from direct damage and soil compaction. Pollution prevention measures during construction through the implementation of a CEMP will protect retained habitats during construction.

6.82 The implementation of a sensitive lighting design in accordance with BCT Guidance**Error! Bookmark not defined.**, with particular avoidance of light spill upon retained trees, ditches, and other adjacent habitats.

Residual Effect

6.83 With the implementation of the above mitigation, it is considered that the residual impact on nesting birds protected under the Wildlife and Countryside Act 1981 as amended would be **Neutral**.

6.84 Prior to compensation and enhancement, the residual effect of disturbance and habitat loss on the breeding bird assemblage would likely be a **not-significant adverse** at a **Site** level.

6.85 Prior to compensation and enhancement, the residual effect of disturbance and habitat loss on the foraging bird species utilising the Site would likely be **not significant adverse** at a **Site** level and **imperceptible** at a **Local** level.

6.86 With the implementation of a CEMP to prevent damage to retained habitats, the residual effect would be **Neutral**.

6.87 With the implementation of a sensitive lighting design to prevent species avoidance of retained and newly created habitats, the residual effect would be **Neutral**.

Compensation / Enhancement

6.88 The scheme will provide new areas of tree planting, native scrub and species-rich wildflower grassland. These new habitats once established will provide a mosaic of habitats and increase in nesting and foraging opportunities for the local bird population. Long term management of the habitats will include rotational cutting of habitats to increase structural diversity. Any works to fruit bearing trees will be delayed until February to provide an over wintering food source. This will be outlined within a Biodiversity and Ecological Management Plan (BEMP).

6.89 Nest boxes will be provided on retained trees to provide nesting habitat while compensatory habitats are being established.

6.90 The installation of an invertebrate tower and dead wood piles created in new habitats could provide additional invertebrate foraging resources for birds.

6.91 Overall, following the suggested compensation / enhancements, the Proposed Development could have a **not-significant positive** effect on a **Local** level.

WINTERING BIRDS

Potential Impact

6.92 Proposals will result in the permanent loss of habitats under the footprint of the development. This includes the loss of improved grassland and scattered scrub.

6.93 Wintering birds found to be using habitats to be lost as part of the proposals comprised only redwing. Redwing were observed on 5 out of 8 survey occasions and with a peak count of 12 individuals. They were recorded in association with grassland and broadleaved trees in the main BESS construction area and the grassland in the biodiversity enhancement area. Redwing are abundant at a County level and the National winter population is 690,000. Full details of wintering bird survey results can be found in the Winter Bird Survey Report (Futures Ecology, May 2025).

6.94 The remainder of the assemblage was recorded in association with the hedgerows, trees and offsite adjacent fields which are retained.

6.95 Given that there is further habitat of a similar nature nearby it is considered that the temporary displacement of birds from retained habitats and the permanent loss of habitats under the footprint of the BESS, in the absence of mitigation, would only affect a small number of wintering bird species and only low numbers of individuals. This is considered to have a **not-significant adverse** effect at a **Local** level.

6.96 Light and noise as a result of the construction phase could disturb small numbers of birds roosting / foraging in adjacent, offsite fields. In the absence of mitigation this will have a **not-significant adverse** effect at a **Local** level.

6.97 During the construction phase, potential impacts on retained habitat features include direct damage and indirect impacts from noise, dust and/or pollution. This could have a temporary, **not-significant adverse** effect at a **Local** scale prior to mitigation.

Mitigation

6.98 The displacement of bird species due to disturbance and habitat loss cannot be fully mitigated.

Residual Effect

6.99 Prior to compensation and enhancement, the residual effect of disturbance and habitat loss on the wintering bird assemblage using the Site would likely be **not significant adverse** at a **Local** level.

Compensation / Enhancement

6.100 The scheme will provide new areas of tree planting, native scrub and species-rich wildflower grassland. These new habitats once established will provide a mosaic of habitats and increase in nesting and foraging opportunities for the local bird population. Long term management of the habitats will include rotational cutting of habitats to increase structural diversity. Any works to fruit bearing trees will be delayed until February to provide an over wintering food source. This will be outlined within a Biodiversity and Ecological Management Plan (BEMP).

6.101 Overall, following the suggested compensation / enhancements, the Proposed Development could have a **not-significant positive** effect on a **Local** level on the wintering bird assemblage.

HEDGEHOG

Potential Impact

6.102 Vegetation removal has a risk of causing injury or death to this species. In the absence of mitigation this would result in a would a **not-significant adverse** effect at a **Local** level.

6.103 The removal of grassland would reduce suitable foraging habitat for this species, which could result in **not-significant adverse** effect at a **Local** level, prior to compensation measures.

Mitigation

6.104 Loss of habitat cannot be mitigated for.

6.105 In order to minimise risk, it is recommended that vegetation removal is undertaken in a precautionary manner. This should comprise a visual check of long vegetation areas prior to removal followed by the cutting of woody vegetation to 150mm above ground level in the first instance with all cut vegetation removed by hand from the working area. The cleared vegetation should then be left for 24hours prior to clearing vegetation to ground level and grubbing out of roots to allow hedgehogs or other fauna to disperse from the working area. See Appendix E for a toolbox talk relating to hedgehog.

