Torfichen Wind Farm
Additional Information

Revised Outline Biodiversity Enhancement Management Plan

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Document Quality Record

Version	Status	Person Responsible	Date
Vo.1	Draft	B. Henry	17/10/2023
Vo.2	Reviewed	K. Hobbs	17/10/2023
Vo.3	Updated	B. Henry	19/10/2023
1	Internal Approval	B. Henry	19/10/2023
1.1	Revisions post-submission and following consultee feedback	B. Henry	07/03/2025
1.2	Reviewed	D. H. MacArthur	10/03/2025
2	Internal Approval	B. Henry	10/03/2025

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1 INTRODUCTION

This revised Outline Biodiversity Enhancement Management Plan (OBEMP) describes the proposed habitat and conservation management measures in relation to Torfichen Wind Farm (hereafter referred to as the 'Proposed Development').

This OBEMP is a revised and updated version of the OBEMP which was originally submitted as Technical Appendix 8.6 of the Torfichen Wind Farm Environmental Impact Assessment Report (EIA Report). This OBEMP supersedes the originally submitted OBEMP.

This OBEMP is set out in the following sections:

- Summary of the Ecological Impact Assessment;
- Biodiversity Net Gain (BNG);
- Biodiversity Enhancement Area;
- Aims, Objectives and Management Prescriptions;
- BNG Assessment;
- Monitoring;
- Reporting and BEMP Review; and
- Management and Monitoring Timetable.

1.1 Summary of Key Revisions

Following the submission of the original application in November 2023, consultee feedback received, further changes to policy and guidance in the interim period, and further information gathered on baseline conditions at the site, the OBEMP has been revised in cognisance of these. The key updates in this revised OBEMP are:

- an increase in the extent of the peatland restoration/enhancement proposal;
- collation of further baseline information in relation to grazing pressure and livestock stocking densities;
- updates to management prescriptions, where applicable; and
- a revised BNG assessment following updates to relevant BNG metric toolkits and supporting guidance since the original application was submitted.

NatureScot provided a consultation response to the application on 21 February 2024 which raised several points in relation to the OBEMP. Further correspondence between the project team and NatureScot on these matters took place during 2024, this correspondence is provided as Appendix 4 of the Additional Information (AI) Report.

1.2 Target Habitats and Species

The management recommendations within this OBEMP are informed by baseline ecological surveys undertaken for the Proposed Development and the findings of **Chapter 8: Ecology** of the

EIA Report. The main habitats considered in this OBEMP are blanket bog/modified bog, broadleaved woodland, species-rich meadow/grassland, and acid grassland. The habitat enhancements proposed within this OBEMP would also generally have beneficial secondary effects for the local bird assemblage and provide additional, or enhance existing, breeding and foraging habitats (details of the bird assemblage are provided in **Chapter 9: Ornithology** of the EIA Report). However, the purpose of this OBEMP is not to provide specific mitigation or enhancement for predicted ornithological effects. Enhanced mitigation and enhancement measures specifically in relation to ornithology are provided in the Revised Ornithology Assessment (Appendix 6 of the AI Report).

The measures detailed within this OBEMP will achieve significant biodiversity enhancement at the site as a direct result of the Proposed Development over its operational lifetime, in line with objectives outlined in National Planning Framework 4 (NPF4) Policy 3[1].

A BNG metric (discussed below) is utilised to demonstrate that the measures proposed for the creation and restoration/enhancement of habitats at the Proposed Development would fully compensate for predicted habitat and biodiversity losses and provide further enhancement. This would result in an increase and net gain for biodiversity of **+33%** for area-based habitats over and above the baseline and pre-development value of the site post-construction. The OBEMP also delivers net gain for linear habitats.

1.3 Finalisation of the BEMP and Reporting

This OBEMP is based on several identified 'Search Areas' (Search Areas A-E; see also **Figure 1**) for each respective habitat management and biodiversity enhancement proposal. These Search Areas were identified through discussions with the Applicant, landowners, and relevant technical specialists in order to create and enhance habitats of biodiversity value. It is intended that that the entirety of these Search Areas will be used for the respective biodiversity enhancement proposals, however, the Search Areas may be refined following further specialist surveys to reflect conditions onsite; The Applicant remains committed to delivering significant biodiversity enhancement at the Proposed Development.

The OBEMP will be refined and developed into a final BEMP post-consent. The final BEMP will confirm the overarching Biodiversity Enhancement Area (BEA) encompassing all habitat management proposals, and any finalised management units (i.e., the refined Search Areas for specific habitat management proposals) therein, where the aims, objectives and management prescriptions will apply. The final BEMP will be agreed with Midlothian Council (MC) in consultation with NatureScot prior to the commencement of construction of the Proposed Development.

A Biodiversity Management Group (BMG) will oversee and monitor the implementation of the agreed BEMP. The BMG should include representatives from MC, NatureScot and the wind farm owner.

[1] Scottish Government (2024). National Planning Framework 4. Available at: https://www.gov.scot/publications/national-planning-framework-4/ [Accessed March 2025].

A BEMP report (initially for operational Years 1, 3 and 5) will be prepared by relevant independent technical specialists and submitted by the wind farm owner to the BMG detailing the tasks (management and monitoring) completed over the last year(s) and those planned for the year(s) ahead.

Management prescriptions in the BEMP may be amended considering monitoring results to ensure progress towards the stated aims and objectives of the plan.

2 SUMMARY OF ECOLOGICAL IMPACT ASSESSMENT

The site is set within a mixed landscape of undulating farmland, fragmented moorland and forestry (predominately conifer plantation). The site is primarily agricultural, predominately used for livestock farming. The most common and prevalent habitat types within the site are acid grassland, marshy grassland, and dry modified bog (see **Appendix 8.1** and **Figure 8.3** of the EIA Report).

As per **Chapter 8: Ecology** of the EIA Report, important ecological features (IEFs) scoped-in to the ecological impact assessment comprise wet dwarf shrub heath, dry modified bog/wet modified bog and commuting/foraging bats; no significant effects are predicted.

The Proposed Development could potentially impact up to 1.51 ha of wet heath (direct permanent loss 0.53 ha, direct temporary loss 0.09 ha, and potential indirect loss 0.89 ha) and up to 4.76 ha of dry modified bog/wet modified bog (direct permanent loss 1.55 ha, direct temporary loss 0.26 ha, and potential indirect loss 2.95 ha). This OBEMP proposes measures to compensate for the predicted effects modified bog habitats as well as other proposals for a range of habitat types to provide wider biodiversity enhancement in general through the enhancement, creation, expansion and connection of habitats of biodiversity value.

Potential collision risk impacts to bats will be mitigated in accordance with the proposals detailed in **Chapter 8: Ecology** of the EIA Report; however, several measures in this OBEMP will also create and enhance habitats and corridors for bats commuting and foraging (including creation of native woodland and hedgerows), and in the long-term potentially provide roost features.

3 BIODIVERSITY NET GAIN

Biodiversity Net Gain (BNG) is a process which follows the principal of biodiversity enhancement and leaves nature in a better state than before development work started. No Scotland-specific biodiversity metric is yet in existence, although one is proposed for development by the Scottish Government and NatureScot. However, as per below, the latest Scottish & Southern Energy Renewables (SSER) BNG Metric[2] has been used here as it is considered the most appropriate available metric in the Scottish context.

