**National Road BESS**

on behalf of REWE 2 Ltd

Biodiversity Management Plan

avian ecology

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**CONTENTS**

# 1 INTRODUCTION

1.1.1 This Biodiversity Management Plan ('BMP') has been prepared in relation to a proposed Battery Energy Storage System (BESS) with associated infrastructure, earthworks including on-site substation, access, drainage and landscaping and underground cable route connection (hereafter referred to as the 'Proposed Development') on land north and south of National Road, Cilfynydd, Pontypridd (the 'Site').

1.1.2 This document details biodiversity protection and enhancement measures, including ongoing management practices to be adopted with the aim of developing and maintaining wildlife habitats to provide a net gain for local biodiversity.

1.1.3 The site-specific approach provided within this report provides recommendations for long-term management of the land throughout the lifetime of the Proposed Development, to conserve and improve landscape habitat connectivity within the wider landscape for wildlife through protecting and enhancing potentially important wildlife corridors and habitats. This will contribute to the establishment of coherent ecological networks and demonstrates the step-wise approach, supporting the targets of Planning Policy Wales[1].

1.1.4 This BMP should be read in conjunction with the Indicative Landscape Masterplan (Drawing Number: P22-2733_EN_04B).

# 2 ECOLOGICAL BASELINE- PRE-DEVELOPMENT

2.1.1 Detailed descriptions of baseline ecological conditions can be found in the *Ecological Assessment Report*[2] (EAR).

2.1.2 The Site covers an area of approximately 24.3 ha and comprises three core areas hereafter referred to as North Site, South Site and Cable Corridor. North Site (excluding access) covers an area of c. 5.7ha, located at grid reference ST0928093564, with development to comprise of battery storage and associated infrastructure. South Site covers an area of c. 2.4ha, located at grid reference ST0968493308, with development to comprise of the creation of a new substation. The Cable Corridor covers the remaining area, with development to comprise of the installation of a cable. The Site is shown on Figure 1 of the EAR.

2.1.3 Habitats within the North Site comprised of sheep grazed modified grassland pasture, with boundary features of tree lines, earth mounds and stone walls between the individual fields.

2.1.4 Access to the North site is via an existing track, lined with bracken and grassland associated with Criag-Evan Leyshon Common Site of Importance for Nature Conservation (SINC).

2.1.5 A secondary access track may be created from National Road using existing access though an area of lowland mixed deciduous woodland and then passing through two fields comprised of sheep grazed other lowland acid grassland pasture, showing signs of agricultural improvement.

2.1.6 Habitats within the South Site comprised predominantly of species poor rush pasture, with an area of modified grassland to the west of the Site. A single tree line runs along part of the southern boundary, with all other boundaries comprised of stock fencing.

[1] https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf
[2] Avian Ecology Ltd, (2025). *National Road BESS: Ecological Assessment Report*.

2.1.7 Habitats within the Cable Corridor comprised part of two fields recently ploughed at the time of survey, a block of woodland (the northern section of which consisted of recently planted trees and the southern section of which was mature) and two grassland fields, one of which was modified grassland grazed by sheep and the other rough grassland pasture with acid grassland indicators.

2.1.8 The Cable Corridor also incorporates the existing Cilfynydd Substation and surrounding habitats; whilst this land was not surveyed at the point of undertaking baseline habitat surveys, it is understood that the habitats consist of hardstanding within the substation and similar grassland to that described above within the surrounding area.

# 3 ECOLOGICAL MITIGATION MEASURES

## 3.1 Designated Sites and Habitats

3.1.1 The Site is not located within any statutory designated site for nature conservation however the proposed North Site access route intersects the non-statutory designated site Craig-Evan Leyshon SINC.

3.1.2 No other statutory or non-statutory designated sites will be directly affected by the Proposed Development and are considered sufficiently distanced to avoid direct and indirect impacts.

3.1.3 The layout of the Proposed Development has been designed to retain boundary features (e.g., tree lines) as far as practically possible, with suitable buffers implemented/

3.1.4 Minor vegetation removal within Craig-Evan Leyshon Common SINC may be required along the proposed North Site access to allow for adequate turning circles and passing places. This loss has been avoided with passing places located within existing vegetation breaks wherever practicable. To ensure no works encroach into sensitive habitats beyond the site boundary, Heras fencing or similar will be erected along works boundaries.

3.1.5 The proposed access tracks will largely utilise existing gaps in hedgerows (see The Indicative Landscape Masterplan (Drawing Number: P22-2733_EN_04B). The access track will also utilise an existing crossing point over Wey Brook that is currently used for farm machinery. This will not involve structural reinforcement of the banksides and only comprise resurfacing works.

3.1.6 Hedgerows and trees will be retained and protected in-line with BS 5837:2012 *Trees in relation to design, demolition and construction*, however some minor vegetation removal and pruning will be required to enable site access.