Residual Effect

6.106 With the implementation of the above mitigation, the residual effect is considered to be **Neutral**.

6.107 Prior to compensation measures, habitat losses under the footprint of development would result in a **not-significant adverse** effect at a **Local** level.

Compensation / Enhancement

6.108 The scheme will provide new areas of tree planting, native scrub and species-rich wildflower grassland. This is expected to offset the losses of suitable hedgehog foraging and commuting habitat under the footprint of the development to a **not-significant positive** effect at a **Local** level.

BUTTERFLIES / MOTHS

Potential Impact

6.109 The on Site grassland is considered to represent a very limited, sub-optimal resource for butterfly and moth species due to its regular, intensive management. The removal of grassland under the footprint of the BESS would reduce a sub-optimal foraging habitat for these species, which could result in **not-significant adverse** effect at a **Local** level, prior to compensation measures.

Mitigation

6.110 Loss of habitat cannot be mitigated for.

Residual Effect

6.111 Prior to compensation and enhancement, the residual effect of habitat loss on local butterfly and moth species which may use the Site would likely be **not significant adverse** at a **Local** level.

Compensation

6.112 The scheme will provide new areas of tree planting, native scrub and species-rich wildflower grassland, and invertebrate boxes. This is expected to offset the losses of suitable foraging and shelter habitat under the footprint of the development to a **not-significant positive** effect at a **Local** level.

7.0 RESIDUAL EFFECTS

7.1 Through the careful implementation of a Construction and Environmental Management Plan (CEMP: Biodiversity) and Biodiversity Environmental Management Plan (BEMP) no significant adverse residual effects are expected on retained ecological features.

7.2 All onsite trees are to be retained within the main BESS Site. Landscaping within the Enhancement Site has sought to provide significant new habitat creation in the form of native tree and shrub planting, as well as species-rich wildflower meadows. All of which will provide new foraging and shelter resources for a range of wildlife.

7.3 Overall, it is anticipated that the Proposed Development will result in a **not-significant positive** effect at a **Local** level in the mid-to-long term.

8.0 CUMULATIVE EFFECTS

8.1 Copeland Council's website was reviewed for planning permissions / developments that may have a cumulative effect when considered with this proposal. The review found the following applications:

- A small number of nearby homeowner applications
- Several recent applications were listed relating to the discharge of conditions for an earlier planning application for a residential scheme for up to 65 dwellings (planning ref: 4/23/2076/0O1) c. 700m north.

8.2 Given the scale and nature of these applications, no significant cumulative effects are expected.

9.0 MONITORING

9.1 Monitoring will be undertaken in relation to other features discussed in additional documents in relation to this scheme. A pre-commencement walkover will be undertaken as well as ongoing monitoring to ensure that effective mitigation is maintained during construction and operation. Some stages of the Site clearance will require supervision by a suitably experienced/qualified ecologist, such as vegetation clearance to avoid killing and injury to hedgehogs and nesting bird checks (if clearance is undertaken during bird breeding season). A post construction Site visit should be undertaken to ensure all compensation and enhancement measures are installed appropriately.

10.0 BIODIVERSITY ENHANCEMENTS

10.1 In accordance with NPPF (2024), The Environment Act 2021, and local Strategic Policies N1: Conserving and Enhancing Biodiversity and Geodiversity and N3: Biodiversity Net Gain of the Copeland Local Plan (2021-2039)[37], the Proposed Development should incorporate features to encourage biodiversity, and retain, and where possible enhance existing features of nature conservation value within the Site.

10.2 The Impact Assessment section identified ecological enhancements that should be incorporated into the Proposed Development. Outlined below are further additional measures for consideration:

- Creation of hibernacula to support amphibians and invertebrates.
- Creation and management of the habitats would be outlined within a **Biodiversity Enhancement and Management Plan (BEMP) / Habitat Management and Monitoring Plan (HMMP).**

APPENDIX A: BOTANICAL SPECIES LISTS

The habitat types were mapped within the Site and a representative species list for each habitat type recorded. Species lists are not exhaustive of all flora present in each habitat type.

Latin Name	Common Name	DAFOR
Semi-improved grassland		
Agrostis capillaris	Creeping bent	*O*
Agrostis stolonifera	Creeping bent	*A*
Cardamine pratensis	Cuckoo flower	*R*
Cirsium palustre	Marsh thistle	*R*
Cyanosurus cristatus	Crested dog's-tail	*A*
Festuca rubra	Red fescue	*O*
Holcus lanatus	Yorkshire fog	*F*
Juncus articulatus	Sharp flowered rush	*R*
Juncus effusus	Soft rush	*R*
Poa trivialis	Rough meadowgrass	*LA*
Ranunculus acris	Field buttercup	*F*
Rumex acetosa	Common sorrel	*LF*
Urtica dioica	Common nettle	*R*
Line of Trees & Scattered Scrub		
Acer pseudoplatanus	Sycamore	*O*
Crataegus monogyna	Hawthorn	*F*
Fraxinus excelsior	Common ash	*O*
Sambucus nigra	Elder	*R*

