

Margam Green Energy - South Side
Technical Note

June 2025

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1 Introduction

Background to Commission

- 1.1 BSG Ecology was commissioned by Eco2 Ltd. in December 2024 to provide ecological support for a planning application at the existing 40MW biomass fired power station, Margam Green Energy Plant (the 'Site') in Port Talbot.
- 1.2 The Site is located close to Junction 38 of the M4 (Ordnance Survey Grid Reference SS789863), within the County Borough of Neath Port Talbot.
- 1.3 The Site is subject to multiple planning consents covering various buildings and infrastructure, principally the main biomass plant (planning consent (ref. P2016/0949), the waste wood storage building (ref. P2015/0992) and the administration building (ref. P2016/0895).
- 1.4 The proposed development is to be situated at the location of a previously approved equipment storage building and an area allocated for habitat creation¹, under a consented Landscape Ecological Management Plan (LEMP) (BSG Ecology, 2020) for all three planning approvals. The development of this area was not completed following construction of the facility due to a change in layout on Site. This was due to the limited availability of space and the requirement for a laydown area to house spares and accommodation to facilitate the previous planning approvals.

Site description

- 1.5 The Development Footprint comprises an approximate area of 2,449 m² on a strip of previously disturbed but undeveloped land along the southernmost edge of the existing Margam Green Energy Plant facility (the Site). The area is formed of hardstanding, temporary buildings and unsealed bare ground which is currently used for temporary material storage (see **Figure 1, Section 8**).
- 1.6 The facility is bordered on three sides (north, south and west) by Junction 38 Wetland Complex Site of Interest for Nature Conservation (SINC) which comprises wet woodland (immediately adjacent to / surrounding the Site), with associated reed beds, ditches, and marshy grassland extending west. The wider surrounding landscape is a mixture of industrial (to the south and west), including steel works and other energy from waste facilities. Woodland, parkland and grazing pasture is present to the east, beyond M4 corridor (which is located approximately 260 m east of the Site at its closest point).

Proposed development description

- 1.7 The proposed development includes the installation of an office building, car park, contractor cabins, new site entrance and area of soft landscaping. The proposals will use existing infrastructure to access the Site.

Purpose of report

- 1.8 The report is intended to support a new planning application for the proposals identified in paragraph 1.7 and includes baseline ecological information of the Development Footprint such as key ecological constraints and opportunities, possible mitigation requirements and a Biodiversity Net Benefit solution to be delivered within the available landholding on Site.

¹ Approximately 1,255 m² of neutral grassland planting and a 55 m² Sustainable Drainage System (SUDs) feature (total 1310.88 m²).

2 Method

Desk Study

- 2.1 A desk study has been undertaken, informed by various data sources including data obtained from Defra's Multi Agency Geographic Information for the Countryside (MAGIC) internet-based database (<http://www.magic.gov.uk>, accessed 5 February 2025). The MAGIC database was used to establish the presence of statutory designated sites of nature conservation interest located within 2 km of the centre of the Site. Additionally, a review of designations for non-statutory designated sites (Sites of Interest for Nature Conservation, SINCs) within the Neath Port Talbot area, available via Aderyn² (the Local Environmental Records Centres (LERC) Wales) was completed on 26 March 2025 for a 2 km³ area surrounding the Site.
- 2.2 A request for historic records associated with the Site and its surrounds was not made to the LERC as part of this report. This is due to the artificial / built nature of the habitats within the Development Footprint within a secured and working biomass facility, and lack of available habitat suitable to support flora and fauna. However, citations for adjacent locally designated sites (including the immediate surrounding habitat) provides contextual information on protected and notable species associated with the adjacent habitats, which has been included within the assessment section of this report.
- 2.3 An aerial photograph of the Site and its surroundings (Google Earth Pro, accessed 26 March 2025) was examined to further assist in understanding the context of the Site and to identify and assess possible habitat linkages within the local area.

Field survey

- 2.4 A walkover of the Site area was completed on 29 June 2023 and 6 June 2024⁴ by Kirsty Rogers ACIEEM, Senior Ecologist during LEMP monitoring visits for the planning consents already secured on Site (for years 1 and 2 post construction). Updated photographs of the Development Footprint (provided in **Section 7**) were provided by the site manager, Elliot Lugg (Eco2 Ltd.), on 3 March 2025, to confirm the conditions remain the same as previous visits. The habitats on Site have been classified in accordance with Phase 1 habitat survey industry standard guidance (JNCC, 2010) and are shown on **Figure 2**.