[2] SSER BNG Project Toolkit Version 2-3. Downloaded 05/03/2025 from https://www.sserenewables.com/sustainability/nature-positive/

The SSER BNG toolkit[3] for use in Scotland is based upon the Natural England Biodiversity Metric[4] which aims to quantify biodiversity based upon the value of habitats for nature. It is a method for demonstrating whether development projects have been able to maintain or increase the biodiversity value of a development site after construction works. The SSER BNG toolkit has been utilised to undertake a preliminary BNG assessment for the Proposed Development and the measures proposed within this OBEMP.

The scope of the BNG assessment is to quantify the overall potential adverse and beneficial biodiversity impacts for the Proposed Development; this includes a biodiversity baseline assessment, analysis of habitat losses due to temporary works and permanent structures (e.g., tracks and hardstandings), and analysis of biodiversity gains following reinstatement of habitats in areas of temporary construction work and additional habitat enhancement and creation (whether onsite and/or offsite).

It is important to note that within the SSER metric (and other BNG metrics), habitats which are negatively impacted and considered as 'irreplaceable' will require bespoke compensation and should be compensated for, following national legislation, policy, and guidelines[5]. However, as per SSER guidance[5], irreplaceable habitats and compensation for them should be included within the biodiversity unit calculations and included within the respective biodiversity toolkit. Inclusion of these areas within the BNG calculations and toolkit is required to provide a complete picture of all habitats present onsite. In line with SSER guidance[5], irreplaceable habitats comprise areas of ancient woodland (excluding long-established woodlands of plantation origin (LEPO)) and active blanket bog in good condition. Compensation and enhancement relating to blanket bog habitats onsite is considered in cognisance of NatureScot guidance[6].

The BNG assessment is based upon National Vegetation Classification (NVC) and habitat surveys (converted to Phase 1 habitat types for the purposes of the BNG toolkit) undertaken to inform the EIA Report (see **Appendix 8.1** and **Figure 8.3** of the EIA Report).

4 BIODIVERSITY ENHANCEMENT AREA

4.1 Overview

This OBEMP proposes a BEA covering approximately 129.61 ha and 2,500 linear metres, comprising five overarching Search Areas (Search Areas A – E; see also **Figure 1**), each focussing on a particular habitat or feature type, within which management and monitoring works would be implemented. Habitat and biodiversity management and monitoring works would be undertaken within these respective Search Areas. Details of each Search Area are provided in **Sections 4.2-4.6**.

[3] https://www.sserenewables.com/sustainability/biodiversity-net-gain/
[4] Natural England (2022) The Biodiversity Metric 3.1.
https://nepubprod.appspot.com/publication/5850908674228224
[5] https://www.sserenewables.com/media/iz2jbehn/sser-bng-toolkit-user-guide_v2-2.pdf [Accessed January 2025]
[6] https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management [Accessed March 2025]

The overall goal of the BEMP is to restore, enhance and create habitats of ecological value in these Search Areas, which in turn will benefit existing flora and fauna as well as increase overall biodiversity.

This OBEMP includes peatland restoration and enhancement measures. NatureScot guidance[6] suggests that effects on priority peatland habitats should be compensated in the order of 1:10 (lost:restored) with a further 10% restoration of the site baseline extent of priority peatland habitats, to deliver additional enhancement. Using NatureScot guidance[6] the compensation and enhancement requirements for priority peatland at the Proposed Development would be in the region of 60.8 ha if accounting for the full predicted and potential permanent and temporary direct and indirect effects stated in Chapter 8 of the EIA Report. As discussed in this chapter, potential indirect drainage effects on a peatland are variable and depend on various factors such as the type of peatland and its characteristics and properties of the peat. Indirect effects are not certain to occur[7]. If indirect drainage effects do materialise, they are usually restricted to a narrow zone around the respective feature and the resultant effects are not likely to lead to a loss of peatland nor any notable effect on the type of bog present or shifts to a lower conservation value habitat type. Any indirect effects, in response to marginally drier (or wetter) local conditions, are more likely to materialise as subtle variations in vegetation micro-topography, certain species cover, or abundance, rather than an overall change in peatland habitat/community type.

Consequently, it is considered that the 1:10 ratio should be more appropriately applied to the known direct permanent and temporary losses (N.B. current Scottish Government guidance[8] does not specify any ratios, instead taking a more holistic view regards biodiversity and a project/site specific characteristics or circumstances). In this regard, the compensation and enhancement requirements for priority peatland at the Proposed Development would be in the region of 31.2 ha. Peatland restoration and enhancement measures outlined in **Section 5.1** below which will be applied to priority peatland habitats cover up to approximately 56.32 ha (**Section 4.2**). Therefore, for predicted direct losses for permanent and temporary infrastructure, peatland restoration/enhancement proposals at the Proposed Development would be well in excess of the 1:10 compensation ratio plus 10% enhancement guidance.

The precise objectives and management prescriptions for the finalised management units within these Search Areas will depend on the current condition of the habitat and the existing factors acting upon it or contributing to current condition. In order to further inform the objectives and detail appropriate management prescriptions, further specific surveys (carried out prior to commencement of development) and desk-based assessment may be required to develop the final BEMP. These surveys may include, but are not limited to, the following:

[7] It should also be noted that the predicted indirect losses due to drainage effects predicted within the EIA Report are calculated in GIS and based on the habitat survey mapping. There may be small-scale local specific factors such as those relating to natural breaks in hydrology, geology or topography, or the presence of non-wetland habitats that act as a barrier or buffer, that would prevent the theoretical predicted indirect drainage effects from materialising.

[8] Scottish Government (2023). Biodiversity: draft planning guidance. https://www.gov.scot/publications/scottish-government-draft-planning-guidance-biodiversity/pages/1/

- Relevant peatland condition assessments considering NatureScot guidance[6] and Peatland Action guidance[9];
- Joint Nature Conservation Committee (JNCC) Common Standards Monitoring (CSM) of Upland Habitats[10] or habitat condition assessments utilising the latest Biodiversity Metric[11] condition assessment pro-forma and methodology;
- Hydrology/ecology walkover to identify opportunities and specific locations for drain blocking, erosion feature restoration/reprofiling, and restoration of the peatland water table;
- Herbivore Impact Assessment (HIA); and
- Forestry surveys to further inform and refine woodland creation and planting proposals and details.

4.2 Search Area A – Peatland Restoration/Enhancement

Search Area A is 61.50 ha, split over three sub-units (A1 – A3), two of which are connected/contiguous (A1 and A2; see **Figure 1**). Search Area A is comprised of predominantly priority peatland blanket bog (17.90 ha of NVC type M19 *Calluna vulgaris-Eriophorum vaginatum* blanket mire) and dry modified bog habitats (38.42 ha of NVC type *Eriophorum vaginatum* blanket mire); collectively these cover 56.32 ha of Search Area A. The OBEMP submitted with the EIA Report included 36.69 ha in Search Area A, therefore this revised OBEMP has increased the relevant proposals area by 24.81 ha.

Within the Search Area the aim is to enhance the existing and degraded peatland habitat. This aim would likely be fulfilled through peat hagg reprofiling, drain blocking, stock exclusion/management, and removal of self-seeding trees.

Units A1 and A2 of Search Area A are centred on Yorkston Moss and includes part of the Class 1 Peatland[12] within the site. The areas in Search Area A have been selected as suitable candidate areas for restoration and enhancement due to the presence of peat hagging and the evident negative impacts from a long history of high levels of livestock grazing (further detail below). There also appears to be some drains present in part of the Search Area (as noted above, a detailed drain survey would be carried out to inform any drain damming locations). Following further assessment other management prescriptions would be incorporated as appropriate and necessary, for example there may encroaching and invading self-seeded trees due to the nearby forestry plantation seed sources. The BEMP provides for the removal of self-seeded trees from the Search Area.

