

The background of the page is a large, high-quality aerial photograph of a mountainous landscape. In the foreground, there are lush green hills and a small, dark lake. In the middle ground, a large, light-colored, rocky mountain slope rises steeply. Several wind turbines are visible on the ridges and slopes. The sky is a pale blue with some wispy clouds. The overall scene is serene and natural.

Y Bryn Wind Farm

Appendix 6.3 Outline Habitat Management Plan

Y Bryn Wind Farm Ltd.

December 2023

1276412

OUR VISION

**Working to create a world
powered by renewable energy**



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Glossary

Term	Definition
Ecological Impact Assessment (EcIA)	Ecological Impact Assessment is a process of identifying, quantifying and evaluating potential effects of development-related or other proposed actions on habitats, species and ecosystems.
Environmental Statement	A document reporting the findings of the Environmental Impact Assessment (EIA) and produced in accordance with the EIA Regulations.
Infrastructure	This is used to describe all parts of Y Bryn Wind Farm that require construction activities, both temporary and permanent, including turbines, hard standings, borrow pits and tracks (where new or widened).
Mitigation	Measures, including any process, activity or design to avoid, reduce, remedy or compensate for potential negative effects of a development.
North section	Section of development located north of Bryn settlement, within Penrhydd forestry block.
Protected Species	Animals or plants protected by legislation.
Schedule 7 species/habitats	Lists of species and habitats of 'principal importance' for maintaining and enhancing biodiversity, as named under the Environment (Wales) Act 2016.
South section	Section of development located south of Bryn settlement, within Bryn forestry block.
The proposed development	Y Bryn Wind Farm development.
Wind farm areas	All ground within the north and south sections of forestry.
Y Bryn site boundary	The area within which the proposed development will be located.

List of Abbreviations

Abbreviation	Description
BNB	Biodiversity Net Benefit
BSG	Biodiversity Steering Group
EclA	Ecological Impact Assessment
ES	Environmental Statement
FRP	Forest Resource Plan
ha	Hectares
HMP	Habitat Management Plan
IEFs	Important Ecological Features
LBAP	Local Biodiversity Action Plan
Natural Power	Natural Power Consultants Limited
NPT	Neath Port Talbot
NRW	Natural Resources Wales

1. Executive Summary

The measures proposed in this outline Habitat Management Plan (HMP) will increase habitat diversity within the Y Bryn Wind Farm site boundary (proposed development). The majority of the areas to be managed under the HMP prescriptions are, or have been, productive forestry. The habitats that will replace this productive forestry include native broadleaved woodland (including areas of wet woodland), scrub, acid grassland, marshy grassland and standing water. These habitats support a large variety of associated species, including species listed under Section 7 of the Environment (Wales) Act 2016 and 'special species' as classified by the Neath Port Talbot (NPT) Nature Partnership; as well as species and habitats listed in the Bridgend Local Biodiversity Action Plan (LBAP). Additionally, areas of existing non-native invasive species will be reduced in size and number.

The prescriptions proposed in this outline HMP will result in an overall biodiversity net benefit (BNB) for the proposed development.

2. Introduction

This outline HMP for Y Bryn Wind Farm has been prepared by Natural Power Consultants Limited (Natural Power), on behalf of Y Bryn Wind Farm Ltd.

The proposed development is located predominantly within two areas of productive forestry (north section and south section) and thus 'coniferous woodland plantation' is the primary habitat type present. Areas of broadleaved or mixed woodland are also present, some of which has been planted, but more often these are semi-natural. These include woodland along steep inaccessible slopes above watercourses or woodland naturally regenerating within unmanaged or unplanted areas. Linear strips and patches of open ground exist within the north and south sections, usually adjacent to forestry tracks and/or within forestry rides, some of which are managed by annual cutting of the vegetation. Habitats within these open areas include marshy grassland and wet and dry dwarf shrub heath. Many of the open grassland and heath areas, where not managed are being encroached by bramble scrub, trees and bracken.

The Ecological Impact Assessment (EcIA) provided in Chapter 6 of the Y Bryn Wind Farm Environmental Statement (ES) did not identify any habitats as important ecological features (IEFs) due to the low level of habitat loss, of all habitat types, resulting from Y Bryn Wind Farm. Therefore, any habitat management measures undertaken for the proposed development are not mitigation measures, but rather enhancement measures.

As set out in Chapter 6 of the ES 2.22 hectares (ha) of broadleaved woodland is calculated to be lost as a result of the proposed development, however over 30 ha have been identified for restoration (see Section 6). Also a total of at least 105 ha of open ground habitats will be created (see Section 7), compared to a total of 11.02 ha (all grassland and heathland habitats/mosaics combined (excluding improved grassland)) that will be lost as a result of the proposed development.

As agreed with Natural Resources Wales (NRW) as land manager, no early felling of existing productive forestry is required for undertaking these measures, apart from felling that is necessary for the construction of the proposed development.

This outline HMP should be considered a draft document that is subject to change. The HMP will be finalised as part of a planning condition, to be agreed with statutory consultees post consent. More detail on the prescriptions which will be implemented to deliver these objectives, and the monitoring methods which will be used to measure their success, will be included in the final HMP in order to encapsulate the most appropriate methods and practices

available at the time. Once finalised, the HMP will remain a working document that may require changes to be made over its lifetime.

This HMP has been written following consultation of the site's forestry and other management objectives, including for undertaking deer management, in order that the prescriptions described complement the long-term plans for NRW's forest estate. If the objectives/management plans for the forest estate change during the period covered by this HMP, the aims of the HMP may require modification so that they do not conflict with these updated objectives.