3.1.7 Standard measures to ensure surface water runoff control and pollution prevention, following Guidelines for Pollution Prevention[3], will be implemented; these measures will safeguard boundary habitats as well as on and off-Site ditches and watercourses with associated habitats and species.

3.1.8 There will be clear delineation of working areas and access routes for vehicles entering the Site and instructions on these will be given to all site construction staff, delivery drivers and subcontractors.

## 3.2 Birds

3.2.1 Site clearance works should be undertaken outside of the breeding bird season in so far as reasonably practical. The breeding bird season is generally considered to be 01st March to 31st August inclusive. Where this cannot be avoided, a suitably experienced ecologist will be appointed to undertake a pre-site clearance survey to identify the presence of any wild bird nests being built or in use (including those of ground nesting birds such as skylark*)*. Only once the appointed ecologist is satisfied that an offence under Part 1 of the Wildlife and Countryside Act 1981 (as amended) will not occur, may works proceed.

3.2.2 If a nesting bird species is identified, a suitable work exclusion zone will be established around the nest site and a Breeding Bird Protection Plan will be required, in line with best practice guidance and in consultation with the advising ecologist.

[3] https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/

3.2.3 During operation, disturbance will be minimal and limited to intermittent maintenance activities.

## 3.3 Bats

3.3.1 Protection of trees, hedgerows and other field boundary features around the Site and adjacent land will safeguard potential roost sites and maintain foraging and commuting opportunities.

3.3.2 No trees with bat roost potential are expected to be affected by works, however as a precaution, prior to any required tree removal or pruning, a Ground Level Tree Assessment (GLTA) and if appropriate, consequent Potential Roost Feature (PRF) inspection will be undertaken. Compensation would be provided in line with Collins (2023)[4] whereby PRF suitable for individual bats (PRF-I) are compensated for through the roost resource approach and PRF suitable to support multiple bats (PRF-M) are subject to further inspection surveys in summer to determine use. If a roost is confirmed, no tree works would commence until a licence has been granted by Natural Resources Wales (NRW).

3.3.3 Construction will be undertaken during daylight hours as far as possible; in order to protect foraging and/ or commuting bats, if any lighting is required during construction, this will be used in a sensitive manner and directed away from field boundary habitats and habitats bordering the Site.

3.3.4 During operation, the Proposed Development will not be routinely lit. Any lighting associated with the substation will be very localised and will only be used on occasion, for example a security breach or if an engineer needs to carry out emergency visits to the Site at times when natural light levels are low.

3.3.5 Any lighting required will be restricted and directed away from retained boundary habitats to maintain dark corridors for foraging and commuting. Light spill can be avoided in a number of ways, including the use of low-level lighting and use of hoods and careful selection of lighting; further information is available in *Bats and Artificial Lighting at Night*[5]. As long as lighting is designed and implemented in a sensitive manner, no discernible effects are anticipated on foraging or commuting bats.

## 3.4 Badger

3.4.1 No evidence of badger was identified within the Site or immediate surrounds.

3.4.2 Due to the highly mobile nature of badgers, a pre-construction badger check will be undertaken to confirm the status of badger setts within the Proposed Development area before commencement of works. If a newly established sett is found, or if baseline conditions have altered, advice will be provided by the project ecologist to ensure necessary protection, avoidance or mitigation measures are in place before works proceed. This will inform safeguarding measures required and inform a disturbance licence required from NRW.

3.4.3 To protect badgers (and other terrestrial mammals) no trenches/excavations will be left open over night without the creation of sloping escape ramps, which may be achieved by edge profiling of trenches/excavations or by using planks placed into them at the end of each working day. Ideally, open excavations / trenches should be covered overnight or other measures taken to prevent badgers entering or falling into such features.

[4] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London

[5] Institution of Lighting Professionals & the Bat Conservation Trust (2023). *Guidance Note 08/23: Bats and artificial lighting in the UK Bats and the Built Environment series.*

## 3.5 Amphibians and Reptiles

3.5.1 Land within the Site is dominated by short, grazed pasture and considered to be unsuitable habitat to support and maintain viable amphibian and reptile populations. However, rush pasture habitats within the South Site and bracken along the North Site access route may provide suitable terrestrial habitat for amphibian and reptile species.

3.5.2 To protect individual amphibians and reptiles, any works within suitable habitats works will be conducted under the supervision of a licensed ecologist following Reasonable Avoidance Measures (RAM)s. Outline RAMs are provided in **Annex 2**.

## 3.6 Other Species

3.6.1 Small mammals including hedgehog and a variety of invertebrates may also potentially use the Site.

3.6.2 Any vegetation clearance works that may affect these species will follow RAMs under the supervision of a licensed ecologist to avoid any risk of adverse effects to these species, if present. Outline RAMs are provided in **Annex 2.**

## 3.7 Pre-construction Surveys

3.7.1 Due to the mobility of species, pre-construction surveys should be undertaken immediately prior to construction (i.e., within the preceding seven days). The pre-construction survey will also include a general walkover of the construction zone to determine Site conditions have not changed.