Limitation to method

- 2.5 There were no limitations to the methods.

Personnel Involved

- 2.6 Summaries of the qualifications and experience of personnel involved in the work, and their role in delivering it, are outlined below.
- Kirsty Graham MZoo, ACIEEM: Kirsty is a Senior Ecologist at BSG Ecology. She has worked as a professional ecologist since 2013 and has experience in the delivery of numerous ecological assessments for small- and large-scale projects. Kirsty was responsible for carrying out the field work for this project and is the author of this report.
 - This report has been technically reviewed by Claire Dewson MCIEEM, Associate Director at BSG Ecology. Claire has over 20 years' experience in the private and public sectors. Claire has written and reviewed numerous ecological assessment reports. Claire undertook the review of this report.
- 2.7 A summary of each BSG staff member's experience and competence as a professional ecologist is provided at <http://www.bsg-ecology.com/people/>.

² Available at <http://citations.lercwales.org.uk/sites>

³ A 2 km search area was considered to be proportionate based on the size and nature of the scheme.

⁴ The surveys were completed during suitable weather conditions, 18-20°C, warm, dry and breezy, with good visibility.

3 Results

Desk Study

Designated Sites

- 3.1 MAGIC identified 2 statutory designated sites (Sites of Special Scientific Interest, SSSIs) within 2 km of the Site boundary; these are:
- **Eglwys Nunydd Reservoir SSSI** is located 0.66 km southeast of the Site and is notified as the 'largest sheet of fresh water in the County', supporting a large number of winter waterfowl and passage migrants.
 - **Margam Moors SSSI**, is located 1.05 km southwest of the Site and is notified as the last example of once extensive coastal levels in West Glamorgan, which supports many plants (on the edge of their geographic range) and nationally important invertebrate species.

Non-statutory Designated Sites

- 3.2 There are 3 locally designated Sites of Interest for Nature Conservation (SINCs) within 2 km of the Site, these are:
- **Junction 38 Wetland Complex SINC** is located approximately 5 m from the Sites fringes in its northern, western and southern edges (see **Section 7**, photographs 1 and 2). The SINC is described as a "*cohesive wetland site comprised of wet woodland, reed beds, ditches, and marshy grassland*". Qualifying features including native woodland (semi-natural woodland with a wet woodland component), lowland fen and purple moor-grass and rush pastures. Important species noted are water vole *Arvicola amphibius*, otter *Lutra lutra*, grass snake *Natrix helvetica*, common lizard *Zootoca vivipara*, reed bunting *Emberiza schoeniclus* and Cetti's warbler *Cettia cetti*.
 - **Eglwys Nunydd SINC** is located approximately 0.71 km south of the Site. The Site is described as a "*supply reservoir in Margam*" which is "*extremely rich in migrant and resident bird species, a great number of which are Schedule 1 and Section 7 species*". Qualifying features include native woodland, scrub communities, lowland fen, reedbed, eutrophic standing waters, open mosaic habitat on previously developed land and Cetti's warbler. Other important species noted include barn owl *Tyto alba*.
 - **Margam Country Park SINC** is located approximately 0.73 km to the west of the Site. The Site is a large area of parkland and is important for several bat species. Qualifying features include wood pasture and parkland, ponds, mosaic habitats (including marshy grassland woodlands scrub and neutral grassland) a mosaic of habitats and buildings and mammals (specifically bat roosts, supporting 14 of 18 bat species in the UK). Important species noted include lesser horseshoe bat *Rhinolophus hipposideros*, greater horseshoe bat *Rhinolophus ferrumequinum*, barbastelle *Barbastella barbastellus*, brown hare *Lepus europaeus* and adder *Vipera berus*.

Habitats

- 3.3 The habitats within the Development Footprint are limited to artificial or built habitats which have negligible ecological value. They are described below with reference to their habitat classifications. Contextual and reference photographs are presented in **Section 7**.