3. Supporting documents

Documents which provide information that further supports the outline HMP are:

- Chapter 6 Ecology: Y Bryn Wind Farm Environmental Impact Assessment (2023)
- Appendix 6 Ecology: Y Bryn Wind Farm Environmental Impact Assessment (2023)
- Y Bryn Forest Resource Plan (FRP)

4. HMP implementation

Delivery of the HMP will be undertaken through the establishment of a Biodiversity Steering Group (BSG). The BSG would ideally include representation from:

- The developer;
- Landowner (NRW);
- the Local Planning Authorities; and
- Natural Resources Wales (statutory consultee).

The BSG will be chaired by the developer or their appointed representative (e.g. ecological consultant).

The final HMP will include monitoring methods and a timetable for both management prescriptions and monitoring surveys. An outline schedule for the first 10 years of operation is provided in Appendix A. As the lifetime of the wind farm could extend up to 50 years and the HMP is considered a live document, it is proposed that a review of the objectives and the success of management measures in the first 5 years is undertaken in Year5, before a proposed schedule of future management measures and monitoring is agreed with the BSG.

The results of monitoring and any recommendations will be included in an annual summary report after each monitoring year and shared with the BSG to inform ongoing review of the management prescriptions and monitoring methods.

A meeting of the BSG will be held annually, following circulation of the annual summary report, where it is agreed by the members that a meeting is necessary to discuss the results of the report or agree any changes to the scheduled management or monitoring.

As a minimum, a BSG meeting will be held in Year 5 to agree the proposed future management and monitoring schedule.

Implementation of the prescriptions and monitoring required for the HMP, as agreed by the BSG, will be funded and delivered by the Developer for the operational life of the wind farm.

5. Aim and objectives

This document details a range of measures/prescriptions to be implemented in relation specifically to habitat management in the proposed development.

The aim of the outline HMP is to enhance the biodiversity of the proposed development area by promoting a range of habitats and increasing habitat connectivity within the wider area. This will also provide further benefits to the biodiversity of the site including species listed under Section 7 of the Environment (Wales) Act 2016¹.

The objectives of the HMP have been shared and agreed in principle with NRW, acting as land manager for the areas within the wind farm site boundary where HMP works are proposed. The key objectives are:

- Restoration of areas of broadleaved woodland;
- Wet woodland restoration;
- Creation of areas of open ground;
- Pond creation;
- Bracken control; and
- Control of invasive plant species.

Management prescriptions to achieve the above are likely to include the measures listed below:

- Broadleaf planting;
- Deer management;
- Vegetation strimming/mowing;
- Tree/scrub clearance;
- Bracken control; and
- Invasive plant species control.

The areas proposed under the HMP measures all lie within the wind farm site boundary. These areas are shown in a Figure 1 in Appendix B.

In order to apply the most appropriate and current techniques/prescriptions for habitat management and enhancement, a walkover survey will be undertaken prior to the start of operation and in advance of the start of management works to inform the most appropriate prescription measures to be applied for each objective in Year 1 of operation. Where appropriate this will include a hydrological assessment to identify areas for suitable ground improvements such as existing ditches.

If over the course of the timescales of the HMP it appears that any of the objectives are not going to be met then alternative options will be discussed and agreed by the BSG.

6. Restoration of broadleaved woodland

A key objective of the HMP will be the restoration of areas of broadleaved woodland. Expanding the existing cover of native broadleaf woodland will increase biodiversity within the proposed development area, by allowing the expansion of associated woodland flora, invertebrates, birds, etc that thrive in deciduous woodland, but are less likely to be found in coniferous plantation.

¹ Environment (Wales) Act 2016, Section 7 list of species. Available at: <https://www.biodiversitywales.org.uk/Section-7> [Accessed 13/12/2023]

It is proposed that three areas (over 30 ha in total) be included in the HMP, in relation to broadleaf woodland restoration. These are: an area of Cwm Tonhir/ Nant Drysiog, in the North section, and areas around Cwm y Garn and Cwm y Brombil, which both lie in the west of the South section. In these areas, broadleaf tree regeneration would be encouraged, with management undertaken to remove conifer regeneration, as well as control of gorse, bracken and invasive species. Establishing native woodlands in these locations will link these habitats with those present in the wider area. These woodlands, along with the watercourses that are located adjacent to them, will provide high quality corridors for movement and colonisation of these native habitats by species that depend on them.

6.1. Prescriptions

In keeping with NRW recommendations, the aim will be for broadleaved woodland restoration to occur through natural regeneration from the seed sources of existing semi-natural woodland. The success of this policy would be measured through operational monitoring. If needed, physical planting of broadleaved trees (from local stock) would be carried out to ensure restoration successfully takes place. The need for this intervention would be based upon criteria that will be set out in the final HMP.

Where planting of whips is required to achieve the objective, planting of native species such as birch, ash, alder, willow, rowan, oak and hawthorn will be undertaken. Locations, species composition and planting density will be agreed with the BSG prior to planting and will avoid turbine locations and the surrounding bat buffer to minimise any potential conflict through increases in bat activity^{2,3}.

Up to five years following any planting, annual management will include beating up to replace any trees that haven't established and continued weed control around the base of trees.

The broadleaved woodland restoration areas will be monitored every five years, to ensure there are no issues such as disease or invasive species. If control of invasive species is required this will be addressed following prescriptions set out in this plan for conifer control (Section 8.1), bracken control (Section 10.1) or invasive species control (Section 11.1) as appropriate.

Regeneration of broadleaf tree species could be impacted by deer grazing. At the scale proposed deer fencing would not be practical, and as the primary method of regeneration proposed is through natural regeneration from the existing seed sources tree guards would also not be appropriate. It is proposed that deer management prescriptions will be included within the final HMP and will be designed in consultation with NRW, acting as land manager, to complement the existing deer management plan within the existing forest.