DAFOR, D=dominant, A=abundant, F=frequent, O=occasional, R=Rare, L=Locally

APPENDIX B: GREAT CRESTED NEWT: REVIEW OF WATERBODIES ONSITE AND WITHIN 500M OF THE SITE

Waterbody reference	Locality	Straight line distance / direction. Distance via optimal connective habitat (m)	OS grid reference	Connectivity to Site	HSI	eDNA Result	Photograph
P1	Within an improved grassland field.	Straight line distance: 70 east Connective distance: >155	NY 00950 13779	Within field adjacent to hedgerow with connectivity via hedgerows / field margins, as well as ditch D1a/D1b. **Potential constraint - Scoped in for further assessment (eDNA survey)**	0.74 - Good	Negative	
P2	Within a small arable field.	Straight line distance: 250 east Connective distance: >274	NY 01157 13793	Within arable field c. 5m from hedgerow / treeline with connectivity via hedgerow / treeline. **Potential constraint - Scoped in for further assessment (eDNA survey)**	0.81 - Excellent	Negative	
P3	Within a small area of scrub / woodland.	Straight line distance: 493 northeast Connective distance: N/A	NY 01335 14100	Located northeast of River Keekle which acts as a barrier due to its fast-flowing nature. **Potential constraint unlikely – No further consideration**	N/A	N/A	N/A

Waterbody reference	Locality	Straight line distance / direction. Distance via optimal connective habitat (m)	OS grid reference	Connectivity to Site	HSI	eDNA Result	Photograph
P4	Within a small area of scrub / woodland.	Straight line distance: 475 northeast Connective distance: N/A	NY 01298 14124	Located northeast of River Keekle which acts as a barrier due to its fast-flowing nature. **Potential constraint unlikely – No further consideration**	N/A	N/A	N/A
P5	Within an arable field.	Straight line distance: 394 north Connective distance: >426	NY 00912 14261	Closest distance to Site is beyond upper limit of routine migratory distance. **Potential constraint unlikely – No further consideration**	N/A	N/A	N/A
P6	Within patch of scrub/woodland within an arable field.	Straight line distance: 269 southwest Connective distance: >333	NY 00778 12720	Closest distance to Site is beyond upper limit of routine migratory distance. **Potential constraint unlikely – No further consideration**	N/A	N/A	N/A
P7	Within arable field, adjacent to hedgerows / scrub.	Straight line distance: 423 west Connective distance: >540	NY 00450 13094	Closest distance to Site is beyond upper limit of routine migratory distance. **Potential constraint unlikely – No further consideration**	N/A	N/A	N/A
P8	Small pool associated with Clints quarry.	Straight line distance: 480 south Connective distance: >510	NY 00829 12476	Closest distance to Site is beyond upper limit of routine migratory distance. **Potential constraint unlikely – No further consideration**	N/A	N/A	N/A
P9	Small pool associated with Clints quarry.	Straight line distance: 490 south Connective distance: >520	NY 00833 12464	Closest distance to Site is beyond upper limit of routine migratory distance. **Potential constraint unlikely – No further consideration**	N/A	N/A	N/A

Waterbody reference	Locality	Straight line distance / direction. Distance via optimal connective habitat (m)	OS grid reference	Connectivity to Site	HSI	eDNA Result	Photograph
D1a	Minor ditch running adjacent to the treeline along the southern Site boundary with connectivity to D1b	N/A – onsite	NY 00830 13698	N/A – onsite, however, ditch was largely dry. **Potential constraint unlikely – No further consideration**	N/A	N/A	
D1b	Minor ditch running southeast of the Site between arable fields.	Straight line distance: 98 east Connective distance: >104	NY 00961 13704	Connected to Site via ditch D1a, also connected to pond P1. **Potential constraint - Scoped in for further assessment (eDNA survey)**	N/A		
D2	Minor ditch feeding into the River Keekle, within woodland.	Straight line distance: 415 northeast Connective distance: N/A	NY 01297 13953	Located northeast of River Keekle which acts as a barrier due to its fast-flowing nature. **Potential constraint unlikely – No further consideration**	N/A		N/A

Waterbody reference	Locality	Straight line distance / direction. Distance via optimal connective habitat (m)	OS grid reference	Connectivity to Site	HSI	eDNA Result	Photograph
D3	Minor ditch created as part of a wetland restoration project, adjacent to cycle path within strip of woodland.	Straight line distance: 355 north Connective distance: > 355 north	NY 00952 14221	Located within strip of woodland, adjacent to cycle path. Connectivity via woodland/scrub. **Potential constraint - Scoped in for further assessment (eDNA survey)**	0.46 – Poor		

APPENDIX C: HABITAT SUITABILITY INDEX ASSESSMENT

Waterbody Reference		SI -1	SI - 2	SI -3	SI -4	SI -5	SI -6	SI -7	SI -8	SI -9	SI -10			
		Geographical Location	Pond Area (m^2)	Pond Drying	Water Quality	Shade (% cover at perimeter)	Waterfowl	Fish	Ponds (within 1km)	Terrestrial Habitat	Macrophytes (% cover)	HSI score	Pond Suitability	Predicted Presence
P1	Field Result	A	204	Never	Moderate	10	Minor	Possible	12	Moderate	40	**0.74**	**Good**	**0.79**
	SI Score	1	0.40	0.9	0.67	1	0.67	0.67	0.97	0.67	0.7			
P2	Field Result	A	1180	Never	Moderate	10	Minor	Possible	12	Moderate	40	**0.81**	**Excellent**	**0.93**
	SI Score	1	0.93	0.9	0.67	1	0.67	0.67	0.97	0.67	0.7			
D3	Field Result	A	50	Annually	Poor	60	Absent	Absent	13	Moderate	10	**0.46**	**Poor**	**0.03**
	SI Score	1	0.05	0.1	0.33	1	1	1	1	0.67	0.4			