The prevalence of dry modified bog and the M20 community indicates a long history of high grazing pressure and over-grazing that historically would not have been at sustainable stocking

[9] NatureScot (2021). Peatland Action: Peat Depth and Peatland Condition Survey. https://www.nature.scot/doc/peatland-action-peat-depth-and-peat-condition-survey-guidance-and-recording-form-guidance
[10] https://jncc.gov.uk/our-work/common-standards-monitoring
[11] https://publications.naturalengland.org.uk/publication/6049804846366720
[12] https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/

rates given the widespread occurrence of M20 on ground that would previously have more likely to have been referable to the M19 community. M20 mire comprises species-poor ombrogenous bog vegetation dominated by *Eriophorum vaginatum* where certain treatments have greatly affected the vegetation, in particular grazing which will have removed the sub-shrub component of the vegetation[13,14]. With appropriate management the M20 community has been seen to revert to the vegetation characteristic of the richer M19 blanket bog community[15].

Sub-units A2 and A3 are parts of, and contained within, a larger single livestock grazing unit extending to approximately 195.6 ha and which comprises a habitat mosaic of several different habitat types (see **Table 4-1**). Currently the stocking in this area is 570 ewes, or 2.9 ewes/ha. This is also equivalent to 85.5 livestock units (LU) per annum, or 0.44 LU/ha[16].

The annual stocking regime in this unit is as follows:

- Hill ewes come off the hill mid-November – mid-December to go to the tup/ram;
- Mid-December the ewes return to the hill until mid-April;
- Mid-April the ewes are brought off the hill for lambing;
- Ewes with single lambs are put back on the hill after lambing until the lambs are weaned in September;
- The remaining ewes go back to the hill in September after weaning; and
- Last year's lambs that have been kept as replacement stock (ewe hoggs) are put on the hill in May where they become part of the wider flock coming down off the hill with the other ewes in mid-November to go to the tup/ram.

As outlined above, the area is grazed almost continuously throughout the year. Heather and other dwarf shrubs are particularly susceptible to grazing damage over the winter period, and sheep tend to favour them at this time of year as grass availability and digestibility declines.

The baseline Phase 1 habitat types within this grazing unit are presented in **Table 4-1**. Chapman (2007)[17] provides guidelines for conservation grazing and stocking rates (LU/ha/year) for many semi-natural habitats (these can vary depending on soil fertility and rainfall). The guideline figures can be used as a starting point to evaluate stocking rates. Specific management or restoration of sites that are in poor condition (e.g., under or over-grazed) may require a stocking level higher or lower than provided in the guidelines[17]. Using Chapman (2007)[17] as a guide, **Table 4-1** also provides guideline annual stocking rates and LU per annum for each habitat type within the grazing unit in which OBEMP sub-units A2 and A3 are situated.

[13] Rodwell, J.S. (ed.) (1992). British Plant Communities Volume 2: Mires and Heaths. Cambridge University Press, Cambridge.
[14] Averis, A., Averis, B., Birks, J., Horsfield, D., Thompson, D., & Yeo, M. (2004). An Illustrated Guide to British Upland Vegetation. JNCC, Peterborough. ISBN 1 86107 553 7.
[15] Elkington, T., Dayton, N., Jackson, D.L. & Strachan, I.M. (2001). National Vegetation Classification: Field guide to mires and heaths. JNCC, Peterborough. ISBN 1 86107 526 X.
[16] https://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/agri-environment-climate-scheme-full-guidance-menu/agri-environment-management-diaries/
[17] Chapman, P. (2007). Conservation Grazing of Semi-Natural Habitats. Technical Note 586. Scottish Agricultural College, Edinburgh.

Table 4-1: Grazing Unit Habitat Mosaic and Guideline Stocking Rates

Habitat Type	Extent (ha)	Overall guideline annual average stocking rate (LU/ha/year)[17]	LU per annum
Coniferous Plantation Woodland	0.59	0[18]	0
Unimproved Acid Grassland	94.92	0.15 – 0.25	14.3 – 23.7
Semi-Improved Acid Grassland	0.80	0.25	0.20
Unimproved Neutral Grassland	0.04	0.30 – 0.40	0.01 – 0.02
Semi-Improved Neutral Grassland	0.37	1.00	0.37
Improved Grassland	0.08	1.00	0.08
Marsh/Marshy Grassland	44.27	0.40	17.71
Wet Dwarf Shrub Heath	6.95	0.20	1.39
Blanket Bog	1.89	0.06	0.11
Dry Modified Bog	38.75	0.06	2.33
Acid/Neutral Flush	3.38	0.03	0.10
Quarry & Bare Ground	3.56	0	0
Total	**195.6**		**36.60 – 46.01**
Overall Stocking Rate	**0.19 – 0.24 LU/ha/annum**		

As detailed in **Table 4-1**, for the habitat mosaic within the respective grazing unit, overall sustainable grazing and conservation stocking rates would be in the region of 36.60 – 46.01 LU per annum, or 0.19 – 0.24 LU/ha/annum. As noted above, the current grazing regime and stocking within this area is in the region of 85.5 LU per annum, or 0.44 LU/ha/annum. Therefore, the current grazing regime would appear to be continuing, and maintaining historical, effects of over-grazing within this area, particularly on the more sensitive priority peatland habitats (as can be seen through the prevalence of M20 dry modified bog as noted above). Consequently, it is considered grazing and stock management to reduce and manage the grazing pressures (timing and livestock numbers) within the identified peatland restoration areas is the key management prescription to improve and enhance peatland condition at the site. In particular, restricting or removing grazing pressure during the winter helps to maintain important moorland plants and benefit a wide range of associated flora and fauna.

[18] Livestock are excluded from the area of conifer plantation, hence no stocking rate.

Sub-unit A1 is located within a separate grazing unit, the current grazing regime and stocking details for this grazing unit are unavailable, however it is assumed that stocking densities are likely to be higher than would be recommended, give the similarity of the habitat and its condition to that in the adjoining areas as described above. Further information on stocking rates in this area will be provided in the final BEMP.

Peatlands are important for preventing and mitigating the effects of climate change, preserving biodiversity and minimising flood risk. The improvement of these habitats will also be of benefit to local flora and fauna, including the upland breeding bird assemblage.

4.3 Search Area B – Native Broadleaved Woodland Creation

Search Area B is 17.27 ha, split over seven sub-units (i.e., B1 – B7; **Figure 1**). The habitats present are currently mature/maturing conifer plantations.

The aim within Search Area B is to replace the monoculture conifer plantations with more diverse broadleaved woodland in a staggered manner through the operational phase.

The proposals in Search Area B would generally involve the staggered felling and removal of the conifer plantations and replanting with a range of broadleaved species. The woodland and planting would likely largely reflect the canopy composition of W10/W11 NVC woodland types, however depending on the character and respective soil conditions within each sub-unit other target NVC types may also be considered.

The replacement of conifer plantation with broadleaved woodland has beneficial biodiversity effects, through increasing species diversity, allowing light to penetrate the field layer and providing more natural and diverse breeding, shelter and foraging habitats for a range of species (from terrestrial invertebrates to birds and various mammal species). The planting proposals may also benefit black grouse which are present on the site and locally through enhanced shelter and increased suitable foraging resources.

4.4 Search Area C – Grassland Restoration

Management Unit C comprises three sub-units (C1 – C3; **Figure 1**), which total 45.16 ha in extent. The habitats present here are currently large areas of dense and continuous bracken, which are surrounded by areas of, predominately, acid grassland. These types of dense bracken habitats are generally of negligible conservation value.