6.2. Monitoring

Annual monitoring during the growing season (April – October) will take place for the first five years following construction to monitor for natural regeneration of native broadleaf species. Then again in year 10 to monitor growth and identify any requirements for management e.g. strimming of ground vegetation or thinning of tree regeneration. Monitoring will be required regularly for the duration of the HMP but the frequency after Year 10 will be agreed as part of the Year 10 review.

Fixed monitoring points will be used to enable accurate repeatability throughout wind farm operation, with 2 m² quadrats used in a stratified sampling format.

² Natural England (2009) *Bats and single large wind turbines*: Joint Agencies interim guidance (TIN059) identifies a higher risk of bats where flightlines is present within 50 m of the rotor swept area.

³ NatureScot. (August 2021). *Bats and onshore wind turbines - survey, assessment and mitigation*. Available at: <https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation> [Accessed 13/12/2023]

The following will be recorded at each point in a 2 m² quadrat:

- Tree species present;
- Number of saplings per species present;
- Sapling height; and
- General condition of the ground and vegetation regeneration (for example the presence of invasive species, trampling, browsing and erosion effects).

If planting of whips is required, annual monitoring of success will take place in years 1 - 5 (following planting). Annual monitoring during the growing season (April – October) will consist of:

- Checks of all planted trees; and
- Notes and photographs taken on the number and/or proportion of losses (i.e. dead trees) in each area, including species proportions lost if feasible.

The success of broadleaved restoration will be measured against the following indicators:

- By Operational Year 5 trees are showing sturdy top growth; and
- By Operational Year 10 there will be a minimum 75% survival rate.

A photograph will be taken each monitoring year from a fixed location to enable accurate repeatability to provide a visual record and results will be presented in the monitoring reports.

7. Wet woodland restoration

An area between turbines T9 and T10 (see Figure 1, Appendix B) was identified during baseline surveys as having soils with a high content of peat. It is proposed that the HMP includes an aim to establish wet woodland in this area, this being the most appropriate wetland habitat given the isolated location of this area within the forest. This would be undertaken in line with the existing felling plan, so that once the appropriate area is cleared of timber, it is not replanted with conifers.

Restoration of wet woodland will increase biodiversity within the proposed development area, by allowing the expansion of associated woodland flora, invertebrates, birds, etc that thrive in this habitat, but are less likely to be found in coniferous plantation.

7.1. Prescriptions

As part of this objective, where possible the existing ditches within this area would be blocked (following the outcome of a feasibility assessment) to re-wet the ground, following felling. The exact method of re-wetting would be informed by a feasibility assessment following a site survey post-felling of the conifer plantation and would include measures to avoid adverse impacts on wind farm and forestry infrastructure (e.g. tracks, drains). Methods which could be used are:

- Ground smoothing;
- Stump-flipping; and
- Drain blocking.

Wet tolerant tree species, such as willow and alder, would be allowed to colonise naturally; whilst the regeneration of conifers would be controlled (see Section 8.1).

Where planting of whips is required to achieve the objective, planting of suitable native wet woodland species such as willow and alder will be undertaken.

Up to five years following any planting, annual management will include beating up to replace any trees that haven't established and continued weed control around the base of trees.

The wet woodland restoration area will be monitored every five years, to ensure there are no issues such as disease or invasive species. If control of invasive species is required this will be addressed following prescriptions set out in this plan for conifer control (Section 8.1), bracken control (Section 10.1) or invasive species control (Section 11.1) as appropriate.

As in Section 6 'Restoration of broadleaf woodland' there is potential for the regeneration of desired tree species to be impacted by deer grazing. It is proposed that deer management prescriptions will be included within the final HMP and will be designed in consultation with NRW, acting as landowner, to complement the existing deer management plan within the existing forest.

7.2. Monitoring

Annual monitoring during the growing season (April – October) will take place for the first five years following construction to monitor for natural regeneration of willow and alder. Then again in year 10 to monitor growth and identify any requirements for management e.g. strimming of ground vegetation or thinning of tree regeneration. Monitoring will be required regularly for the duration of the HMP but the frequency after Year 10 will be agreed as part of the Year 10 review.

Fixed monitoring points will be used to enable accurate repeatability throughout wind farm operation, with 2 m² quadrats used in a stratified sampling format.

The following will be recorded at each point in a 2 m² quadrat:

- Tree species present;
- Number of saplings per species present;
- Sapling height; and
- General condition of the ground and vegetation regeneration (for example the presence of invasive species, trampling, browsing and erosion effects).

If planting of whips is required, annual monitoring of success will take place in years 1 - 5 (following planting). Annual monitoring during the growing season (April – October) will consist of:

- Checks of all planted trees; and
- Notes and photographs taken on the number and/or proportion of losses (i.e. dead trees) in each area, including species proportions lost if feasible.

The success of broadleaved restoration will be measured against the following indicators:

- By Operational Year 5 trees are showing sturdy top growth; and
- By Operational Year 10 there will be a minimum 75% survival rate.

A photograph will be taken each monitoring year from a fixed location to enable accurate repeatability to provide a visual record and results will be presented in the monitoring reports.

8. Creation of open ground

Some felling of productive forestry will be required for the construction of Y Bryn Wind Farm. This is not considered to be detrimental to biodiversity as this is a working forest in which rotational felling of conifers is a key component, and the area to be felled is minimal in relation to the large area of forest that is available.

It is considered that this is an opportunity for new areas of open ground to be created within the wind farm site boundary. 'Open ground', in this case, is taken to be any non-forested natural habitat. Where open ground currently exists within the forest, the habitats include marshy grassland, dry dwarf shrub heath, acid grassland and scrub.

The creation of any of these habitat types following removal of the productive forestry would be considered to meet the aim of creating open ground. Such areas would add to the mosaic of habitats present within the wind farm site boundary, link up other non-coniferous habitat types and be beneficial for such ecological features as flowering plants, pollinating insects and reptiles. The areas of open ground proposed for inclusion in the HMP are described below.