Bare ground (J4)

- 3.4 The majority of the Site comprises compacted unsealed / bare ground with a layer of gravel and small stones covering the surface (see **Photograph 2** and **3**). This area is used to store materials and temporary containers including skips and pallets and is frequently disturbed by Site staff. Vegetation in this area is sparse, restricted to patchy coverage along habitat edges and limited to colonising species commonly found on thin soils on disturbed / waste ground. Species noted include annual meadow grass *Poa annua*, cock's-foot grass *Dactylis glomerata*, broadleaved plantain *Plantago major*, oilseed rape *Brassica napus* and smooth sow-thistle *Sonchus oleraceus*.

Built habitat (J3)

- 3.5 Two areas of hard standing are present within the development footprint. One is in the centre of the developable area, a 374 m² area of poured concrete which forms the foundations to a small storage warehouse (since removed) measuring approximately 20 m by 10 m in area, and a short access road (see **Photograph 1**). The second area is a partially surfaced road which forms part of the entrance to the main Site.

Buildings (3.6)

- 3.6 There are several collections of temporary buildings comprising shipping containers and cabins on areas of bare ground across the development footprint.

Table 1: Summary of existing habitats

Habitat Code	Habitat	Area (m ²) *	% of Development Footprint
J3	Built-up areas (inc. hardstanding)	930	38
J3.6	Built-up areas (buildings)	347	14
J4	Bare ground	1170	48
Total		2447	100

*All area measurements have been determined using aerial imagery and may not be exact.

Protected species

- 3.7 As the Development Footprint comprises built / artificial habitats which form part of a secured working energy plant and opportunities to support or attract foraging, resting or commuting protected / notable species are negligible.
- 3.8 However, immediately adjacent to the Development Footprint is an approximate 5 m wide (0.15 ha in size) band of neutral grassland and a reptile hibernaculum (see **Photographs 2 and 3**) which are managed under objectives within the consented LEMP (BSG Ecology, 2020) associated with the previous planning consents. Further, the wet woodland associated with Junction 38 Wetland Complex SINC is located approximately 5 m from the Development Footprint, beyond the band of grassland.
- 3.9 These habitats provide sheltering and foraging opportunities for common amphibians and reptiles (including those associated with Junction 38 Wetland Complex SINC), invertebrate species, and other notable / protected mammal species (i.e., hedgehog). The woodland band offers potential opportunities for roosting and foraging bat species (including those associated Margam Country Park SINC), hazel dormouse and breeding bird species.
- 3.10 Bats and hazel dormouse are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and under Schedules 5 & 6 of the Wildlife and Countryside Act 1981 (as amended) (W&CA). All nesting birds are protected under Section 1 of the W&CA with greater protection afforded to species listed on Schedule 1 of the W&CA and all reptiles are afforded protection under Schedule 5 W&CA.
- 3.11 Other notable species including hedgehog, common toad, several bird and invertebrate species are listed as species of principal importance (a priority species) under Section 7 of the Environment (Wales) Act 2016.

4 Potential Impacts and Mitigation

- 4.1 This section presents an interpretation of the results and highlights potential impacts of the proposed development on the features identified in **Section 3**. Recommendations for further ecological survey, mitigation, and compensation measures, to avoid / reduce potential impacts are also made here. Opportunities for biodiversity enhancement are presented in **Section 5**.

Potential impacts

Designated sites

- 4.2 There are two statutory designated sites within 2 km of the Site. No direct (i.e., loss and modification) impacts are anticipated as a result of the proposed development. Given the distance between them and the Site, and the small scope of works, no indirect impacts (e.g., degradation, noise / visual disturbance or pollution effects) are anticipated.

Non-statutory designated sites

- 4.3 There are three non-statutory designated sites / SINC's within the search radius. The closest is Junction 38 Wetland Complex SINC, approximately 5 m from the proposed Development Footprint.
- 4.4 No direct (i.e., loss and modification) impacts are anticipated on the habitats (wet woodland) associated with Junction 38 Wetland Complex SINC.
- 4.5 Indirect impacts on the SINC (e.g., accidental damage, degradation, pollution effects and increased lighting (the latter during the construction phase only)) could occur as a result of the proposed works.
- 4.6 Increased visual and noise impacts are not anticipated for habitats or species associated with the SINC during the construction and operational phases due to the location of the Proposed Development within an existing 24-hour operational facility. Particularly, given the proximity of the existing condenser fans (immediately adjacent to the Development Footprint), resulting in a consistent ambient noise. This includes breeding bird species associated with Junction 38 Wetland Complex SINC, as these breed in wetland habitats (such as reed beds) not woodland habitats which border the Site. Increased lighting impacts are not anticipated during the operational phase as no additional lighting is proposed.
- 4.7 It is unlikely that the remaining two SINC's located at over 700 m from the Site will be significantly adversely affected given the distance between them and the Site.