3.7.2 The results of pre-construction surveys, including any additional measures required (if applicable) will be communicated to the Local Planning Authority, through a 'Sign off Report', at the earliest opportunity. All works associated with pre-construction surveys will be undertaken under the guidance of the consulting ecologist and will ensure legislative compliance.

3.7.3 **Table 3.1** below outlines the required pre-construction surveys and the circumstances in which they are required.

**Table 3.1: Requirements for Pre-construction Surveys**

| Pre-construction survey required | Works required for | Timings |
|---|---|---|
| Extended habitat | Any works within the area not subject to extended habitat survey in the northern land parcel. | Any time of year |
| Nesting birds | Vegetation clearance works | Only required for works in breeding bird season (March to August inclusive) |
| Bats | Tree removal or limb removal | Any time of year |
| Badger | Site clearance works/excavations | Any time of year |
| Hazel dormouse | Hedgerow or tree removal/trimming | Any time of year |
| Amphibians/reptiles | Hedgerow or tree removal/trimming | Any time of year |

# 4 ECOLOGICAL ENHANCEMENT MEASURES

## 4.1 Habitat Enhancement

4.1.1 Management practices are proposed that will enhance the Site for the benefit of local wildlife. The design and long-term management of the land seeks to maintain and improve functionality through protecting and enhancing potentially important wildlife corridors i.e., through species-rich hedgerow creation tree planting within and around the Site, as well as grassland and rush pasture creation. The creation of well managed grassland habitat on fields which were formerly heavily grazed provides increased habitat for invertebrates and foraging, shelter and breeding opportunities for other wildlife.

4.1.5 The Indicative Landscape Masterplan (Drawing Number: P22-2733_EN_04B) sets out the proposed landscape plan.

4.1.6 Planting will not be carried out when the ground is wet/waterlogged or frost bound, or during periods of excessive cold drying winds.

4.1.7 All bare-root planting stock will be kept covered until planted in order to minimise water loss and prevent the roots from drying out. Bare-root stock shall be planted while dormant (during winter months). Containerised and root-balled stock will be used where necessary, as advised by the supplier.

4.1.8 Any imported topsoil will comply with BS 3882 *Specification for Topsoil*. All supplying nurseries will be registered under the Horticultural Trade Association Nursery Certification Scheme and plant material should be of certified British provenance. All plants will be packed and transported in accordance with the Code and Practice for Plant Handling as produced by The Committee for Plant Supply and Establishment.

4.1.9 All plant material will conform with BS:3936 *Specification for nursery stock Bulbs, corms and tubers* and all seeding shall conform with BS:4428 *Code of practice for general landscape operations (excluding hard surfaces)*, or the most up to date and current British Standards and in accordance with seed supplier's technical advice.

4.1.10 It is advised that herbicides are not used on Site; however, if herbicides are required, the herbicide handbook (English Nature, 2003[6]) provides guidance on appropriate herbicide use in relation to nature conservation works.

### *Ground Preparation*

4.1.11 Where necessary, existing weeds will be manually removed or treated with a suitable herbicide as specified within the herbicide handbook (English Nature, 2003) or hand-weeding.

4.1.12 Any extraneous matter such as plastic, large pieces of wood and metal will be removed from Site to a registered waste disposal facility.

### *Native Hedgerow Planting*

4.1.13 The exact timing of the proposed hedgerow planting will be dependent on the ground conditions but planting would take place between the months of December-February inclusive. It is expected that ground conditions and climate will allow for earlier planting (i.e. before January), and this will allow

[6] English Nature (2003) *The Herbicide Handbook: Guidance on the use of herbicides on nature conservation sites*. Natural England, Peterborough.

the plants more time to establish a network of feeder roots before the onset of spring. Planting would avoid freezing and waterlogged conditions.

4.1.14 Hedgerow trenches shall be dug to 450mm x 450mm x 450mm depth, the base of which shall be broken up before returning the approved topsoil backfill mixture to the trench, at the ratio of one part compost to two parts topsoil. All stock shall be planted to the root collar and well firmed in place.

4.1.15 After planting, a 50mm layer of approved compost fine bark (nominal size 1-10mm) shall be spread over the whole hedge area (450mm wide).

4.1.16 On completion, all hedge plants shall be thoroughly watered in and will be protected from damage by rabbit proof fencing or individual biodegradable spirals/shrub guards, as appropriate.

### *Tree and Woodland (Tree Belt) Planting*

4.1.17 All standard trees will be planted in separate pits (1m x 1m x 900mm), which shall be backfilled with a mixture of approved topsoil and tree and shrub planting compost at a rate of one part compost to two parts topsoil. Root barriers will be employed near services.

4.1.18 The bottom of each pit will be broken up to a depth of 150mm and the sides will be scarified. Each tree shall be planted centrally within the pit to the original root collar and secured by two untreated stakes (1.4m minimum length), with approved ties.