Following construction, the area around turbines will be kept free of trees throughout the operational phase of Y Bryn Wind Farm. The purpose is to maintain a 'bat buffer', by having a safe distance between the turbines and the forest edge (a key foraging location for bats). This buffer will be a minimum of 50 m between forest edge and turbine tip. Conifer (and broadleaf) regeneration will be controlled within these areas to prevent trees from becoming established. Based on the candidate turbine dimensions set out in Chapter 5: Project Description of the ES and an assumed tree canopy height of 30 m the minimum buffers would be:

- Turbines 1-5, 11, 12 and 14-18 a 102 m buffer;
- Turbines 6 and 7 a 74 m buffer; and
- Turbines 8-10 and 13 a 23 m buffer.

Replanting of conifers will be undertaken in the majority of the coupes felled for the construction of Y Bryn Wind Farm, where these areas lie outside the bat buffer. However, where the layout of the proposed development creates smaller areas that are of low suitability for replanting, these areas will be included as areas where conifer regeneration will be controlled; thus creating additional permanent open ground habitat (see Figure 1, Appendix B).

The linking of open ground areas shall be further aided by the establishment of such habitat alongside tracks and hardstanding areas associated with Y Bryn Wind Farm. A border of 10 m width will be applied to the sides of existing and new tracks and hardstanding areas, in which no replanting of conifers will be undertaken. These areas, where associated with the proposed development, will be subject to control of conifer regeneration, as well as the control of invasive species.

As can be seen in the Figure 2 in Appendix B the areas of open habitat will create green infrastructure corridors linking open habitat surrounding the existing plantation forestry:

- South section: access track corridor running northeast/southwest;
- South section: ride corridor running northwest/southeast (past turbines T12 and T13); and
- North section: access track corridor running north/south (site entrance to T4).

8.1. Prescriptions

Management prescriptions for open habitats would include measures such as:

- Vegetation strimming/mowing; and
- Tree/scrub control.

Removal of trees and scrub will be undertaken by a suitably qualified contractor. The methodology for removal will depend on the quantity and type of vegetation to be removed. The following removal methods are commonly used for the removal of conifer regeneration.

- **Hand pulling:** Physical removal of scattered small seedlings by hand. Seedlings over 30 cm tall can be difficult to remove by hand pulling. Secateurs or a small hacksaw useful as standby for larger seedlings. Typical removal method for scattered small/medium trees at low to moderate densities.
- **Lopping:** Physical removal of seedlings using a hand tool. Used commonly to remove widely scattered individuals and denser growing seedlings under 50 cm.
- **Brushcutting:** Physical removal using a power tool. Commonly used for dense growing seedlings under 50 cm and most effective on areas of denser trees up to 15 cm in diameter at base.
- **Chainsawing:** Physical removal using a power tool. Most common means for removing medium size trees, scattered individuals to densely growing seedlings greater than 1 m. Cut trees are usually left on site.
- **Mulching:** Using a 360-degree excavator fitted with a mulching head. Recommended removal method for dense patches of small trees under 50 cm and medium size trees over 1 m.

The requirement for any management prescriptions will be informed by monitoring results and the appropriate methods and timing agreed by the BSG prior to being implemented.

8.2. Monitoring

Regular monitoring will be undertaken throughout the operational lifetime of the wind farm to inform the requirement for management prescriptions to support the establishment of diverse open ground habitats, such as removal of conifer regeneration, occasional mowing along track edges or removal of non-native species.

Vegetation monitoring will be carried out in operational Year 1 after construction, then every second year until Year 10, to record the progress of open habitat regeneration and restoration, and to assess plant community development across areas of open habitat. Monitoring will be required regularly for the duration of the HMP but the frequency after Year 10 will be agreed as part of the Year 10 review.

Open habitats within the development footprint will be broken down into a number of monitoring units for ease of survey. Fixed monitoring points will be used to enable accurate repeatability throughout wind farm operation, with 1 m² quadrats used in a stratified sampling format.

The following will be recorded at each point in a 1 m² quadrat:

- Percent cover of plant species present;
- Average mulch depth, where appropriate;
- Coverage of bare ground, where appropriate;
- Coverage of water, where appropriate;
- Sward height across open habitats; and
- General condition of the ground and vegetation regeneration (for example the presence of invasive species (inc. conifer regeneration), trampling, grazing and erosion effects).

A photograph will be taken each monitoring year from fixed locations to enable accurate repeatability to provide a visual record and results will be presented in the monitoring reports.

9. Pond creation

The creation of ponds within the wind farm site boundary would have two important functions. The ponds themselves create new standing water habitat, which will support aquatic plants, insects and amphibians. In addition, the ponds will have a water retention function; holding excess water during heavy rainfall events, slowing runoff into watercourses, and thus contributing to flood and erosion prevention.

Two areas have been identified as being suitable locations for pond creation, being gently sloping with a higher topographic wetness index and lying within areas of the forest marked for open habitat creation. One area lies east of proposed turbines in the North section and the other lies east of turbines in the South section (see Figure 1, Appendix B).

9.1. Prescriptions

Subject to the findings of a feasibility assessment, it is proposed that in these areas the digging of hollows and ditches, in combination with creation of bunds, would allow the natural retention of water to take place.

Maintenance measures may include dredging and control of conifer regeneration on the margins of the ponds to encourage the creation of marshy grassland habitat (for conifer control prescriptions see Section 8.1).

These works will be undertaken in line with the existing felling plans for the forest.

9.2. Monitoring

The ponds will be monitored initially in years 3, 5 and 10. Monitoring will be required regularly for the duration of the HMP but the frequency after Year 10 will be agreed as part of the Year 10 review.