APPENDIX D: EDNA LAB ANALYSIS RESULTS

Client: James Eales, Futures Ecology

ADAS

Sample ID: ADAS-4804 | Condition on Receipt: Good | Volume: Passed

Client identifier: FE, NY537788MK3

Description: pond water samples in preservative

Date of Receipt: 17/06/2025 | Material Tested: eDNA from pond water samples

Determinant	Result	Method	Date of Analysis
Inhibition Control*	2 of 2	Real Time PCR	23/06/2025
Degradation Control#	Within Limits	Real Time PCR	23/06/2025
Great Crested Newt^	0 of 12 (GCN negative)	Real Time PCR	23/06/2025
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10^{-4} ng/µl)^	4 of 4	Real Time PCR	As above for GCN
Report Prepared by: [redacted]		Report Issued by: [redacted]	
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	23/06/2025	Date of issue:	23/06/2025

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 1 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

^ Recorded as the number of positive replicate reactions at expected Ct value. If the expected Ct value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

 # No degradation is expected within time frame of kit preparation, sample collection and analysis.

%Additional positive controls (10^{-5}, 10^{-6}, 10^{-7} ng/µL) are also routinely run, results not shown here.

Client: James Eales, Futures Ecology

ADAS

Sample ID: ADAS-4805 | Condition on Receipt: Good | Volume: Passed

Client identifier: GG, NY609161A5G

Description: pond water samples in preservative

Date of Receipt: 17/06/2025 | Material Tested: eDNA from pond water samples

Determinant	Result	Method	Date of Analysis
Inhibition Control*	2 of 2	Real Time PCR	23/06/2025
Degradation Control#	Within Limits	Real Time PCR	23/06/2025
Great Crested Newt^	0 of 12 (GCN negative)	Real Time PCR	23/06/2025
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10^{-4} ng/µl)^	4 of 4	Real Time PCR	As above for GCN
Report Prepared by: [redacted]		Report Issued by: [redacted]	
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	23/06/2025	Date of issue:	23/06/2025

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 1 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

^ Recorded as the number of positive replicate reactions at expected Ct value. If the expected Ct value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

 # No degradation is expected within time frame of kit preparation, sample collection and analysis.

%Additional positive controls (10^{-5}, 10^{-6}, 10^{-7} ng/µL) are also routinely run, results not shown here.

Client: James Eales, Futures Ecology

ADAS

Sample ID: ADAS-4806 | Condition on Receipt: Good | Volume: Passed

Client identifier: FE, NY5535315792

Description: pond water samples in preservative

Date of Receipt: 17/06/2025 | Material Tested: eDNA from pond water samples

Determinant	Result	Method	Date of Analysis
Inhibition Control*	2 of 2	Real Time PCR	23/06/2025
Degradation Control#	Within Limits	Real Time PCR	23/06/2025
Great Crested Newt^	0 of 12 (GCN negative)	Real Time PCR	23/06/2025
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10^{-4} ng/µl)^	4 of 4	Real Time PCR	As above for GCN
Report Prepared by: [redacted]		Report Issued by: [redacted]	
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	23/06/2025	Date of issue:	23/06/2025

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 1 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

^ Recorded as the number of positive replicate reactions at expected Ct value. If the expected Ct value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

 # No degradation is expected within time frame of kit preparation, sample collection and analysis.

%Additional positive controls (10^{-5}, 10^{-6}, 10^{-7} ng/µL) are also routinely run, results not shown here.

APPENDIX E: TOOLBOX TALKS

ECOLOGY TOOLBOX TALK – BATS

General background

- Bats are mammals giving birth to live young.
- There are 18 species of bats in the UK.
- Bats are nocturnal and eat insects. They can consume 1000's of insects in one night.
- Bats are not blind but detect their prey and navigate using a highly advanced sonar.
- They hibernate during the winter.
- Female bats from a large area, form nursery colonies in the spring, where they give birth to a single pup.
- An average nursery colony contains around 50 bats, but some colonies have been found with over 1000 bats.
- Bats can access a building or a tree via gaps as small as 20mm by 15mm.

Identification

You may find bats in any number of places, they tend to prefer dark, quiet spots with good shelter, such as holes and cracks in trees, roofs and walls of buildings, under bridges, old tunnels and in caves.
Signs of bat presence include discarded moth wings, staining around crevices and small mouse like droppings which crumble easily.

Brown long-eared bat

Common Pipistrelle Bat

Noctule Bat

Bats and the law

In the last 50 years bat populations have reduced dramatically from the loss of roost and foraging habitats. All bats and roosts are now protected under UK and European law.

Breaking the law can lead to fines of up to £2,000 per bat and/or 6 months in prison.

You must not:

- Deliberately kill, injure or keep bats.
- Damage or destroy bat roosts (even if the bats are not present).
- Intentionally or recklessly obstruct access to a bat roost.
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.

Site Controls

There is always a risk that bats, as they move between different roost sites and occupy new roosts, could be encountered during Site works.