The aim within Search Area C would be to mechanically and/or manually remove and control the bracken in order to allow the local acid grassland habitats to naturally regenerate and maintain this throughout the lifetime of the Proposed Development. The control of bracken will extend the amount of grassland present and improve the floral diversity of the area and increase wildflower cover for insects and pollinators. The replacement of tall dense bracken with open grassland habitats may also create further lekking site opportunities for black grouse. The removal of bracken and replacement with grassland will also increase available grazing for livestock, as grasslands are preferentially grazed over less productive and sensitive habitats such as blanket/modified bog and heaths; the increase in grassland resource will help reduce livestock pressure on more sensitive habitats elsewhere.

4.5 Search Area D – Species-Rich Meadow/Grassland Creation

Search Area D is 5.69 ha in extent and comprises one unit (i.e., D1; **Figure 1**) and which is currently an arable field.

The aim within Search Area D is to cease arable management and create a species-rich lowland neutral meadow/grassland habitat. This would primarily be achieved through ground preparation, seeding with an appropriate seed mix followed by appropriate ongoing grassland management.

The creation of a species-rich meadow/grassland habitat has multiple biodiversity benefits such as greatly increasing local floral diversity and supporting populations of insects, birds, bats, and many other species which rely on these important, but scarce and declining, habitats. The creation of such a habitat also aligns with the Midlothian Council Biodiversity Action Plan (BAP) aim for the restoration and creation of flower rich habitats.

4.6 Search Area E – Native Hedgerow Creation

Search Area E is linear and covers approximately 2,500 m[19]. In the areas around Esperton Farm and Mauldslie, in and around the Proposed Development, there are areas of post and wire stock fences that create the field boundaries for many of the more improved or managed grassland areas.

The aim for Search Area E is to create native and species-rich hedgerows, these will be planted along existing fences/boundaries. The hedgerows will provide further species diversity and create habitat corridors for a range of species and in general further enhance habitat connectivity and local biodiversity.

5 AIMS, OBJECTIVES AND MANAGEMENT PRESCRIPTIONS

The aims define the general BEMP goals, and the related objectives further define the aims into quantifiable targets. The management techniques and prescriptions outline the likely indicative management works to be implemented to achieve these aims and objectives. **Annex A** provides an indicative timetable for the implementation of the associated prescriptions.

As discussed in **Section 4.1**, detailed appropriate objectives and prescriptions will be developed post-survey for the final BEMP based on additional survey findings, consultation, and in accordance with best practice and guidelines. However, the experience gained from providing and delivering plans for similar sites and habitats would suggest that as an outline, the aims, objectives techniques and prescriptions would likely include or be similar to the below.

5.1 Aim 1: Enhance peatland habitat and improve bog habitat condition (Search Area A)

Objective 1.1 Increase the abundance and distribution of major peat forming species, including Sphagna.

[19] Due to the narrow linear nature of hedgerows and that all the specific locations are yet to be determined, these are not shown on **Figure 1**.

Objective 1.2	Increase the abundance and structural diversity of dwarf shrubs such as *Calluna vulgaris*, *Erica tetralix* and *Vaccinium* spp. in line with local reference blanket bog.
Objective 1.3	Enhance and improve blanket bog condition.
Prescription 1.1	Exclude and manage livestock numbers, via livestock fencing within Search Area A in agreement with the landowners, to achieve Objectives 1.1, 1.2 and 1.3. The grazing/stocking regime will initially[20] be revised to the following: • Away wintering sheep[21] - this involves livestock exclusion with no livestock or grazing within the Search Area from 1st November until 1st March each year; and • For the remaining period grazing is permissible, however the stocking rate within the fenced enclosures shall be no greater than 0.06 LU/ha[22].
Prescription 1.2	Remove regenerating self-seeded conifer trees and any new broadleaved seedlings from Search Area A annually, by hand or clearance saw, until a time that monitoring shows that regeneration is no longer an issue or frequency of intervention can be reduced.
Prescription 1.3	Peat dam, reprofile, or wave dam/zipper any active drains[23] (even if vegetated) as appropriate for the location specific drain in order that the water level is raised sufficiently and to restore natural flow paths to create conditions suitable for a range of blanket bog species. This should be carried out under the supervision of a suitably qualified Ecological Clerk of Works (ECoW). Methods as detailed within relevant guidance[23, 24, 25].
Prescription 1.4	Undertake peat hagg and gully restoration and peat surface re-profiling where appropriate with a low-pressure excavator and in line with relevant guidance[23, 25] .
Prescription 1.5	The following activities would be prohibited within the Search Area: • clearing out of existing ditches; • supplementary feeding of livestock; • application of any insecticides, fungicides or molluscicides; • application of lime or any other substance to alter the soil acidity;

[20] The grazing regime and stocking rates may be amended following subsequent monitoring (see **Section 7**) in order to ensure the aims and objectives of the BEMP are met.

[21] https://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/management-options-and-capital-items/away-wintering-sheep/

[22] This equates to the following number of ewes per sub-unit to achieve 0.06 LU/ha: sub-unit A1 - 29.94 ha to be grazed by 12 ewes; sub-unit A2 – 26.63 ha to be grazed by 11 ewes; and sub-unit A3 – 4.93 ha to be grazed by two ewes.

[23] According to methodology detailed in: Peatland Action (2022) Technical Compendium. Available at: https://www.nature.scot/doc/peatland-action-technical-compendium

[24] NatureScot (2019). Peatland Action - Guidance for land managers - installing peat and plastic dams (https://www.nature.scot/doc/peatland-action-guidance-land-managers-installing-peat-and-plastic-dams)

[25] Thom, T., Hanlon, A., Lindsay, R., Richards, J., Stoneman, R. & Brooks, S. (2019). Conserving Bogs: The Management Handbook. (2nd Edition). (https://www.iucn-uk-peatlandprogramme.org/resources/restoration-practice/conservation-handbook)

- cutting or topping of vegetation except to control injurious weed species or to improve the biodiversity of the habitat;
- burning of vegetation or other materials;
- use of roll or chain-harrow;
- planting trees;
- carrying out any earth moving activities;
- use of off-road vehicle activities with the exception of use of low scale agricultural vehicle movements (e.g., quad bike);
- construction of tracks, roads, yards, hardstandings or any new structures (not associated with the Proposed Development); and
- storage of materials or machinery.

5.2 Aim 2: Promote native broadleaved woodland cover (Search Area B)

Objective 2.1	Create areas of native broadleaved woodland and increase diversity within and around the site, seeking to achieve Moderate condition broadleaved woodland in 15 years after planting.
Objective 2.2	Increase and enhance faunal diversity within and around the site by providing more habitat structure and new breeding, shelter and foraging habitats for a range of birds, bats and other small mammals, and invertebrates.
Prescription 2.1	Undertake the staggered felling of the areas of conifer planation within Search Area B and replant with a diverse mix of native broadleaved species. Given the location, soils and prevailing baseline habitats of the proposed planting areas, and to reflect the character and structure of the existing broadleaved woodlands locally, it is anticipated that the species mixes here would primarily contain oak (*Quercus* spp.), birch (*Betula* spp.) and rowan (*Sorbus aucuparia*). However, it is proposed to increase diversity by also including smaller proportions of species such as aspen (*Populus tremula*), goat willow (*Salix caprea*), hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), bird and/or wild cherry (*Prunus* spp.), crab apple (*Malus sylvestris*), small-leaved lime (*Tilia cordata*), wych elm (*Ulmus glabra*) and holly (*Ilex aquifolium*). Where there are damper soils the species mix may also include alder (*Alnus glutinosa*) and grey willow (*Salix cinerea*). Proportions of species and their planting locations would be determined by a forester, in agreement with a suitably qualified ecologist, during preparation of the final BEMP. Tree planting would be carried out between the months of November and March when trees are dormant and more likely to establish successfully. Days when the ground is frozen or when snow or excessive surface water is present are to be avoided.
Prescription 2.2	Fencing of some planting areas may be required to protect new trees from deer and livestock browsing during the establishment phase. Any new

fencing within 1 km of the known black grouse leks would follow guidelines in Trout & Kortland (2012)[26] to minimise collision risk for black grouse.