Monitoring will consist of recording the following information:

- Percentage of the pond occupied by emergent vegetation;
- Percentage of water in the pond relative to the maximum pond area;
- Turbidity/water clarity (visual assessment);
- pH;
- temperature;
- dissolved oxygen;
- Habitat quality for amphibians;
- Water quality for amphibians;
- Grazing intensity; and
- Signs of sedimentation.

A photograph will be taken each monitoring year from fixed locations to enable accurate repeatability to provide a visual record and results will be presented in the monitoring reports.

10. Bracken control

The habitat surveys undertaken as part of baseline recording, identified several areas of 'continuous' bracken cover within the wind farm site boundary. A mosaic of habitats that includes bracken within it, is considered more favourable to biodiversity than large, uniform areas of dense bracken. Therefore, one of the proposed prescriptions for inclusion

in the HMP is bracken control. This would create a patchwork of open areas with smaller stands of bracken, which can be expected to restore more desirable habitats such as acid or marshy grassland which will support an increased diversity of ground flora and invertebrates as well as reptiles and ground-nesting birds, including nightjar.

An area of continuous bracken (c.0.34 ha) has been identified for bracken control in a forest ride within the South section (see Figure 1, Appendix B). Controlling the bracken in this corridor will improve connectivity of other open habitats along the ride and either side of the plantation.

10.1. Prescriptions

The bracken will be controlled by non-chemical means and so would be undertaken by physical cutting. This would be carried out using methods sympathetic to reptiles, such as keeping dead 'thatching' as refuges and not cutting very low to the ground. Large areas of bracken would be broken up into smaller patches, with a network of cut areas created in which grassland or heathland could become established.

A bracken survey would be undertaken prior to management to ascertain the most appropriate method for management. The survey will include mapping important features for reptiles within the bracken, such as hibernating areas and ditches. These areas will be avoided when undertaking management.

A programme of annual cutting would be carried out initially for five years following construction, with longer-term management subject to the results of ongoing operational monitoring.

Due to the current density and extent of the stands of bracken management measures would consist of two cuts, one in early summer (June-July) and a second in late summer (August-September). The second cut in the season is notably more effective than the first. This works by cutting the bracken regrowth, depleting the energy stores held in the bracken root system, which reduces the emergence in the following year.

The frequency of treatment in years following year five would be assessed and agreed with the BSG following a year five bracken survey.

10.2. Monitoring

In Years 1-5 monitoring will be undertaken annually to map the extent and density of bracken in the control area in order to map the success of management measures and identify areas for ongoing control.

A photograph will be taken each monitoring year from fixed locations to enable accurate repeatability to provide a visual record and results will be presented in the monitoring reports.

11. Removal of invasive species

Non-native invasive plant species are found at various locations within the proposed development area: Himalayan balsam, Japanese knotweed and rhododendron. Being non-native species they provide little ecological value and their invasive nature means that they shade out native ground flora, becoming the dominant species in the areas where they are found.

Where Himalayan balsam, Japanese knotweed and rhododendron are found within the areas identified for the habitat improvement measures described above and shown in Appendix B, these invasive species will be controlled. In addition, two other areas located outside the footprint of the development, in the South section, will be included in this prescription: the upper part of Cwm Caetreharn, where native deciduous woodland has been re-established, and the upper part of Cwm Philip, that is the location of an area of ancient semi-natural woodland (see Figure 1, Appendix B).

Control of these species will allow natural flora, and associated pollinating insects, to recolonise these areas of open ground, increasing the biodiversity of these areas.

11.1. Prescriptions

Management would be undertaken by mowing/cutting, where possible, or by herbicide application if more appropriate (as is the case with Japanese knotweed).

Natural regeneration of coniferous trees and the occurrence of other invasive species known to be present on site such as bracken, giant hogweed and cotoneaster is likely to occur following felling operations. Invasive species control methods will take place progressively as regeneration occurs and will be completed in Years 1 – 5, the need for which will be reviewed after each annual HMP report.

Control techniques will be recommended and implemented if levels of regeneration are deemed as likely to significantly impact the agreed HMP aim and objectives. Given the presence of adjacent coniferous plantations it is likely that coniferous regeneration within the HMA will be an ongoing requirement over the duration of the wind farm.

Invasive species control will be undertaken through the use of one or more of the following mechanisms, as considered appropriate:

- Spot spraying;
- Manual removal;
- Mechanical treatment; and/or
- Thinning to waste.

The methodology for removal will depend on the quantity and type of vegetation to be removed and will be informed by a baseline survey to be completed following completion of construction.

11.2. Monitoring

As some invasive species can spread quickly, invasive species monitoring will be undertaken annually in Years 1 – 5.

Monitoring will require mapping the areas where invasive species are present along with any stands of undesirable plant species or those plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981 as amended)⁴. Following the survey the need for control measures and appropriate management methods will be identified and undertaken at an appropriate time in advance of the next survey as agreed by the BSG.

The frequency of monitoring after Year 5 will be reviewed based on the Year 5 survey results and agreed with the BSG.

⁴ Legislation.gov.uk. (2011). *Wildlife and Countryside Act 1981*. Available at: <https://www.legislation.gov.uk/ukpga/1981/69/schedule/9>. [Accessed 13/12/2023]

Appendices

A. Outline HMP Schedule

Table A.A.1: Y Bryn Outline HMP Schedule

Task	Operational year									
	1	2	3	4	5	6	7	8	9	10*
Tree regeneration monitoring	✓	✓	✓	✓	✓	✓ ¹	✓ ¹	✓ ¹	✓ ¹	✓ ¹
Tree planting						✓ ²	✓ ²	✓ ²	✓ ²	✓ ²
Open habitat monitoring	✓		✓		✓		✓		✓	✓
Pond creation	✓									
Pond monitoring			✓		✓					✓
Bracken monitoring	✓	✓	✓	✓	✓					✓
Bracken management	✓	✓	✓	✓	✓					
Invasive species monitoring	✓	✓	✓	✓	✓					✓
Invasive species management	✓	✓	✓	✓	✓					
Reporting	✓	✓	✓	✓	✓		✓		✓	✓
HMP review					✓					✓

* As the lifetime of the wind farm could extend up to 50 years and the HMP is considered a live document, a proposed schedule of future management measures and monitoring will be agreed in consultation with the BSG following the review of the objectives and the success of management measures in Year 10.