If any bats are encountered during works the following controls must be applied to avoid breaking the law:
1. If bats are discovered/suspected works must stop immediately with any bat left in-situ and we immediately contacted (contact details below).
2. If any injured bats are found during the works we would care for them and where possible be released in the same location once recovered.
3. During works staff must wear gloves in case of accidental contact with bats.
4. Any roof tiles will be lifted straight up, rather than being rolled over, minimising the risk of harming bats which may be sheltering underneath.
5. Areas must be fully checked for any bats or their evidence prior to filling any gaps and repointing any brickwork.
6. Any lighting must be installed must avoid illuminating vegetation and or bat boxes/access points.

These controls have been put in place to protect all Site operatives from breaking the law. You are not expected to be able to identify bats or their presence so remember, if in doubt shout and contact the relevant person.

Remember that because bats return to the same places every year, a bat roost is protected even if the bats are not there.

If you find a bat

Or evidence of bats, such as droppings, stop works on that area immediately. If there are bats present, try to leave them as you found them. If the bat is injured place the animal in a small, sealable dark box with a towel inside ensuring there are small air holes but no other ways for the bat to get out. Always wear gloves if you must handle a bat. All works must stop to that tree until appropriate advice has been given.

Call Futures Ecology on **07730774476 or 07458 304186** for further advice if you find any evidence of roosting bats.

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ECOLOGY TOOLBOX TALK – RED SQUIRREL

Red Squirrel *Sciurus vulgaris*

Legislation/Policy

Red squirrel are protected by British law under:

- the Wildlife and Countryside Act 1981 (as amended)
- This makes it an offence to to intentionally or recklessly kill, injure, capture a red squirrel; or intentionally or recklessly damage, destroy, obstruct access to a place of rest/shelter or disturb a red squirrel occupying a place of rest/shelter.

Works

- Trees found to contain red squirrel dreys will as far as practical be left undisturbed until a checking survey confirms the drey has been abandoned. Tree felling will be timed to avoid the breeding season (February to September).
- Should a red squirrel or drey be identified onsite during construction the following emergency procedure should be followed:

- Stop the activity being undertaken immediately if it is within 30m of the squirrel/drey
- Immediately inform the Site supervisor and ECoW
- ECoW to confirm presence of red squirrel/drey, consult specialists, over appropriate mitigation and/or micro-siting
- The activity should not resume until written approval, detailing any appropriate mitigation has been given by the ECoW

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ECOLOGY TOOLBOX TALK - REPTILES

Identification

There are six species of reptile in the UK. Reptiles are ectothermic (cold-blooded) meaning they require external heat sources (such as the sun) to raise their body temperatures. Therefore, reptiles are most likely to be seen on warm, sunny days and especially after bad/cold weather. Most reptiles hibernate between October and March.

All common reptiles species are partially protected under Schedule 5 of the Wildlife and Countryside Act 1981. This protects these animals from:

- Reckless or intentional killing and injury;
- Selling, offering for sale, possessing or transporting for the purpose of the sale or publishing advertisements to buy or sell.

How might construction affect reptiles?

- Ground clearance of suitable habitats
- Removal of vegetation piles, compost heaps, rubble piles;
- Digging up tree and scrub roots.

What should I look out for?

In general reptiles prefer a heterogenous structure of habitats, such as mosaic of rough grassland, scrub and hardstanding. This provides suitable habitat for foraging, basking and sheltering. Other favoured habitats include ponds, canals/rivers, heathland, allotments, derelict/brownfield sites and railways.

There are 3 widespread species of reptile in the UK; common lizard, slow-worm and grass snake. Adders are widespread, however, rarely found on development sites and sand lizard and smooth snake are restricted to a handful locations.

COMMON LIZARD

Small, slender lizard typically 12-15cm long. Head with distinctively pointed snout. Normally have light and dark markings in the form of spots or lines. Widespread in heathlands and grasslands.

SLOW WORM

Leg-less lizard, looks like a small snake >40cm. Cyclindrical in shape and smooth to the touch. Shiny metallic in appearance. Favour tussocky grasslands and sunny embankments.

GRASS SNAKE

Longest British snake growing to >1m. Light yellow-orange ‘collar’ and regular black markings along sides. Widespread in England. Strongly associated with water as they can swim.

Site Controls

There is always a risk that as reptiles move through the habitat that they could be encountered during Site works.

If any reptiles are encountered during any construction works the following controls must be applied to avoid breaking the law:
1. If reptiles are discovered/suspected works must stop immediately with any reptile left in-situ and we immediately contacted.
2. During works operatives must wear gloves in case of accidental contact with reptiles.
3. Site operative must not intentionally handle reptiles.
4. Care must be taken when moving logs, stones or rubble. These are favoured habitats for reptiles and they may be found sheltering underneath.
5. Stockpiling of materials is only permitted within designated areas. Any building materials must be stored above ground on pallets and any waste material must be placed into skips, to prevent the risk of reptiles taking refuge within them.
6. Trenches must be covered overnight to prevent animals falling into them.

These controls have been put in place to protect all Site operatives from breaking the law. You are not expected to be able to identify reptiles or their presence.

Call Futures Ecology on **07730774476 or 07458 304186** for further advice if you find any evidence of reptiles.