Habitats

- 4.8 The habitats within the Development Footprint are built / artificial habitats which offer negligible ecological value, therefore the loss of these will not result in any direct or indirect impact.

Protected species

- 4.9 The habitats within the Development Footprint are built / artificial habitats which offer negligible opportunities to support protected and notable species, and no direct or indirect impacts to protected / notable species is anticipated by the loss / modification of these habitats.
- 4.10 Habitats adjacent to the Proposed Development, including those associated with Junction 38 Wetland Complex SINC, may support a range of protected and notable species (i.e., foraging and roosting bats, hazel dormouse, breeding birds and hedgehog). Whilst no direct impacts are anticipated to these, indirect impacts resulting in killing, injury, displacement or disturbance through accidental damage or pollution effects could occur (in the absence of appropriate safeguarding / mitigation).

- 4.11 Additionally increased lighting of boundary woodland habitat (during the construction phase only) may result in localised displacement of foraging or roosting bat species, hazel dormouse (if present) and breeding birds.
- 4.12 As above, given the proximity of the habitat for these protected species to the existing facility and the baseline noise level, no significant increase in noise impacts are anticipated during the construction or operational phases of the proposed development.

Proposed safeguarding / mitigation

Designated sites

- 4.13 To avoid indirect impacts (accidental damage) to habitats associated with Junction 38 Wetland Complex SINC during construction, all works will be contained to hardstanding and built habitats within the Site, this includes any materials storage, construction compounds, vehicle access / turning circles etc. Temporary high visibility fencing will be installed along the western most edge of the grassland (close to the main Site access) to ensure no accidental damage or access occurs during the construction phase.
- 4.14 Additionally, to avoid degradation or pollution effects, standard measures for pollution prevention (in relation to watercourses and designated sites) (Environment Agency, 2007, in lieu of updated guidance) should be employed throughout the construction phase.

Protected species

- 4.15 Impacts (including accidental damage / pollution effects) will be avoided by restricting works to the Development Footprint, existing built habitats within the Site and temporary fencing (see paragraph 4.7) and adherence to standard measures for pollution prevention (see paragraph 4.8).
- 4.16 Construction works will be timed, to minimise night-time working to minimise disturbance to bats and hazel dormouse. If required, artificial light to aid construction installed with reference to good practice guidance (BCT and ILP, 2023⁵). Artificial light used will be minimised, with any used designed to minimise light spillage outside active construction areas and will be directed away from the Development Footprint / Site boundary.
- 4.17 Provided the safeguarding / mitigation measures above are implemented, no significant adverse effects on protected habitats or species are likely to arise as a result of the proposed development.

⁵ BCT and ILP (2023). *Guidance Note GN08/28 - Bats and artificial lighting at night*. ILP. [‘Bats and Artificial Lighting at Night’ ILP Guidance Note update released - News - Bat Conservation Trust](#).

5 Compensation and Biodiversity Net Benefit

Compensation

- 5.1 The consented LEMP (BSG Ecology, 2020) for (ref. P2016/0949) proposed to deliver 1,254.91 m² of species rich neutral grassland and a SuDS feature measuring 55.96 m² instead it is proposed to deliver 813.72m² of species rich neutral grassland⁶ and 56.93 m² of raised planters. These will be planted with a mixture of trees, shrubs and flowering herbs (native and ornamental species), which are known to benefit pollinators and are well suited for this type of cultivated environment.
- 5.2 The breakdown of areas proposed by each scheme is summarised within **Table 2**, below.

Table 2: Area of habitat creation proposed by the consented original scheme and current proposed scheme.