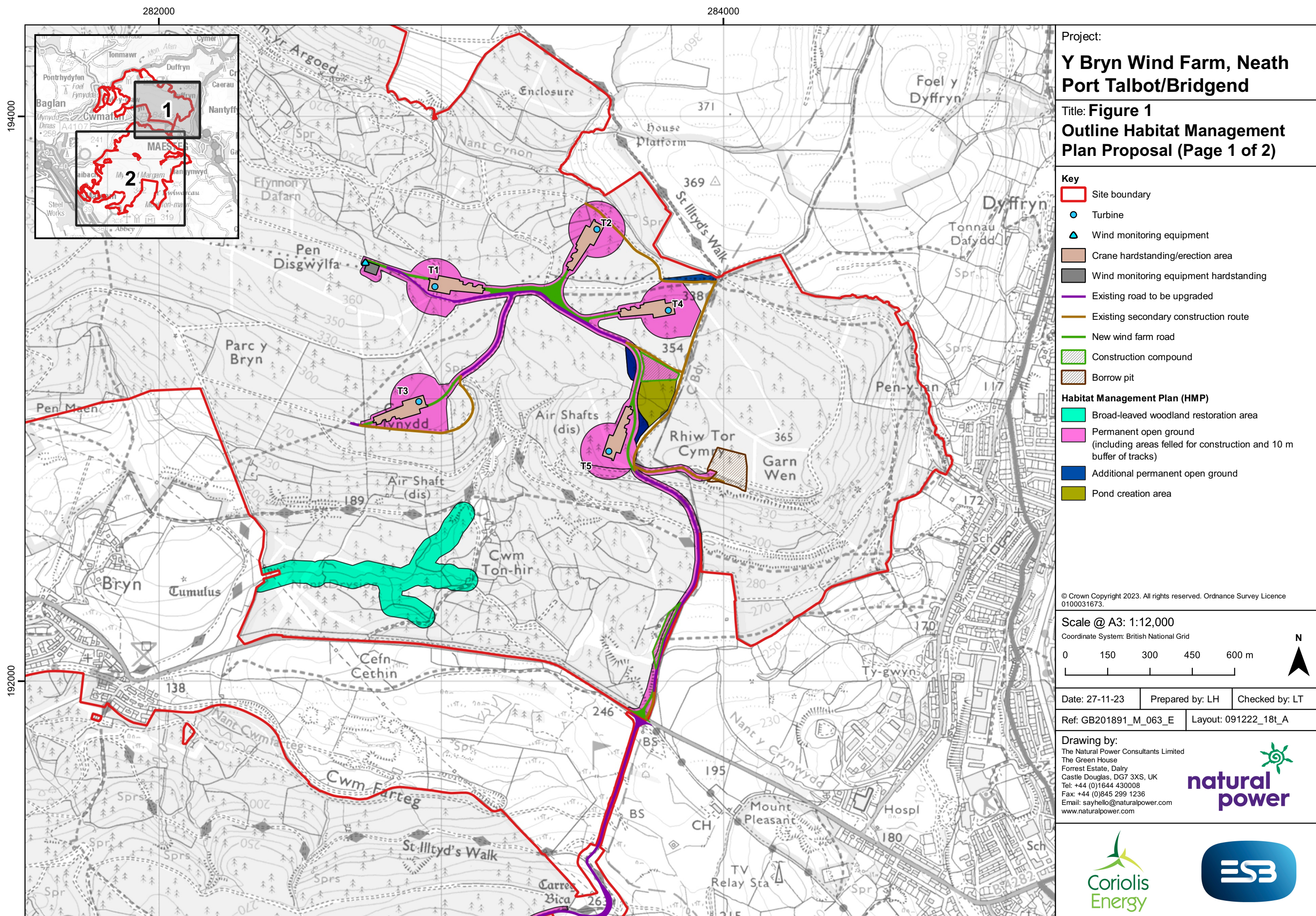
1 Annual tree regeneration monitoring will only be required in Years 6-10 if tree planting is required in Year 6.

2 The requirement for tree planting will be dependent initially on the results of the Year 1-5 tree regeneration monitoring. Subsequent beat up planting will be dependent on the results of the annual tree monitoring Years 6-10.