4.1.19 After planting, all trees will be watered-in and a mulch layer of 1m diameter approved forest bark will be spread over the tree pit to a depth of 50mm. A biodegradable spiral guard will be fixed to the base of each tree to protect it from rabbit damage and potential strimmer damage.

4.1.20 On completion, all plants shall be thoroughly watered-in and will be protected from damage by rabbit proof fencing or individual spirals/shrub guards, as appropriate.

### *Grassland Creation*

Wildflower Meadow and Wet Grassland

4.1.21 The site will be sown with a wildflower meadow mix such as Emorsgate EM3 Special General Purpose Meadow Mixture or similar. In addition, an area within the South Site will be managed as rush pasture and sown with a wet meadow mix such as Emorsgate EM8 Meadow Mixture for Wetlands or similar.

4.1.22 A longer-term approach to the establishment of this grassland meadow habitat has been adopted, through suitable management practices and the avoidance of fertilizers and herbicides to establish an increasingly species and structurally varied grassland across the Site.

*Seeding*

4.1.23 Prior to seeding (after construction of the BESS development, access tracks and other associated infrastructure), unwanted vegetation growth within the fields will be removed by scraping the surface to a depth of 150mm. The ground shall then be thoroughly broken up and cultivated and fine graded to even running falls, before raking and cross raking. The grass seed mixes shall be sown in accordance with good practice and in line with the supplier's guidance.

4.1.24 Seeding will take place in accordance with the suppliers' guidance, ideally in either spring or in September (although seeding is possible at other times of year).

4.1.25 Seeds shall be broadcast by approved lightweight machinery, following seeding the area will be subject to rolling to incorporate the seed with the growing substrate. Where this is not possible, seeds will be broadcast by hand.

## 4.2 Wildlife Enhancement

### *Maintaining Connectivity*

4.2.1 The perimeter fence will incorporate suitably sized (approximately 200mm x 200mm) gaps or gates at its base at suitable locations around the Site to allow the free movement of wildlife, including badger and small mammals, thereby maintaining and strengthening habitat connectivity and dispersal opportunities across and through the Site. Precise locations will be agreed with the project ecologist and will be subject to confirmation during the installation depending on condition at that time.

### *Bird Nest Boxes*

4.2.2 Additional bird nesting provision will be made through the inclusion of 10 bird boxes erected on semi-mature/mature trees located along the field boundaries within and adjacent to the Site. Precise locations will be subject to confirmation during the installation depending on tree condition at that time.

4.2.3 Bird boxes should ideally be installed in the autumn (September to November) following the cessation of construction works, by the appointed contractor under advice of the suitably competent ecologist.

4.2.4 Boxes should be erected at an appropriate height of between 1 to 5 metres. Boxes should be angled so that they face away from the prevailing wind or in a semi sheltered environment. Positioning within or close to hedgerows will increase chances of occupation. Bird boxes will be suitable for a variety of farmland bird species.

4.2.5 Suitable specifications for bird boxes are provided in **Annex 1**.

### *Bat Roost Boxes*

4.2.6 Additional bat roost provision will be made through the inclusion of a minimum of 10 bat roost boxes on suitable trees along the field boundaries within and bordering the Site. Following BCT guidance[7], boxes will be erected at an appropriate height (ideally above 4m in height) and with clear flight paths to utilise the Site boundary features. Boxes should be positioned away from artificial light sources, sheltered from strong winds and exposed to the sun for part of the day (usually facing south, south-east or south-west). Multiple boxes should also be grouped, each with a different aspect, to provide a number of different options for bats. Precise locations will be agreed with the project ecologist and will be subject to confirmation during the installation depending on tree condition at that time.

4.2.7 Suitable specifications for roosting boxes are provided in **Annex 1**.

[7] https://cdn.bats.org.uk/uploads/pdf/Bat-Box-Information-Pack-Sept-2020-JF.pdf?v=1600095860&_gl=1*1p5xe9l*_ga*MjE0MDAwODIyMi4xNzAwMDYzNjk5*_ga_G28378TB9V*MTcwMDA2MzY5OS4xLjAuMTcwMDA2MzY5OS4wLjAuMA (Accessed: 6th June 2024).

# 5 HABITAT MANAGEMENT

## 5.1 Overview

5.1.1 Habitat management will be reviewed and undertaken periodically throughout the lifetime of the Proposed Development (see Section 7). Management will be the responsibility of the current or any subsequent owner of the Proposed Development. All works associated with the implementation of the BMP will be undertaken by experienced contractors. The costs of any such works will be borne by the owner or any subsequent owner of the BESS development. Monitoring and reporting will be undertaken by a suitably qualified ecologist and the costs associated with monitoring reporting and any rectification works will be borne by the owner or any subsequent owner. The Applicant would welcome a condition in this regard on any granting of planning permission.