Trees will be planted in 1 m - 1.2 m tree tubes to further protect from browsing damage in areas that remain unfenced, or where deer or livestock may breach fenced areas.

Tree tubes will be removed after approximately 10 years or after adequate establishment of the trees.

Prescription 2.3 Manage deer densities, if required, to allow woodland establishment. Subsequently use the results of vegetation and tree monitoring to determine whether ongoing deer management and culling requires to be reviewed to allow successful establishment of the trees planted.

Prescription 2.4 Prohibited activities noted in Prescription 1.5 above apply (with the exception of planting trees).

5.3 Aim 3: Restore acid grassland habitats (Search Area C)

Objective 3.1 Remove bracken coverage and halt further bracken establishment within Search Area C.

Objective 3.2 Restore the grassland habitats within Search Area C back to locally comparable acid grassland, seeking to achieve a condition category of Moderate within 7 years.

Prescription 3.1 Mechanised and/or manual control and management of bracken following best practice [27], with ongoing and repeated control where this is necessary.

Prescription 3.2 Prohibited activities noted in Prescription 1.5 above apply.

5.4 Aim 4: Species-Rich Meadow/Grassland Creation (Search Area D)

Objective 4.1 Create a species-rich lowland neutral meadow/grassland habitat and increase floral diversity through the creation of a 5.69 ha wildflower meadow, seeking to achieve a condition category of Good within 15 years.

Objective 4.2 Increase faunal diversity locally by providing more flower-rich habitat that benefits populations of insects, birds, bats, and many other species.

Prescription 4.1 Convert the arable field in Search Area D into a species-rich meadow/grassland habitat. This will initially involve ground preparation, creating a stale seedbed, and sowing with appropriate native wildflower seed at the correct time of year. The wildflower seed mix will be confirmed within the final BEMP.

[26] Trout, R. and Kortland, K. (2012). Fence marking to reduce grouse collisions. Forestry Commission Technical Note.

[27] Bracken Control - A Guide to Best Practice | NatureScot (webarchive.org.uk)

Prescription 4.2	Annual grassland management to maintain the habitat in line with best practice and guidance[28]. This will be via grazing or cutting. Grazing is usually the preferred management since grazing animals create variety by eating, dunging and trampling unevenly across the field. Cattle are preferred as they are less selective grazers than sheep. If applicable, grazing proposals, including timing and stocking rates will be detailed in the final BEMP. Alternatively, the grassland will be managed via cutting in late summer, no earlier than 31st July. Grass cuttings would be baled and removed. Around 5%-10% of the field may remain uncut each year, a different area each time, to vary the sward height and allow seed to set seed. Grazing after cutting (aftermath grazing) will also create variety, if applicable.
Prescription 4.3	No supplementary chemical fertilisers, organic manures or slurry to be applied to the field for the lifetime of the BEMP.
Prescription 4.4	Weed species such as docks, ragwort and creeping thistle will be controlled where they impact negatively on the overall area of species-rich grassland. Weeds can be chemically spot treated.
Prescription 4.5	Prohibited activities noted in Prescription 1.5 above apply.

5.5 Aim 5: Create, and increase the extent of, native hedgerows (Search Area E)

Objective 5.1	Create approximately 2,500 m of new species-rich hedgerow[29] and link with existing hedgerows to create and enhance habitat corridor connectivity.
Prescription 5.1	Plant approximately 2,500 m of new native species-rich hedgerows. The hedgerows are likely to consist of 60-80% hawthorn with crab apple, hazel, blackthorn and holly generally making up the remainder of the species-mix. Some trees may also be included within the hedge (such as oak, birch, rowan and cherry). Planting should be in double-staggered rows at a density of six plants per metre. When planting, the minor component species would be planted first, to get a suitable distribution, and then areas in-filled with the hawthorn. Plant the same species in groups of at least one metre, to avoid single plants being outcompeted by other species.

[28] For example see https://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/management-options-and-capital-items/species-rich-grassland-management/guidance-for-species-rich-grassland-management/, http://www.magnificentmeadows.org.uk/ and https://www.nature.scot/doc/species-rich-grasslands-guidance-leaflet#:~:text=Species%20rich%20grasslands%20have%20a,amphibians%20and%20many%20other%20animals.

[29] In line with Scottish Government (2017). Supporting guidance for Planting or Replanting of Hedges. Available at: https://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/management-options-and-capital-items/planting-or-replanting-of-hedges/guidance-for-planting-or-replanting-of-hedges/ [Accessed June 2023]

Prescription 5.2 Protect young and developing hedge plants from browsing by animals via livestock fencing and guards/tree tubes. The fence would be situated a minimum of 1 m away from the centre line of the hedge to allow space for the hedge's expansion and to leave room for trimming, coppicing or laying the hedge in the future.

Prescription 5.3 Control competing vegetation in the first two years of establishment. Using strimming, a mulch, or if necessary, an appropriate herbicide.

Prescription 5.4 The hedgerow would be managed in line with best practice and relevant guidance[30], including the following key aspects:

- Light, regular, trimming of the hedgerow will be undertaken in its early and establishment years to encourage dense, bushy growth.
- After establishment, the hedge may be cut just once every two or three years. Alternatively, cut just one side or the top each year, and not trimming the same length of hedge annually. Each time let the hedge grow out and up a little and do not cut back to the same height each trimming cycle.
- Hedge trimming must only be undertaken between 1 December and the last day in February.
- Leave occasional berry or fruit bearing trees to grow to maturity. These would be identified in the establishment years and not trimmed in order to allow them to mature and in the longer term create a hedge with scattered trees.

6 BIODIVERSITY NET GAIN ASSESSMENT

6.1 Overview

The SSER biodiversity toolkit[3] was used to quantify the biodiversity value of the site based upon the habitats present and to demonstrate the project would achieve biodiversity enhancements in line with NPF4 Policy 3 requirements. This includes:

- Quantitative assessment to determine the biodiversity baseline prior to development based on the habitats data collected for the Proposed Development (as per **Appendix 8.1** and **Figure 8.3** of the EIA Report);
- Assessing the loss of habitat during construction; and
- Analysis of the biodiversity value following works, with retention and creation/restoration/enhancement of habitats.

Habitat quality (distinctiveness, condition, strategic significance and connectivity) was determined for each Phase 1 habitat type in each relevant area by reviewing the habitats survey data and surveyor experience, and referring to the following guidance:

- SSER BNG Toolkit User Guide[3];

[30] e.g., https://hedgelink.org.uk/

- Natural England Biodiversity Metric 4.0[31] – User Guide, Technical Supplements, and Habitat Condition Assessment; and
- JNCC Common Standards Monitoring (CSM) criteria[10] (used to aid some habitat condition assessments).

In line with SSER guidance[32], the boundary for the baseline biodiversity assessment equates to the habitats within the site affected by the Proposed Development (i.e., areas of permanent and temporary land take), including any buffer effects where appropriate (e.g., indirect drainage effects on relevant wetland habitats), along with any areas identified for biodiversity enhancements (i.e., the proposed OBEMP Search Areas).