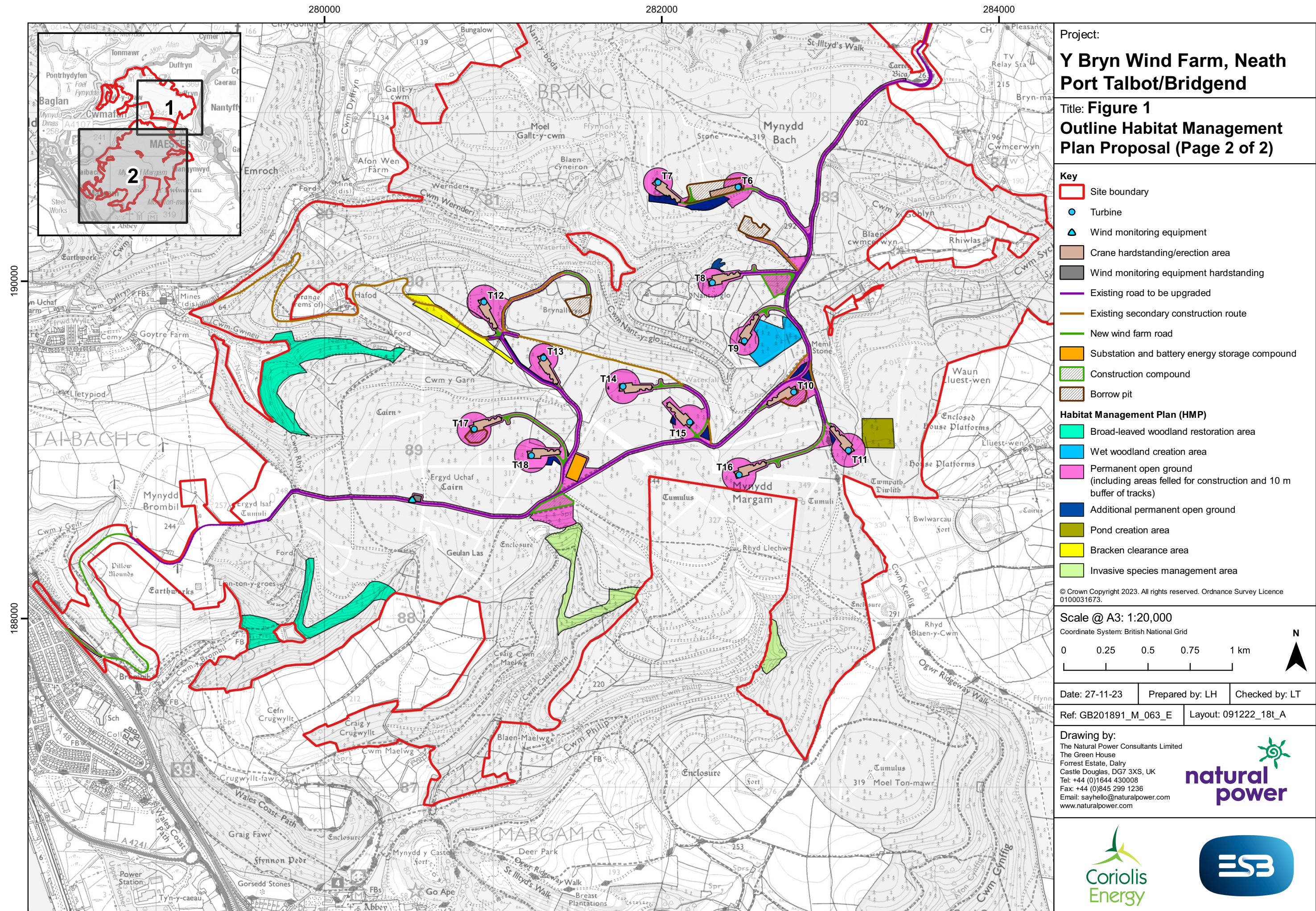
B. Figures

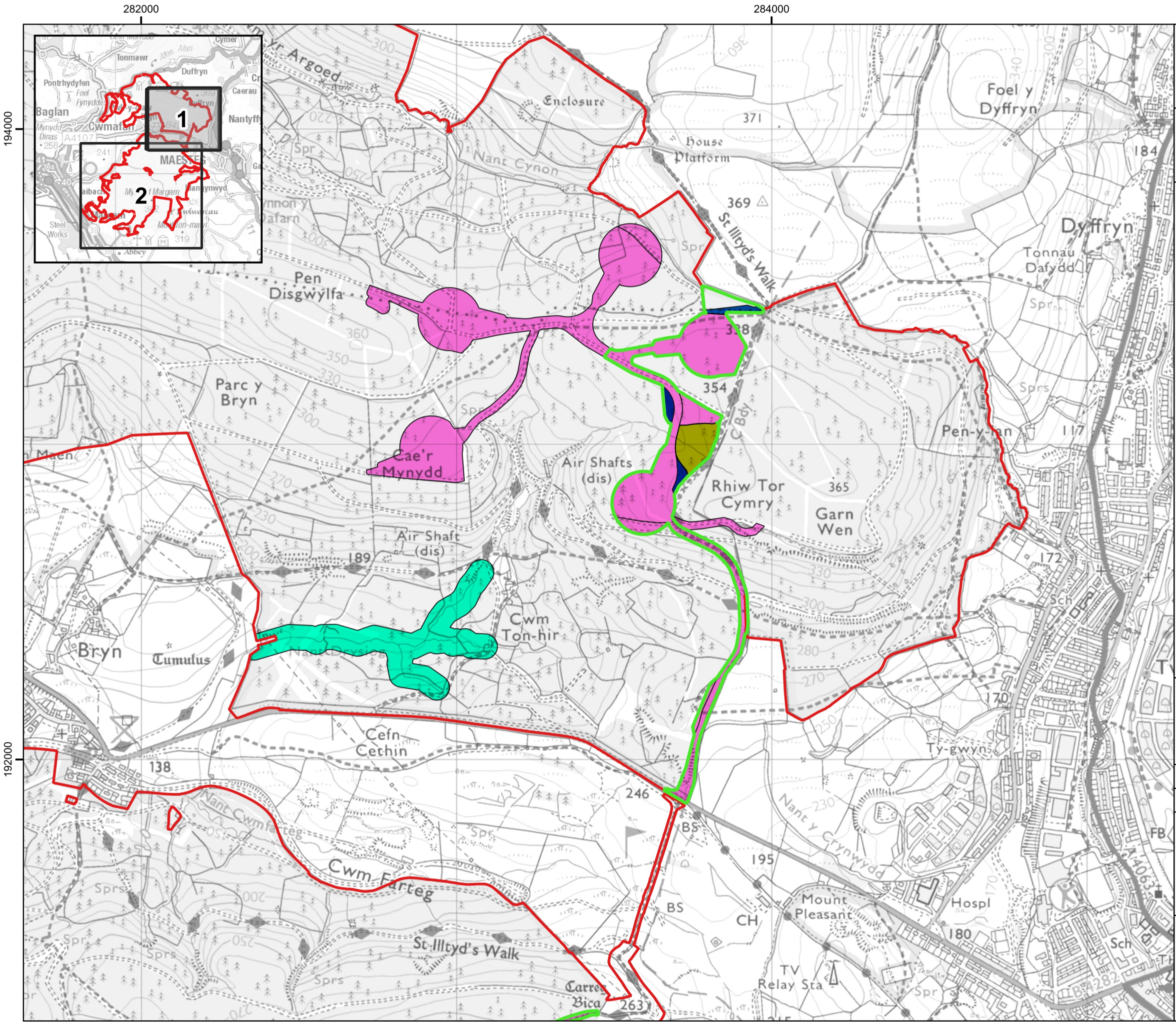
Figure 1 – Outline Habitat Management Plan Proposal