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ECOLOGY TOOLBOX TALK – NESTING BIRDS

Nesting birds

Legislation/Policy

Wild birds are protected by law under the Wildlife and Countryside Act (WCA)1981 (*as amended*). Under the WCA it is an offence to:

- **Kill or injure any wild bird**;
- Capture or keep (alive or dead) any wild bird;
- **Destroy or take the egg of any wild bird;**
- Sell or advertise for sale any wild bird or its eggs; or
- **Destroy, damage, interfere with, take or obstruct the use of the nest of any wild bird while it is in use or being built.**

There is also additional protection for rare breeding birds listed under Schedule 1 of the WCA. This makes it an offence to:

- Disturb any specially protected bird while it is building its nest;
- Disturb any specially protected bird while it is in or near a nest containing eggs or young; or
- Disturb the young of any of these birds before they are wholly independent.

Works

- A check for breeding birds must be undertaken by the Ecological Clerk of Works (ECoW) if any works have potential to disturb nesting birds.
- Where possible works should be timed to avoid the breeding bird season (March – August).

- **Should a bird nest be identified the following procedure should be followed:**
  - Buffer the active nest from any works (at least 5m, to be agreed by the ECoW). This must be retained until the young have fledged.
  - If the nest is identified accidently stop activity being undertaken immediately (ensuring any nest is not removed/destroyed).
  - Immediately inform the Site supervisor and ECoW.
  - ECoW to confirm presence of nest and consult regarding appropriate actions.
  - The activity should not resume until the ECoW has confirmed via written approval that works can proceed. Checks of the nest maybe required throughout the nesting period to ascertain the status of the nest.

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ECOLOGY TOOLBOX TALK –HEDGEHOGS

Hedgehogs *Erinaceus europaeus*

Legislation/Policy

Hedgehogs are protected by British law under:

- The Wildlife and Countryside Act 1981, Schedule 6 which makes it illegal to kill or take hedgehogs using certain methods (such as snares); and
- The Wild Mammals Protection Act (1996) which prohibits cruelty and mistreatment.

Hedgehogs are also Species of principle Importance (SPI) under the Natural Environment and Rural Communities (NERC) Act 2006 and as such are a material consideration for Local Planning Authorities during the planning process.

Ecology & Status

Hedgehogs are native and widespread across the UK. They require a mixture of habitats for foraging, nesting and mating, and a connected landscape.

- Nov – Feb this species will hibernate.
- March – April – replenish food resources.
- May – September – courtship & breeding with births June -September and the young leaving the nest July – October.

Hedgehogs are currently rapidly declining, with at least a third lost from Britain since 2000 (State of Britain's Hedgehogs Report, 2018)[47].

Works

- This species could be killed / injured during Site clearance of habitats suitable for shelter such as rubble, brash /log piles, scrub. This habitat must be dismantled by hand under the supervision of the Ecological Clerk of Works (ECoW). The materials must be either relocated to retained habitat areas, removed from Site or stored on pallets to prevent hedgehogs from utilising these areas.

- This species could also become trapped within Site excavations / trenches during works. Any excavations must be covered overnight, or a ramp / sloped end will be installed to enable any trapped animals to escape.

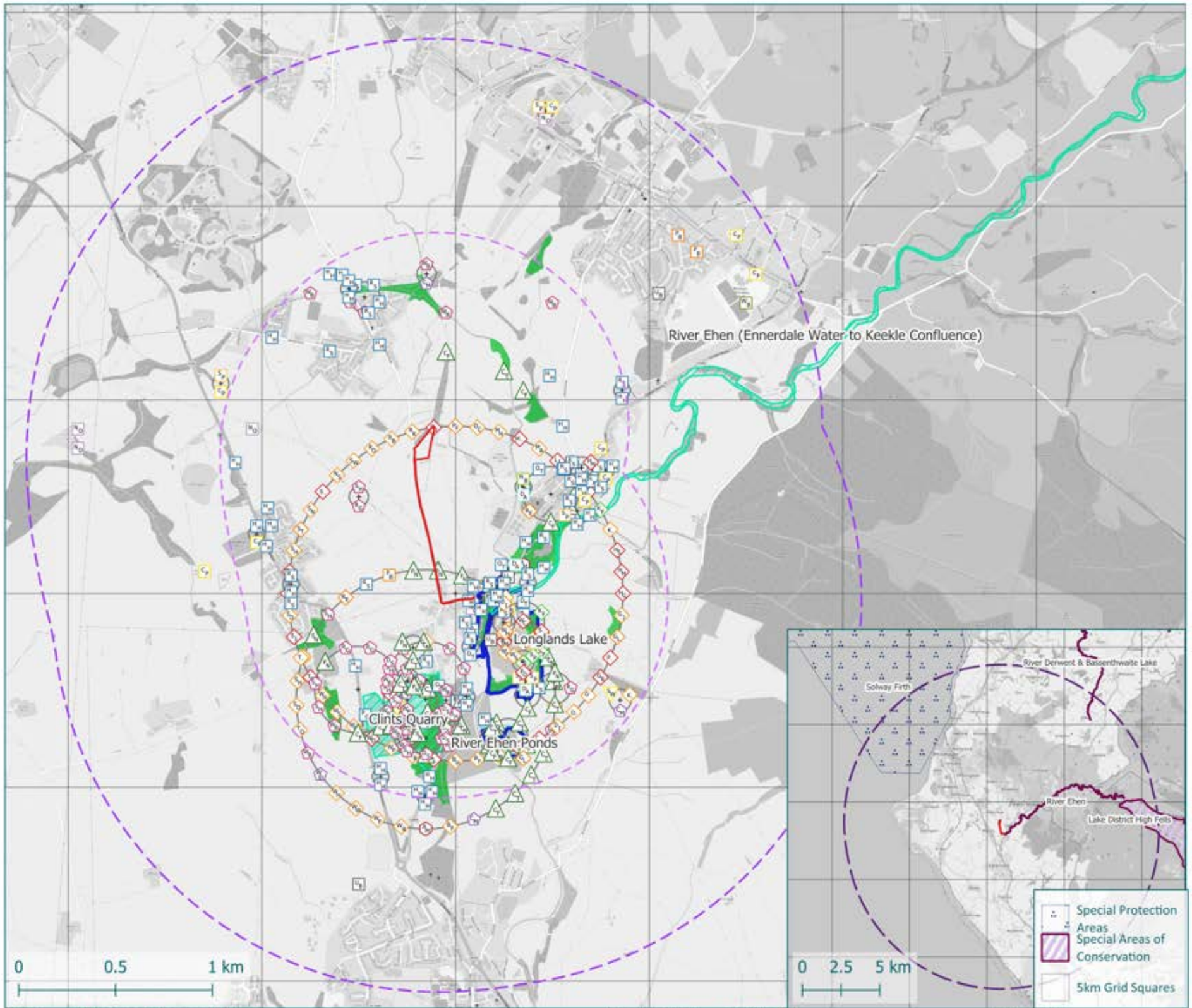
- A pre-commencement inspection of the Site will be undertaken by the ECoW. This will be followed by a staged approach to vegetation clearance, whereby the vegetation will be strimmed to c.15cm. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter hedgehogs from utilising these areas.