Feature	Original LEMP (proposed)		Current proposal		Difference (m ²)
	Area (m ²)	Area (ha)	Area (m ²)	Area (ha)	
Neutral grassland	1254.91	1.25	813.72	0.81	- 441.19
Building	582.08	0.58	516.47	0.52	- 65.62
SuDS feature	55.96	0.06	0.00	0.00	- 55.96
Bare ground	556.38	0.56	1062.22	1.06	+ 505.84
Raised planters	0.00	0.00	56.93	0.06	+ 56.93
Total	2449.34	2.45	2449.34	2.45	

- 5.3 The proposed development will result in a loss of 384.26 m² of soft landscaping / habitat creation approved within the existing scheme (but not created, see paragraph 1.4).
- 5.4 To compensate for the reduction of soft landscaping area the current proposal includes the planting of no. 10 small trees within the enhancement area. The trees will include species of local provenance and will include native fruiting species to benefit a range of protected and notable species within the immediate locale. The species recommended include a mixture of rowan *Sorbus aucuparia*, hawthorn *Crataegus monogyna* and hazel *Corylus avellana*, bird or wild cherry *Prunus padus* or *P. avium* and / or crab apple *Malus sylvestris*.
- 5.5 The proposed tree planting will increase the diversity of the range of habitats created within the scheme and the overall adaptability and resilience of habitats created.

Biodiversity Net Benefit

Policy Requirements

- 5.6 Chapter 6 (Distinctive and Natural Places) of PPW 12 was published in February 2024 with the aim of ensuring the planning system in Wales meets the challenges set out in the Global Biodiversity Framework, the Biodiversity Deep Dive recommendations developed in response to this (Welsh Government, 2022), and the Duty, under Section 6 of the Environment (Wales) Act 2016, to maintain and enhance biodiversity and ecosystem resilience in Wales.
- 5.7 The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental, and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation and resultant duties.

⁶ The grassland will be fenced to avoid accidental damage by site staff.

- 5.8 The key aspects of achieving policy compliance are therefore illustrating how biodiversity has been considered in the design of the scheme and how biodiversity net benefit and increased ecosystem resilience will be achieved through the application.

Biodiversity Net Benefit Commitments

- 5.9 To demonstrate how biodiversity net benefit has been considered and will be achieved, it is necessary to demonstrate:
- How the stepwise approach to securing a net benefit for biodiversity has been applied.
 - How ecosystem resilience will be demonstrably achieved through the development process.

Stepwise Approach to Biodiversity Enhancement

Baseline

- 5.10 The approach taken was to assess the Development Footprint for the presence of important habitats, and whether there was potential for protected species to occur. The assessment concluded the Development Footprint has little to no ecological value and does not offer any opportunities to support or attract protected species.

Site Design

- 5.11 Whilst there were no ecological features to consider or avoid within the Site design phase, the Site design was informed by the potential enhancement opportunities offered by scheme. Consideration for additional features including SuDs / temporary ponds and wetland habitats was discussed however, the presence of existing underground facilities and cables, options for excavation within the Development Footprint are restricted. Where excavations are permitted, the decision was made to focus on tree planting and reptile banks (see paragraph 5.5 and 5.15 respectively).

Avoidance and mitigation measures

- 5.12 Following the Site design phase the following recommendations for avoidance / mitigation measures have been made. Following the Site design phase and a review of residual impacts, the following recommendations for avoidance / mitigation measures have been made:
- Restricting works to within the Development Footprint or hardstanding and built habitats within the Site and installation of temporary high visibility fencing.
 - Adoption of standard measures for pollution prevention (in relation to watercourses and designated sites) (Environment Agency, 2007, in lieu of updated guidance).
 - Restriction of construction hours to minimise night-time working and limit requirement for artificial lighting aids. Where required any artificial lighting will be directed away from boundary retained habitats and features.

Compensation measures

- 5.13 No measures to compensate for the loss of habitats within the Development Footprint is proposed (given the limited ecological value).

Enhancement opportunities

- 5.14 The Proposed Development will deliver the following enhancement measures:
- Installation of no. 2 bat boxes on new buildings. These will include external bat boxes such as the Beaumaris Bat Box (or similar suitable alternative). The boxes will be positioned so that there is a clear flight path to the box entrance and final positioning should be undertaken under direct guidance of an ecologist.