## 5.2 Hedgerow, Tree and Woodland (Tree Belt) Management

5.2.1 During the establishment period (the first five years), all dead, dying or diseased stock will be replaced with stock of similar size and species by the appointed contractor at their own cost. If the failure of the plant is due to disease and the disease is considered likely to re-occur, then an alternative native species of local provenance may be used as a replacement. The exact timing of the planting of replacement hedgerow/woodland/tree is dependent on the ground conditions; however, planting should ideally take place between the months of November and March inclusive, this will allow the plants more time to establish a network of feeder roots before the onset of spring.

5.2.2 The planting areas will be kept mulched and weed-free during the establishment period, using approved hand-weeding or if necessary, herbicide treatment (applications in April, June and August). The herbicide handbook (English Nature, 2003) provides guidance on appropriate herbicide use in relation to nature conservation works. Where used, herbicides will be sprayed in appropriate weather conditions, to avoid affecting adjacent grassland areas.

5.2.3 During the establishment period, tree/hedgerow plants should be inspected during periods of warm weather and drought. If it is considered that the ground conditions are too dry, the planted areas will be watered on a regular basis until weather conditions are considered suitable for watering to cease.

5.2.4 At the end of each growing season, all trees and hedgerows shall receive an application of slow-release fertiliser.

5.2.5 During establishment, hedgerows will be trimmed outside each growing season; hedgerows will be cut back by half the growth of that year with pruning aiming to encourage the development of healthy well-shaped specimens. New hedgerows will be trimmed using powered hand-held machinery (not flail cutters) for the first 3 years until established.

5.2.6 All canes, stakes, guards, spirals or ties will be regularly checked and replaced as required and removed once plants have established. Once established, planting guards (where used) will be removed and disposed of appropriately off-Site.

5.2.7 Once established, all hedgerows will be allowed to grow up to a height of 3m and managed at 3m or above , as appropriate for the operation of the Site.

5.2.8 Once established, all hedgerows will be managed on a 2–3-year flexible rotation so that not all hedgerows are cut in the same year, which will benefit wildlife and allow plants to flower and set seed/fruit. Established hedgerows will be cut between late September and February only using a tractor mounted flail or other method as appropriate.

5.2.9 No cutting or trimming is to be undertaken during the breeding bird season (1st March to 31st August inclusive).

5.2.10 Existing and newly planted trees will be left to grow naturally and not cut apart from pruning if necessary to maintain the health of the tree, safety or to protect the Proposed Development from damage. These will be clearly marked to ensure that they are not cut back during hedgerow trimming/maintenance works.

5.2.11 Occasional thinning and under planting of woodlands may be undertaken, where and when required to ensure the long-term health and biodiversity value of the habitat.

## 5.3 Grassland Management

5.3.1 The grassland vegetation within the Site will be managed to provide a varied habitat structure providing nesting opportunities for birds, as well as nectar, pollen and shelter for invertebrates, amphibians, reptiles and small mammals. Taller grassland vegetation will be encouraged to develop at the base of hedgerows and at field margins to provide foraging and shelter opportunities for wildlife.

***Initial Management***

5.3.2 Grassland management will be carried out in accordance with the seed supplier's technical advice during the establishment phase.

Wildflower Meadow Grassland

5.3.3 There will often be a vigorous initial growth and a flush of annual weeds during the first season. This should be managed by topping and mowing throughout the first year at regular intervals. Regular cutting to establish the grassland will take place during Year 1 after seeding and possibly also in Year 2, if growth is particularly vigorous on the ex-arable land. In the unlikely event that the grassland / meadow planting fails and the area of bare ground is greater than 20%, these areas will be re-seeded.

5.3.4 Problem perennial weeds will be controlled by hand pulling or if necessary careful targeted application of a non-residual herbicide by way of spot spraying with a knapsack (low pressure to avoid spray drift), or weed wiping herbicide application (no herbicide application within the vicinity of ditches or watercourses) may be used in April, June and August. Alternatively, annual weeds can be managed by topping and mowing prior to setting seed which will encourage lateral development of the grasses. Any topping undertaken between April and July should be no lower than 200mm to retain habitat for ground nesting birds.

5.3.5 Any cut material will be either removed from the Site or heaped in small piles in designated areas within the Site in order to prevent nutrient build-up within the soil.

5.3.6 Specific attention should be paid to the potential presence of the following injurious (harmful) weeds: common ragwort, spear thistle, creeping thistle, curled dock and broad-leaved dock; which are all listed within the Weeds Act 1959. These species should be removed from the grassland areas prior to enhancement works commencing[8].

[8] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69296/pb7190-harmful-weed-control.pdf (Accessed: 6th June 2024)

### *Long-term Management*

Wildflower Meadow Grassland

5.3.7 Following establishment of a suitable sward, the grassland habitats will be managed through either grazing and/or mechanical cuts to develop nectar and pollen rich meadow grassland with a varied structure. Both management approaches are detailed below for ease of reference. Management by sheep grazing (option B) is preferred.