6.2 BNG Assessment Results

6.2.1 Biodiversity Baseline

The biodiversity baseline for the Proposed Development covers 162.05 ha and 2,500 m and is based upon the habitat quality scores (distinctiveness, condition, strategic significance and connectivity), the area of the habitats directly and indirectly affected by the Proposed Development[33], the area/length of OBEMP Search Areas A – E, and the resulting number of Biodiversity Units (BU) or Irreplaceable (IRR) habitat units each area and type of habitat contributes. Habitat types of less than 0.01 ha are under the minimum mappable unit (MMU) and were not included in line with SSER metric guidance[3], as they are not large enough to be considered a viable habitat and be effectively managed to increase overall biodiversity.

Using the SSER BNG project toolkit, the biodiversity value of the baseline BNG assessment area was calculated to be 846.78 BU, with zero IRR[34].

6.2.2 Biodiversity Change during Construction

During the construction of the Proposed Development, habitats will be lost, either temporarily or permanently, to provide construction compounds, access roads, and the turbine/hardstandings infrastructure footprints. The majority of habitat, and biodiversity, under infrastructure footprint areas is therefore lost during works. There may also be some indirect drainage effects on relevant wetland habitats, with a 10 m indirect drainage buffer assumed, as discussed further in **Chapter 8: Ecology** of the EIA Report. The relevant habitats in this buffer are retained, however in line with SSER BNG guidance[5] for affected habitats, it is assumed that the indirect effects result in a drop in habitat condition category.

The BU that will be removed to accommodate the Proposed Development are summarised in **Table 6-1** below. The results, as presented in **Chapter 8: Ecology** of the EIA Report, predict a 13.71 ha loss of habitat for permanent infrastructure. The SSER BNG Metric user guide[5] states that in situations where habitats will be temporarily impacted by any works and will be fully restored to its baseline condition (or improved) within two years, it can be considered as retained habitat within the

[31] https://publications.naturalengland.org.uk/publication/6049804846366720
[32] https://www.sserenewables.com/media/vgsdoav3/sser-biodiversity-net-gain-report-nov-2022-final.pdf and SSER BNG representative *pers. comm.* 05 September 2024.
[33] The predicted and potential habitat losses and modifications associated with Proposed Development for each habitat type are detailed in **Chapter 8: Ecology** of the EIA Report.
[34] No irreplaceable habitats (as detailed within SSER guidance) are predicted to be lost as a result of the Proposed Development.

toolkit. Therefore, temporary working areas in habitats such as bracken and semi-improved/improved grasslands are considered to fall within this category (here covering approximately 12.09 ha). However, certain habitat types temporarily impacted at the Proposed Development will likely take more than two years to recover to their previous condition and therefore this cannot be considered a 'temporary' loss and must be recorded in the BNG calculation tool as having been permanently lost, before considering recreation or restoration. Resultantly, a further 2.80 ha loss of habitat for temporary working areas in habitats such as unimproved acid grassland, marshy grasslands, wet heath and modified bog is predicted, and these have been considered a loss in the toolkit. Potential indirect modifications to certain sensitive wetland habitats cover a further 3.84 ha, with drop in habitat condition and associated BU assumed in the BNG toolkit, where relevant.

At the end of the construction phase, any temporary working areas will be restored following best practice methods and guidance. It is assumed that in general and where feasible and practicable, reinstated habitats in the temporary works areas will be 'like for like' or improved upon, compared to the baseline habitat and in line with guidance principles.

Overall, this equates to a loss of 91.29 BU during the construction phase.

6.2.3 Post-Development Biodiversity Enhancement

Biodiversity enhancement and an increase in BU would be delivered through the enhancement/restoration and creation of habitat types following the construction of the Proposed Development, as proposed for the habitat types and Search Areas as outlined in **Section 4** above and **Figure 1**.

The proposals within this OBEMP would result in:

- the restoration and enhancement of 56.32 ha of blanket bog and modified bog habitats;
- the replacement of 17.27 ha of conifer plantation with broadleaved woodland;
- the restoration of 45.16 ha of acid grassland through bracken control;
- the conversion of 5.69 ha of arable land to species-rich meadow/grassland; and
- the creation of 2,500 m of new species-rich hedgerows.

All of the above proposals will enhance biodiversity at and around the Proposed Development on top of the retained baseline habitats.

The value of these habitats in terms of BU, and the increased BU produced due to the enhancement and creation of habitats is summarised in **Table 6-1**.

6.2.4 Summary of Overall Biodiversity Change

Table 6-1 summarises the change in BU from the baseline, during works (lost and retained habitats and site reinstatement), and enhancement and creation of habitats following completion of construction and as set out within this OBEMP.

Overall, following construction and site reinstatement the Proposed Development would result in the loss of 91.29 BU. Following implementation of the BEMP as outlined here, the Proposed Development would result in the creation of an additional 366.87 area-based BU. These BU created

through the OBEMP would fully compensate for the 91.29 BU lost during construction and then provide significant net biodiversity enhancement over and above the pre-development baseline values in the order of an additional **+275.58** BU; **an area net gain of +33%**.

Table 6-1: Biodiversity Unit Change at each Stage of Development

Stage	Biodiversity Units	Biodiversity Units Gained/Lost from Baseline
Baseline	846.78	N/A
Construction phase and following Site reinstatement of temporary working areas	755.49	-91.29 (-10%)
Post-development: OBEMP – habitat enhancement/creation	1122.36	+275.58 (+32.5%)

In addition, the creation of 2,500 m of hedgerows will result in the generation of 15.40 BU (**a linear net gain of +1540%**).

6.2.5 Limitations to the BNG Assessment

The post-development biodiversity unit calculations are based on the difficulty to create habitats (delivery risk) and the time (in years) to reach their target condition (temporal risk) which are based on published guidance[11] and previous project experience, these are generally average values and as such there may be natural variation around the time to reach target condition.

The BNG assessment has been undertaken on the data currently available, the infrastructure layout and proposals for construction of the Proposed Development as set out in **Chapter 3: Project Description** of the EIA Report, and the biodiversity enhancement proposals outlined within this OBEMP. Should any of these elements change then there may be a change in the BNG calculations for the Proposed Development. Therefore, the BNG toolkit and assessment would be refined/updated and detailed in the final BEMP post-consent/pre-construction, in line with the most up to date proposals for the Proposed Development, any further consultation feedback, and the final agreed BEA, Management Units and associated proposed enhancement measures.

7 MONITORING

Monitoring will establish whether the proposed management prescriptions are achieving the various aims and objectives and in turn will inform adaptive management to ensure the aims and objectives are achieved through the life of the BEMP.

The Sections below outline the likely monitoring required for the proposals detailed above, however the detailed monitoring proposals will be provided in the final BEMP to be submitted post-consent and pre-construction when the BEA, Management Units based on the above Search Areas and associated proposed enhancement measures have been finalised. An indicative monitoring timetable is provided in **Annex A**.