- Installation of no. 3 bird boxes on new buildings. These will include two 'general' bird boxes (with 28 mm entrance) and one open fronted bird box⁷. The boxes will be positioned so that there is a clear flight path to the box entrance and final positioning should be undertaken under direct guidance of an ecologist.
- Incorporation of a free draining, south facing bund within grassland to create additional habitat for invertebrate nesting and reptiles. The bund would broadly follow the specifications of the backing bank in the original LEMP and will be approximately 2 m wide by 1 m high. The bund will be seeded as grassland, as elsewhere, but will need to be monitored to ensure some areas of bare ground / stone remain available for basking reptiles.

5.15 The enhancement measures for ecology receptors and wider biodiversity interest features will be detailed within a LEMP. The LEMP will also include an appropriate monitoring scheme to ensure the enhancement measures are delivered in accordance with the principles above.

Ecosystem resilience

5.16 Ecosystem resilience is defined as “the capacity of ecosystems to deal with disturbances, either by resisting them, recovering from them, or adapting to them, whilst retaining their ability to deliver services and benefits now and in the future” (NRW, 2016). The opportunities outlined above seek to create and enhance habitats in line with this definition. Once implemented, the enhancements will help increase resilience in the local area, by providing connections between existing resources, the biodiversity of habitats to provide resilience to potential disease or changes in climate, and a long-term commitment to management.

Achieving Ecosystem Resilience

5.17 Ecosystem resilience is defined as “the capacity of ecosystems to deal with disturbances, either by resisting them, recovering from them, or adapting to them, whilst retaining their ability to deliver services and benefits now and in the future” (NRW, 2016). The opportunities outlined above seek to retain and enhance habitats in line with this definition. Once implemented, the enhancements will help increase resilience in the local area, by providing connections between existing resources, an increase in condition / extent of priority habitats locally and a long-term commitment to management.

Table 3: Assessment of the project against DECCA Framework.

DECCA Framework Element	Definition (CIEEM, 2022)	Relevant Project Measures
Diversity	<i>“Maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits”.</i>	Installation of the reptile bank will increase the structural diversity of the created habitats and provide new habitat niches.
Extent	<i>“Incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance”.</i>	Provision of bat and bird boxes offers an increased extent of roosting / nesting resource for these species delivered by the Development Footprint.
Condition	<i>“The condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance.”</i>	The condition of the habitats will be maintained by a long-term management plan

⁷ To suit species including robin *Erithacus rubecula*, wren *Troglodytes troglodytes*, pied wagtails *Motacilla alba* and spotted flycatchers *Muscicapa striata*.

DECCA Framework Element	Definition (CIEEM, 2022)	Relevant Project Measures
	<i>Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc”.</i>	alongside existing management objectives delivered elsewhere within the wider Site. Additionally, provision of bat / bird boxes increases breeding and sheltering opportunities to build population resilience
Connectivity	<i>“This refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species, and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity”.</i>	None.
Aspects of ecosystem resilience (adaptability, recovery, and resistance)	<i>“Ecosystem resilience is a product of the above four attributes. Adaptability, recovery, and resistance to/from a disturbance are defining features of ecosystem resilience”.</i>	Adaptability of habitats increased with increased diversity, extent and improved condition.

Biodiversity Net Benefit Conclusion

- 5.18 Whilst the extent of habitat provided as part of the scheme is less than previously committed too in the LEMP, the BNB solution provided increases the Development Footprints biodiversity and condition and therefore, ecosystem resilience beyond its current baseline condition and what was proposed within the original LEMP.

6 References

BSG Ecology (2020). *Margam Green Energy Plant. Landscape and Ecology Management Plan 2020*. Newport.

Environment Agency (2007). *Pollution Prevention Guidelines*. [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/485199/pmho1107bnkg-e-e.pdf (in lieu of updated guidance).

JNCC (2010). *Handbook for Phase 1 habitat survey. A technique for environmental audit*. Joint Nature Conservancy Council. Peterborough.

Natural Resources Wales (NRW), (2016). The State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources. Technical Report. [online] Available at: <https://naturalresourceswales.gov.uk/media/681127/chapter-3-state-and-trends-final-for-publication.pdf>. Accessed 23 October 2024

7 Photographs



Photograph 1: View of the eastern edge of the development footprint, taken from its northern edge facing southeast, overlooking the main Site access on the far left and the wooded boundary of Junction 38 Wetland Complex SINC beyond the development boundary.