*Option A: Cutting Regime*

5.3.8 Following establishment, one or possibly two cuts will be taken per year comprising an early cut in February (if necessary) to manage regrowth, and a second later in the season between August and September (each cut reducing sward height to approximately 150mm). No cutting will take place throughout the summer to allow the seeds of the later flowering species to fall prior to the cut.

5.3.9 Cutting should adopt a systematic method (i.e., working outwards towards the boundary features); this will allow fauna such as invertebrates, amphibians, birds and small mammals to temporarily and safely vacate the area.

5.3.10 The management will take a flexible approach and the exact dates will be dependent upon weather conditions. A phased (rotational) cutting regime is recommended (i.e., ideally the entire area should not be cut at the same time) in order to allow for more structured grassland.

5.3.11 Cuttings will remain on-Site for three to five days following the cut to allow seeds to disperse, and then be removed or heaped in designated areas within the Site in order to remove nutrients and promote the development of a species-rich sward.

5.3.12 The meadow grassland along the field margins can be cut less frequently once established, with a single main cut (reducing sward height to approximately 150mm) late in the season, between August and September, subject to weather conditions. The late cut will allow the seeds of the later flowering species to fall prior to the cut. An optional earlier cut can be made in March, if necessary, to manage re-growth.

*Option B: Grazing Regime*

5.3.13 Once established, the grassland can be managed by sheep grazing as an alternative to mechanical cutting. Grazing should follow a low-intensity grazing regime to maintain grass cover. Moderate trampling will expose ground for colonisation by annuals the next spring; however, heavy trampling can lead to ground poaching and infestations by weed species that will be detrimental to the Site. During the spring and summer (March to August), stock will ideally be removed or stocking density reduced to allow summer flowering plants to set seed, and grazing will be removed in the winter period in order to prevent the compaction of wet earth (unless deemed appropriate by the grazier). The grazier will be responsible for the management of livestock and the stocking density.

5.3.14 Ideally, it is best to aim for a stocking rate sufficient to maintain a varied structure, rather than the maximum that the grassland can support. Grazing density (**Table 5.1**) is based on medium sized sheep (i.e., 60kg). It is important to regularly monitor the Site to ensure the grassland is not under or over grazed and stock density and duration altered accordingly. The stocking density should be reduced in wet periods or in conditions when poaching would lead to a break-up of the sward and colonisation by aggressive weed species.

***Table 5.1: A guide to stocking levels for lowland grassland (number of sheep per hectare). Adapted from the Lowland Grassland Management Handbook[9] produced by Natural England.***

| Number of grazing weeks per year | Neutral Grassland (sheep per ha) |
|---|---|
| 16 | 12.5 |
| 20 | 10 |
| 24 | 8 |
| 36 | 5.5 |
| 52 | 4 |

5.3.15 The following indicators will be used to review and amend stocking densities:

- An increase in the amount of uneaten grass, the accumulation of litter, an increase in vigorous rank and unpalatable grasses, and a reduction in low growing herbs indicates stocking density is too low (increase density).

- A reduction in density of plants, excessive poaching, weed invasion and the development of bare patches indicates stocking density is too high (reduce density).

Wet Grassland

5.3.16 Areas of rush pasture should be allowed to establish and not be subject to regular management, however should rushes begin to become over-dominant manual cutting may be required. Cutting should be undertaken from mid to late August and can also be supplemented by aftermath grazing, preferably with cattle, following the initial cut. Rushes should be cut as low as possible without scalping the sward. A single cut should be sufficient to maintain current rush cover into the next season, however if the cover needs to be reduced a second cut should be undertaken between for and eight weeks following the initial cut.

5.3.17 Where possible, rush dominated areas should be cut in patches over two or three seasons to maintain cover for wildlife.

5.3.18 Particularly waterlogged areas of the Site should not be managed, as this is likely to be unsuccessful and can be damaging to other flora.

[9]https://publications.naturalengland.org.uk/publication/35034

# 6 ECOLOGICAL MONITORING

6.1.1 The development of the biodiversity interest of the Site will be monitored over time by a suitably experienced ecologist. A walkover survey will be undertaken on years 1, 3, 5 and 10. This will involve an inspection of the hedgerows, tree and woodland planting, grassland creation and any other ecological features to ensure that they are being managed in a manner suitable for the enhancement of wildlife interest.

6.1.2 Bird and bat boxes will also be checked to ensure they are in place and in working order. The results of these monitoring surveys will be used to inform future changes in management and the potential need to replace missing boxes. The management plan will be amended, if necessary, based on the monitoring recommendations (including amending the cutting/grazing regime if necessary).

6.1.3 Following the outcomes of each monitoring survey it will be the duty of "the Owner" of the Site to amend the BMP to inform future changes in management including amending the grazing and cutting regime, if needed.