7.1 Aim 1: Restore/enhance peatland habitat and improve bog habitat condition (Search Area A)

The following monitoring would be undertaken to evaluate the success of this aim:

- Habitat/vegetation monitoring would evaluate the success of restoration and enhancement of peatland. This would be achieved by recording changes to the structure and composition of the vegetation and species abundance, evenness and diversity. Recording of impacts from deer/livestock (in particular grazing impacts) would also be included in the monitoring programme.
- A representative sample of permanent quadrats or line transects would be established within Search Area A's finalised Management Unit to gather sufficient data to inform future management and assess the trajectory of plant species and habitats. The respective monitoring surveys would be carried out at the most appropriate times of year (e.g., flora surveys versus browsing impact surveys). Repeat surveys would be carried out in the same month in each monitoring year (Years 1, 3, 5, 7, 10, 15) to gather comparable data. Photographs would also be taken of each sample quadrat/line transect, as well as overview photographs of the Management Unit.
- In addition, should finalised Management Unit A be fenced off and livestock excluded/managed, a number of quadrat monitoring locations would also be set up outwith the enclosed Management Unit and in nearby and similar habitat in order to allow a temporal comparison of the habitats inside and outside the enclosures over the lifetime of the BEMP.
- A blanket bog condition assessment utilising i) the latest Biodiversity Metric[11] condition assessment pro-forma and methodology, and/or ii) a CSM[10] blanket bog site condition survey, at representative locations within finalised Management Unit A.
- Any peat hagg, gully, or surface reprofiling works, and any installed peat dams or drain blocking, would be monitored to ensure works are successful over the first three years after works are completed. Remedial measures would be undertaken if restoration works have failed.
- The presence of encroaching self-seeded conifer trees and new broadleaved seedlings, and the success or removal measures, would be monitored.

7.2 Aims 2 and 5: Promote native broadleaved woodland cover and hedgerows (Search Areas B and E)

Monitoring would be undertaken in Management Units B and E to ensure the establishment of the broadleaved woodland and hedgerows planted.

A professional forester would monitor the planted areas in Years 1-5 following planting to ensure successful establishment, specifically looking for evidence of damage (e.g., browsing) or disease. Failed specimens should be replaced in the consecutive winter (i.e., between November and March). The forester would also advise on whether any further management or maintenance is required to ensure the establishment of the trees or hedgerows. Any additional measures would be discussed and agreed within the BMG.

These areas would be monitored again by a professional forester in operational Year 10 to ensure that there are no issues with disease or invasive species and to determine if any thinning at this stage would benefit woodland establishment. Monitoring would be undertaken again in operational Year 20 when some thinning operations may be required in woodland in order to encourage growth of better trees and create more open woodland, further new enhancement/enrichment planting may also be considered at this stage. This would aid regeneration of seedlings and begin the process of establishing a mixed age structure.

Each finalised Management Units respective target habitat type and target condition category would also be assessed and monitored using the latest Biodiversity Metric[11] condition assessment pro-forma and methodology with the following habitat specific intervals:

- Management Unit B – Broadleaved Woodland: Year 10 (after planting) and every 5 years thereafter for the duration of the BEMP; and
- Management Unit E – Hedgerows: Years 3, 5, 7, 10 and every 5 years thereafter for the duration of the BEMP.

7.3 Aim 3: Restore acid grassland habitats (Search Area C)

Monitoring in finalised Management Unit C would likely include:

- Bracken monitoring, such as walkover surveys and mapping extent and change over time.

  Grassland monitoring through the establishment of a representative sample of permanent quadrats/line transects to record changes to the composition of the vegetation and species abundance, evenness and diversity. Recording of impacts from deer/livestock would also be included in the monitoring programme. The respective monitoring surveys would be carried out at the most appropriate times of year. Repeat surveys would be carried out in the same month in each monitoring year (Years 1, 3, 5, 7, 10, 15) to gather comparable data. Photographs would also be taken of each sample quadrat/transect, as well as overview photographs of the Management Unit.
- A relevant grassland condition assessment utilising i) the latest Biodiversity Metric[11] condition assessment pro-forma and methodology, and/or ii) a CSM[10] grassland site condition survey, at representative locations within Management Unit C.

7.4 Aim 4: Species-rich meadow/grassland creation (Search Area D)

Monitoring in finalised Management Unit D would likely include:

Vegetation monitoring through the establishment of a representative sample of permanent quadrats/line transects to record changes to the composition of the vegetation and species abundance, evenness and diversity. The respective monitoring surveys would be carried out at the most appropriate times of year (and prior to any cutting). Repeat surveys would be carried out in the same month in each monitoring year (Years 1, 3, 5, 7, 10, 15) to gather comparable data. Photographs would also be taken of each sample quadrat/transect, as well as overview photographs of the Management Unit;

- A relevant grassland condition assessment utilising i) the latest Biodiversity Metric[11] condition assessment pro-forma and methodology, and/or ii) a CSM[10] grassland site condition survey;
- A pollinator survey (specifically bees, moths and butterflies) in each monitoring year (Years 1, 3, 5, 7, 10, 15) to track species presence and abundance over time. Surveys would be conducted in the summer on warm sunny days, prior to any cutting (if applicable);
- Sward height monitoring over a number of transects within the Management Unit (the sward should mostly be between 5 cm – 20 cm for a neutral meadow[35]); and
- Target Notes of any substantial areas of injurious weeds such as docks, ragwort and creeping thistle.

8 REPORTING & BEMP REVIEW

A report would be submitted by the wind farm owner to the BMG in Years 1, 3 and 5 of operation, the frequency of reporting after Year 5 would be agreed by the BMG. This report will detail:

- Management undertaken in the past year(s);
- Monitoring undertaken, results and discussion of results; and
- Management and monitoring proposed for the following year(s).

The BMG may meet periodically to discuss the reports and management of the site, if this is considered necessary by the members of the BMG.

Where monitoring indicates any management objectives are not met, further management prescriptions or interventions would be agreed by the BMG.

The requirement for the measures, monitoring and reporting following year 15 of the operational phase would be dependent on the results of the monitoring which would be discussed and agreed within the BMG in year 15, or as agreed in writing with the BMG.

In addition, the BEMP would be reviewed by the BMG every five years from its commencement, or earlier if the BMG consider it necessary. The purpose of the review will be to assess the effectiveness of the proposed management prescriptions at achieving the aims and objectives of the BEMP. If necessary, such measures may be amended by the BMG at any time.

9 SUMMARY

The OBEMP for the Proposed Development, as outlined above, proposes an extensive suite of habitat and biodiversity compensation and enhancement measures on and around the site, for a variety of habitat types and includes peatland restoration/enhancement, native broadleaved woodland creation, grassland creation and restoration, bracken control, and creation of native species-rich hedgerows. All of these biodiversity creation and enhancement measures will benefit

[35] https://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/management-options-and-capital-items/species-rich-grassland-management/guidance-for-species-rich-grassland-management/

local flora and fauna and result in significant net gains for biodiversity of +33% for area-based habitats and +1540% for linear habitats during the operational period of the Proposed Development.