- All storage must be off ground for example the use of elevated stillages / pallets. No tipping of rubbish and a clean Site policy to be used.

- Any netting brought onto Site shall be stored off ground and in locked containers to avoid entanglement of animals.

[47] https://www.britishhedgehogs.org.uk/wp-content/uploads/2019/05/developers-1.pdf

- If any hedgehogs are found in the working area these should be moved by hand (using gloves) to a vegetated area along the Site boundaries or in retained habitats.



FUTURES ECOLOGY

Carrwood Park, Swillington Common Farm, Selby Road, Leeds, LS15 4LG
Telephone: 01133 372185

Unit 9, The Tangent Business Hub, Weighbridge Road, Shirebrook, Mansfield, Derbyshire, NG20 8RX
Telephone: 01623 749709

Key

- Site Boundary
- 1km Buffer
- 2km Buffer
- 1km Grid Squares

Statutory Designated Sites

- Sites of Special Scientific Interest

Non-Statutory Designated Sites

- Local Wildlife Sites

Habitats of Principal Importance (HPIs) within 1km

- Deciduous woodland
- Good quality semi improved grassland
- No main habitat but additional habitats present

Protected and Notable Species Key is on the following page.

Client:	JT Energy Storage Ltd	Plan Reference:	FE496_01	Author:	DH
Project:	BESS Egremont, Cumbria	Project Reference:	FE496	Date:	6/5/2025
Title:	Figure 1 - Site Location & Desk Study Results Plan	Report Reference:	FE496/EclA01	Scale:	NTS

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Protected and Notable Species Key

- Common pipistrelle bat
- Soprano pipistrelle bat
- Pipistrelle bat species
- Noctule bat
- Daubenton's bat
- Natterer's bat
- Whiskered bat
- Myotis bat species
- Unidentified bat species
- European otter
- West European hedgehog
- Red squirrel
- Polecat
- Eurasian curlew
- Common cuckoo
- Grey partridge
- Greenfinch
- Herring gull
- House martin
- Yellowhammer
- House sparrow
- Starling
- Lapwing
- Lesser redpoll
- Linnet
- Mistle thrush
- Pochard
- Scaup
- Skylark
- Spotted flycatcher
- Tree pipit
- Whinchat
- Wood warbler
- Swift
- Black-headed gull
- Common bullfinch
- Common sandpiper
- Dunnock
- Greylag goose
- Grey wagtail
- Kestrel
- Mallard
- Oystercatcher
- Pied flycatcher
- Redwing
- Redshank
- Reed bunting
- Snipe
- Stock dove
- Tawny owl
- Teal
- Whooper swan
- Willow warbler
- Dipper
- Song thrush
- Woodpigeon
- Moorhen
- Sparrowhawk
- Rook
- Sedge warbler
- Common whitethroat
- Gadwall
- Wren
- Kingfisher
- Great crested newt
- Palmate newt
- Smooth newt
- Common toad
- Common frog
- Slow-worm
- Common lizard
- Wall butterfly
- Small heath butterfly
- Dingy skipper butterfly
- Latticed heath butterfly
- Grayling
- Cinnabar moth
- White ermine moth
- American mink
- Northern Shoveler

FUTURESECOLOGY
Carrwood Park, Swillington Common Farm, Selby Road, Leeds, LS15 4LG
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Telephone: 01623 749709