6.1.4 Monitoring procedures are outlined in **Table 6.1**:

***Table 6.1: Monitoring procedures and key indicators.***

| Biodiversity feature | Monitoring procedure | Key indicators |
|---|---|---|
| Hedgerows / tree/ woodland planting | Walk full length of planted/infilled hedgerows and trees | Browse damage, dead whips, weeds, gaps, dead or damaged hedgerow plants. Note areas requiring replacement planting and (after year five) removal of spiral guards. |
| Grassland Areas | Walkover of grassland areas- main body of the Site and perimeter | <u>If option A (cutting) is chosen:</u><br>Excessive weed invasion or unwanted perennial weeds (docks, thistles) may need control by occasional spot treatment with an herbicide or other specific remediation.<br><u>If option B (Grazing) is chosen:</u><br>Increase in the amount of uneaten grass/accumulation of litter/vigorous rank and unpalatable grasses – indicates need to increase stock densities.<br>Reduction in density of plants or plant species present (count and check against original seed mix species list) - Indicates need to reduce stock densities or amend cutting regime.<br>Excessive poaching, weed invasion or unwanted perennial weeds (docks, thistles) may need control by occasional spot treatment with an herbicide or other specific remediation.<br>Occasional bare patches at the edges of the grassland (<20%) are acceptable as they provide diversity within the grassland habitat for invertebrates and birds. |
| Bird and bat boxes | Inspect each box | Ensure boxes are present and they are intact (external inspection) and secured. Note if need to replace. |

# 7 INDICATIVE MANAGEMENT SCHEDULE

7.1.1 The following management programme shows possible months in which activities will commence within the first planting period after construction.

***Implementation and Habitat Enhancement Year 1***

| Management Activity | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Grassland creation (*preferred month) | | | ✓* | ✓* | ✓ | ✓ | ✓ | ✓ | ✓* | | | |
| Hedgerow and tree/woodland planting | ✓ | ✓ | | | | | | | | | ✓ | ✓ |
| Installation of wildlife boxes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

***Habitat Management Year 2***

| Management Activity | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial management of grassland (targeted herbicide treatment of perennial weeds or cutting/topping where necessary) | | | | ✓ | | ✓ | | ✓ | | | | |
| Herbicide treatment or hand-weeding of hedgerow / tree / woodland planting bed | | | | ✓ | | ✓ | | ✓ | | | | |
| Trimming of new hedgerows to encourage bushy side growth | ✓ | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ |
| Failed tree / hedgerow stock replacement | ✓ | ✓ | | | | | | | | | | ✓* |
| Inspect wildlife boxes and replace and repair as required | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

***Ongoing Annual Management, Year 3 onwards***

| Management Activity | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Grassland cutting | | ✓ | | | | | | ✓ | ✓ | | | |
| Sheep grazing (*preferred month) Note: summer grazing to be low intensity to allow flowering plants to set seed | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓* | ✓* | ✓* | ✓ |
| Herbicide treatment or hand-weeding of hedgerow / tree planting bed (establishment period up to first five years) | | | | ✓ | | ✓ | | ✓ | | | | |
| Periodic trimming of hedgerows as required (on a 2 or 3 year cycle and no more than 1/3 cut in any one year) | ✓ | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ |
| Inspect wildlife boxes and replace and repair as required | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

# ANNEX 1: WILDLIFE BOX SPECIFICATIONS

| **Suitable Bat Roost Boxes** | | |
|---|---|---|
| Large Twin Crevice |  | Primarily for use by roosting bats but may also be used by small birds as a safe roost site. Two curved internal voids narrowing down to tight crevices at the top. Suitable for a range of bat species, mating roosts and spring and autumn roosts where the thermal mass is a benefit. Top loop for more comfortable carrying and quick initial attachment to the tree and two *through the box* nail holes for secure attachment of this heavy box. |
| Kent Type Twin Crevice |  | Two parallel crevices for roosting bats with internal connection to move between the two. Light internal finish for helping to spot bats, droppings and rub marks. Top loop for quick and easy initial attachment to the tree, plus two *through the box* nail points for maximum security. |
| Bat chamber |  | Primarily for use by roosting bats including as an autumn mating roost, particularly for pipistrelles. Also likely to be used by small birds as a safe roost site. 16mm hole for endoscope inspection in the base facilitating inspection, potentially avoiding working at height with the right equipment. Light internal finish facilitates detection of droppings or rub marks. Top loop makes initial attachment to the tree easier – with two further attachment points for 6” nails for security. |
| Siting | The bat boxes can be sited in trees and are best positioned at a height above 4 metres. Bat boxes should ideally be sited in open sunny positions facing different directions to provide a variety of micro-habitats. | |
| Timing | Bat boxes can be installed at any time of year following the cessation of construction works. | |

| | |
|---|---|
| Other Notes | Note that once bats have inhabited a roost site, they may only be inspected by licensed bat workers.<br>If the specific boxes detailed above are not available at time of purchase, similar boxes may be used, although advice should first be sought from an ecologist. |
| References | https://www.barkboxes.co.uk/product/large-twin-crevice/ (Accessed: 6th June 2024)<br>https://www.barkboxes.co.uk/product/kent-type-twin-crevice/ (Accessed: 6th June 2024)<br>https://www.barkboxes.co.uk/product/bat-chamber/ (Accessed: 6th June 2024) |