ANNEX A. MANAGEMENT AND MONITORING TIMETABLE

Table A-1 Indicative Management and Monitoring Timetable

Year	0*	1**	2	3	4	5	6	7	8	9	10	11	12	13	14	15…
Work Item	**Year of Implementation**															
Management Prescriptions																
Peat hagg/gully reprofiling and drain blocking (Management Unit A)	✓	✓														
Livestock exclusion fencing (Management Units A & E)	✓															
Livestock/deer exclusion fencing (Management Unit B)	As required following staggered felling and replanting															
Livestock management (Management Unit A)		✓	Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring													
Deer management, if required (Management Unit B)		✓	Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring													
Conifer regeneration/broadleaved seedling removal (Management Unit A)		✓	Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring													
Bracken control & management for grassland restoration (Management Unit C)	✓	✓	Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring													
Ground preparation and sowing (Management Unit D)	✓	✓														
Excluded activities as per Prescription 1.5 (Management Units A – D) and Prescription 4.3 (Management Unit D)	Throughout lifetime of BEMP															
Native hedgerow planting/creation (Management Unit E)	✓	✓														
Grassland management vis grazing or mowing/baling (Management Unit D)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Injurious weed control (Management Unit D)		Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring														
Control competing vegetation in the first two years of hedgerow establishment (Management Unit E)	✓	✓														
Removal of tree tubes (Management Units B & E)											✓[36]					

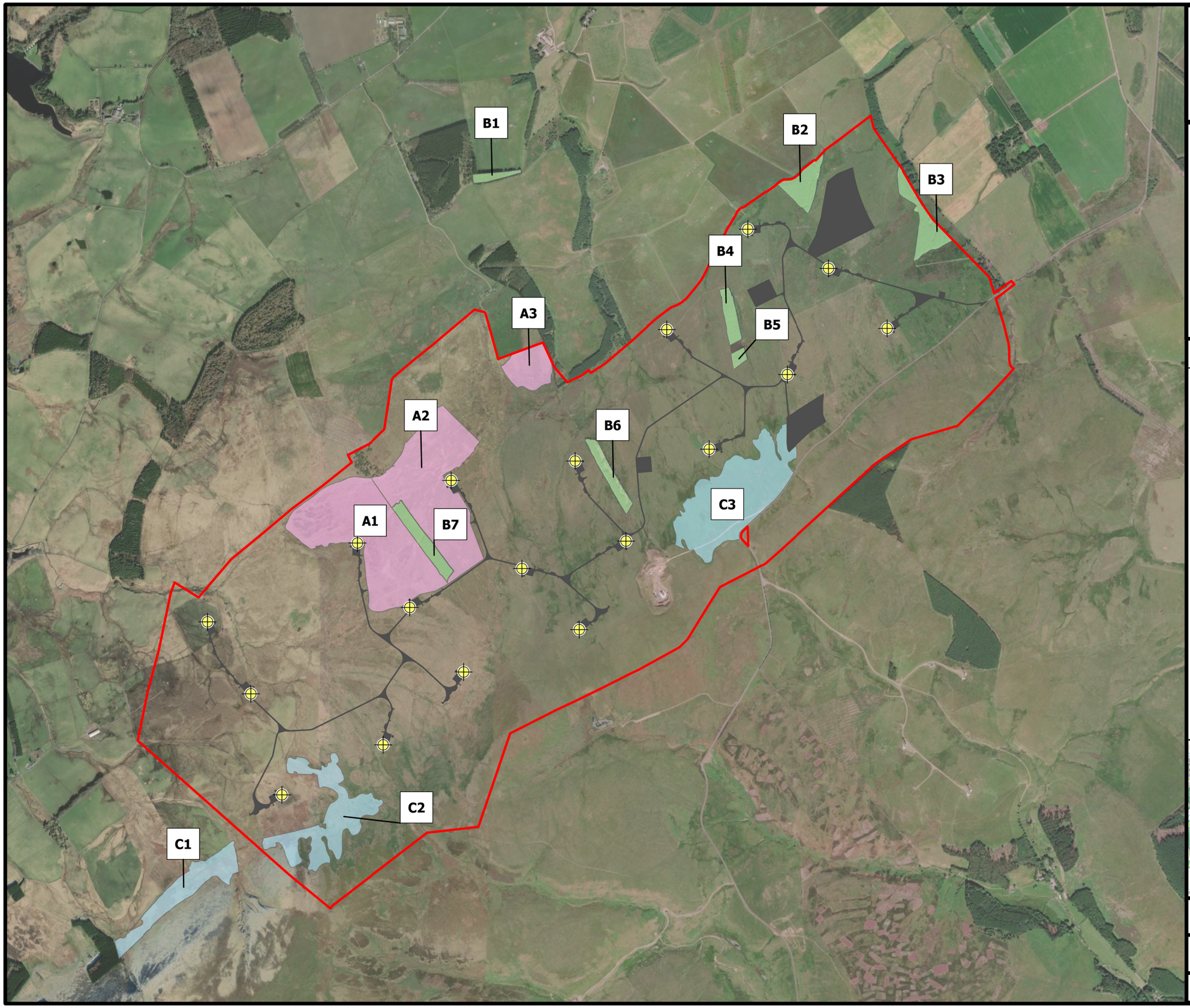
[36] Fast growing species may require the removal of trees guards before Year 10, to prevent damage. This would be informed by forestry monitoring surveys.

Year	0*	1**	2	3	4	5	6	7	8	9	10	11	12	13	14	15…
Hedgerow management as per Prescription 5.4 (Management Unit E)			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monitoring																
Inspection of peat hagg/gully reprofiling and drain blocking/peat dams (Management Unit A)		✓	✓	✓												
Vegetation monitoring and condition assessments (Management Units A and C)		✓		✓		✓		✓			✓					✓
Bracken extent mapping/monitoring (Management Unit C)		✓		✓		✓	Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring									
Vegetation monitoring, condition assessments, sward height monitoring and injurious weeds target notes (Management Unit D)		✓		✓		✓		✓			✓					✓
Pollinator survey (Management Unit D)		✓		✓		✓		✓			✓					✓
Woodland & hedgerow establishment/growth monitoring – (Management Units B & E[37])		✓	✓	✓	✓	✓	As required following staggered felling & replanting in Management Unit B									
Broadleaved woodland condition assessment (Management Unit B)											✓					✓
Hedgerow condition assessment (Management Unit E)				✓		✓		✓			✓					✓
Reporting / Reviews																
BEMP Report		✓		✓		✓	Reporting schedule after Year 5 to be agreed by the BMG									
BMG 5-year review of BEMP						✓					✓					✓

* Construction Phase

**First year after final commissioning of the Proposed Development.

[37] Following initial planting, any failed specimens recorded during forestry monitoring surveys would be replaced during a "beating up" second planting period to be determined.



TORFICHEN WIND FARM

FIGURE 1

OUTLINE BIODIVERSITY ENHANCEMENT MANAGEMENT PLAN AREA

KEY

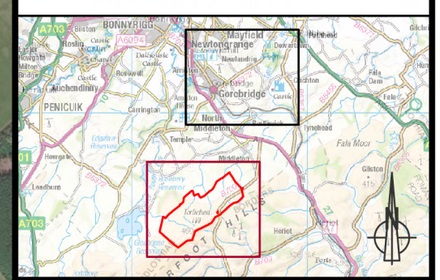
- TURBINE
- SITE BOUNDARY
- INFRASTRUCTURE

OBEMP AREAS

- AREA A: PEATLAND RESTORATION/ ENHANCEMENT
- AREA B: BROADLEAVED WOODLAND CREATION
- AREA C: ACID GRASSLAND RESTORATION

BEMP Unit	Area (Ha)	Length (m)
A	61.5	
B	17.27	
C	45.16	
D	5.69	
E*		2500

*linear feature not shown on figure



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power for good

TORFICHEN WIND FARM

FIGURE 1

OUTLINE BIODIVERSITY ENHANCEMENT MANAGEMENT PLAN AREA

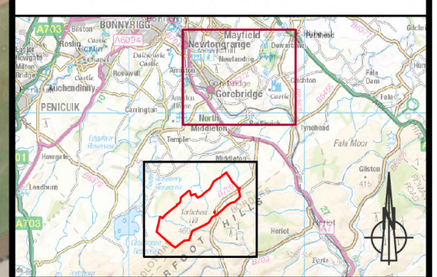
KEY

OBEMP AREAS

AREA D: SPECIES-RICH MEADOW/GRASSLAND CREATION

BEMP Unit	Area (Ha)	Length (m)
A	61.5	
B	17.27	
C	45.16	
D	5.69	
E*		2500

*linear feature not shown on figure



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