Figure 2 – Green Infrastructure Corridors



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Project:
**Y Bryn Wind Farm, Neath
Port Talbot/Bridgend**

Title:
**Figure 2 Green Infrastructure
Corridors (Page 1 of 2)**

- Key**
- Site boundary
 - Green infrastructure corridor
- Habitat Management Plan (HMP)**
- Broad-leaved woodland restoration area
 - Open ground
 - Pond creation area
 - Permanent open ground
(including areas felled for construction and 10 m
buffer of tracks)

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0100031673.

Scale @ A3: 1:12,000
Coordinate System: British National Grid

0 100 200 300 400 m

N

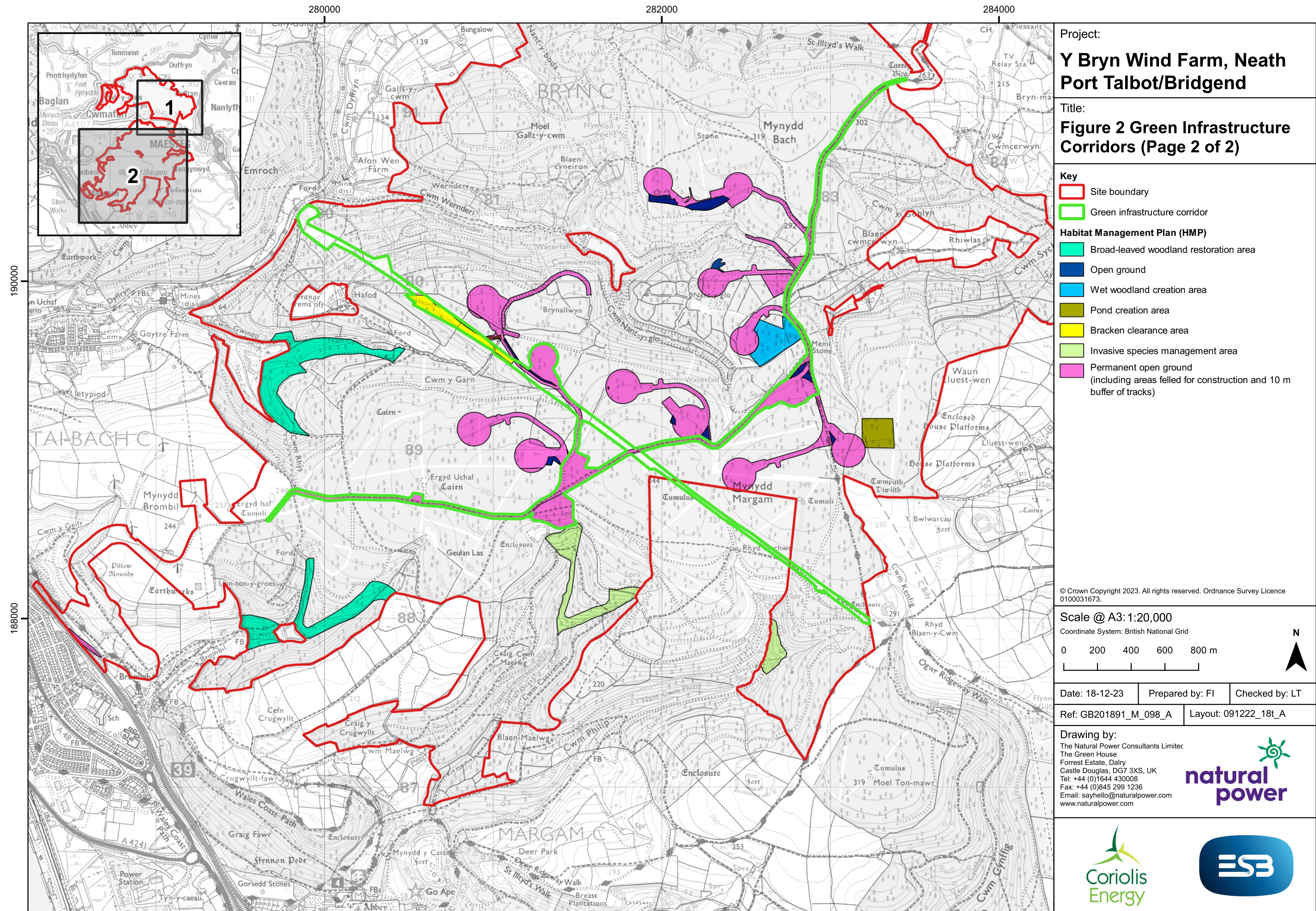
Date: 18-12-23 Prepared by: FI Checked by: LT

Ref: GB201891_M_098_A Layout: 091222_18t_A

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