| **Suitable Bird Boxes** | | |
|---|---|---|
| Great tit / tree sparrow nest box |  | Nest box and roost site with 28mm entrance suitable for great tit or tree sparrow. Likely to be used by roosting birds, with potential for use by roosting bats. |
| Starling box |  | A large box for nesting starling. *Branch stub* entrance provides shelter and protection from predators. Top loop provides more comfortable carrying and a quick initial attachment point to the tree; whilst *through the box* nail points provide security for this large box. |
| Branch stub |  | Replicating a rotting branch stub with void. More likely to be used by nesting and roosting birds than roosting bats. |

| **Suitable Bird Boxes** | | |
|---|---|---|
| Open fronted nest box |  | For birds such as robin and pied wagtail. Open fronted but with a generous canopy to screen from aerial predators. Place in good cover not in the open. |
| Siting | The nest boxes should be sited in trees and are best positioned at a height of between 1 to 5 metres.<br>Boxes should be angled so that they face away from the prevailing wind or in a semi sheltered environment. Positioning within or close to hedgerows will increase chances of occupation. | |
| Timing | Bird boxes will be erected outside of the breeding bird season, to eliminate the possibility of disturbing birds currently utilising the trees for nesting. | |
| Other Notes | Note that bird boxes should not be opened between the months of March to September to avoid disturbing nesting birds.<br>If the specific boxes detailed above are not available at time of purchase, similar boxes may be used, although advice should first be sought from an ecologist. | |
| References | https://www.barkboxes.co.uk/product/great-tit-tree-sparrow/ (Accessed: 6th June 2024)<br>https://www.barkboxes.co.uk/product/starling-box/ (Accessed: 6th June 2024)<br>https://www.barkboxes.co.uk/product/branch-stub/ (Accessed: 6th June 2024)<br>https://www.barkboxes.co.uk/product/open-fronted-nest-box/ (Accessed: 6th June 2024) | |

# ANNEX 2: OUTLINE REASONABLE AVOIDANCE MEASURES (RAMS) METHOD STATEMENT

The following Method Statement outlines suitable measures to be implemented during construction works associated with the proposed BESS development to avoid the disturbance, injury or killing of individual amphibians, reptiles and small mammals (e.g., hedgehog).

Measures to ensure the favourable conservation status of the species during the Proposed Development must reflect legislation and guidance application at the time and the construction phase will be undertaken following RAMS under the supervision of an Ecological Clerk of Works (ECoW) as required to provide advice.

## Amphibians, Reptiles and Small Mammals

***Summary of Method Statement***

Common species of amphibian and reptile may be present within the Site, particularly within areas of bracken assocaited with Craig-Evan Leyshon Common. The following Method Statement outlines suitable measures to be implemented during construction works to avoid the potential for disturbance, injury or killing of individual amphibians and reptiles.

These RAMs relate only to minor or short term destructive or disturbance works (e.g., small scale vegetation removal, cable laying). All such works will follow this Method Statement to ensure legal compliance and to ensure the objectives are achieved. They will not be employed for larger scale or extensive scrub, woodland or hedgerow habitat removal.

Vegetation clearance works including rush pasture and grasslands greater than 15cm in height will be supervised by a suitably experienced ecologist.

***Method Statement***

This Method Statement will be followed for the construction works and associated minor, short term destructive habitat clearance works within the Site, as listed above in order to ensure legal compliance and to ensure the objectives are achieved.

The following measures will be adopted throughout the construction period of the Proposed Development:

- Site operatives will be informed by 'tool box' talk of the potential for protected species to occur on-Site, what to look out for and what to do in the event that animal is found.

- If possible, the timing of any proposed tree or woodland works should avoid the hibernation period (November to February inclusive). This will reduce the likely presence of individual animals being disturbed during hibernation.

- Vegetation clearance works of suitable terrestrial habitats will only commence after a careful visual inspection by a ECoW has determined that no animals are present. Vegetation should be reduced (by hand strimmer) to a height of c.150mm prior to ground works commencing to aid visual searches and encourage individuals to temporarily move away from the working areas.

- Trenches and excavations will include an escape route for animals that might enter the trench, especially if left open overnight. Ramps should be no greater than 45 degrees in angle and can include wooden planks or ramped earth. Any excavations open for a prolonged period will be covered.

- All excavations left open overnight or longer will be checked for animals prior to the continuation of works or infilling.

- Any excavated material stored overnight will be searched prior to being used as infill.

**Should a small mammal such as hedgehog, reptile or amphibian be found at any point during construction, works must cease immediately and the animal be allowed to move away of it's own accord. The ECoW should be contacted and will advise on the appropriate actions.**