Key

- Site Boundary

Habitats

- Hardstanding
- SI — Poor semi-improved grassland
- Broadleaved trees
- Dry ditch
- Fence
- Broadleaved tree (NONE)
- Scrub - scattered

Client:	JT Energy Storage Ltd	Plan Reference:	FE496_02	Author:	DH
Project:	BESS Egremont, Cumbria	Project Reference:	FE496	Date:	6/5/2025
Title:	Figure 2 - Phase 1 Habitat Plan	Report Reference:	FE496/EclA01	Scale:	NTS

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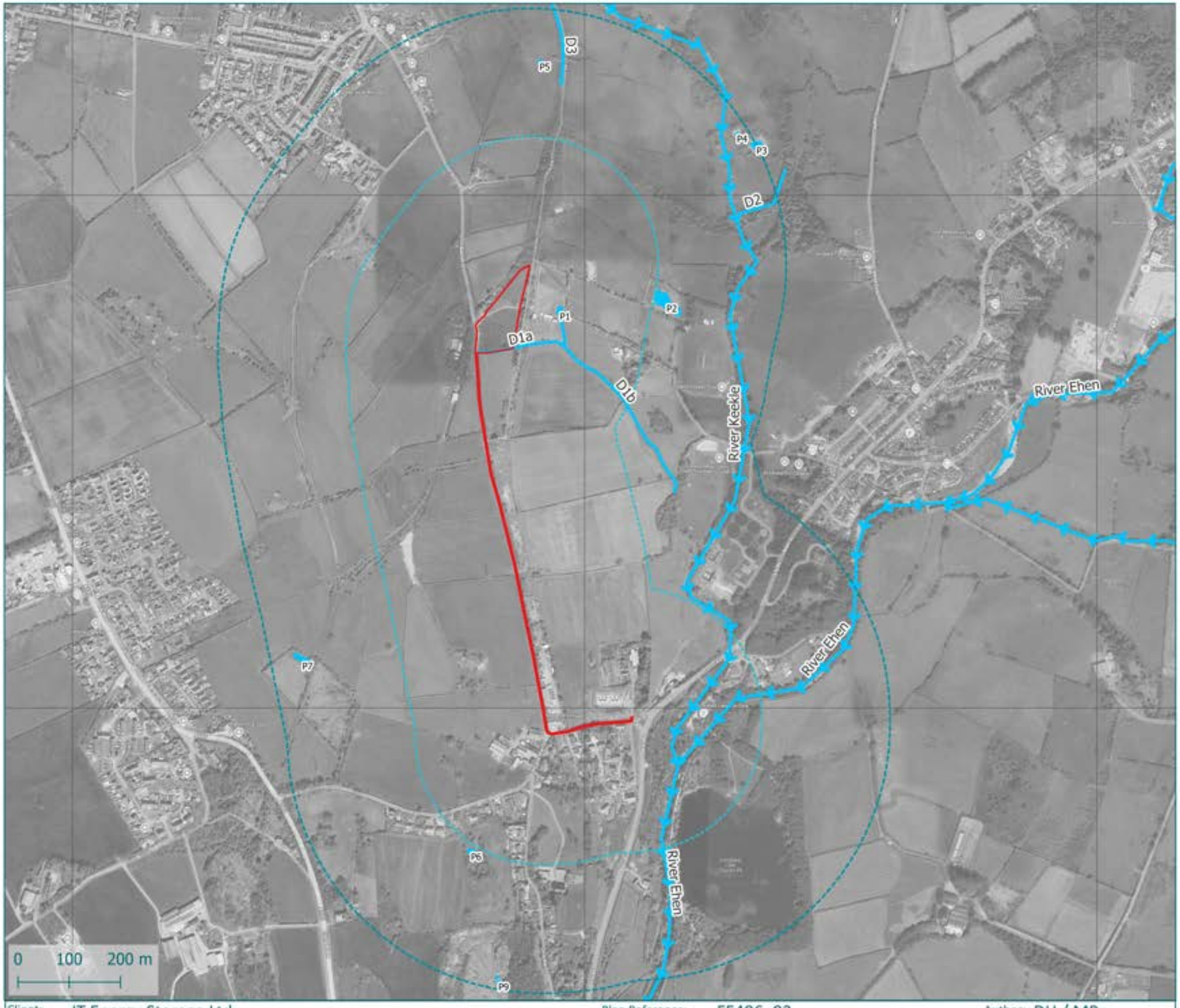

FUTURESECOLOGY

Carrwood Park, Swillington Common Farm, Selby Road, Leeds, LS15 4LG
Telephone: 01133 372185

Unit 9, The Tangent Business Hub, Weighbridge Road, Shirebrook, Mansfield, Derbyshire, NG20 8RX
Telephone: 01623 749709

Key

- Site Boundary
- 250m Buffer
- 500m Buffer
- 1km Grid Squares
- Ditch
- Watercourse
- Waterbody

Client:	JT Energy Storage Ltd	Plan Reference:	FE496_03	Author:	DH / MP
Project:	BESS Egremont, Cumbria	Project Reference:	FE496	Date:	6/5/2025
Title:	Figure 3 - Waterbody Plan	Report Reference:	FE496/EclA01	Scale:	1:7500

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