Photograph 2: View of the westernmost edge of the development footprint, showing hardstanding and bare ground, with the perimeter fence, and grassland creation and reptile hibernacula (created as part of the LEMP for the wider Site) beyond.



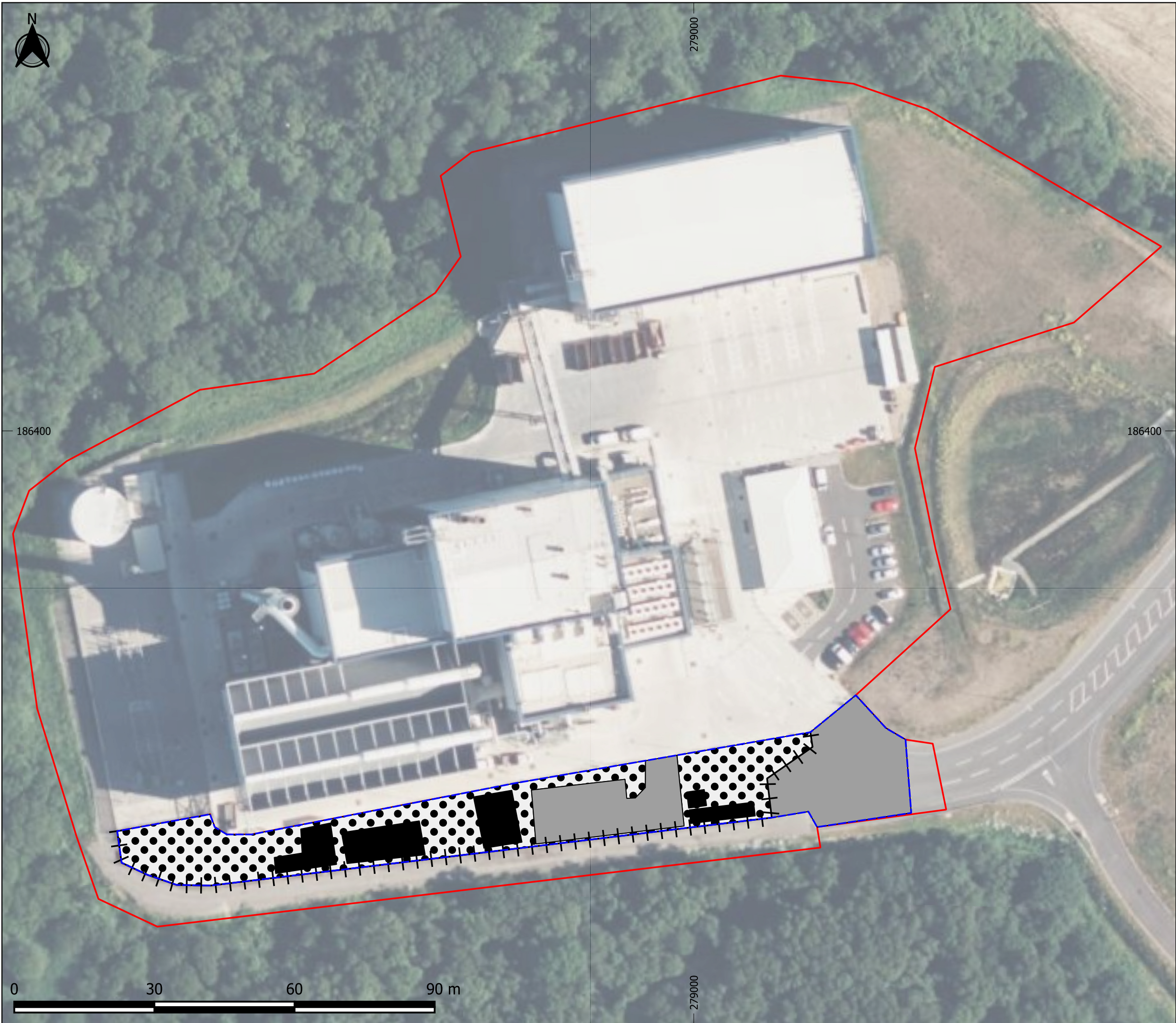
Photograph 3: View of bare ground and temporary buildings from the eastern edge of the development footprint facing west, showing sparse vegetation and materials storage.

8 **Figures**

(overleaf)

9 Appendices

(overleaf)



Legend

- Fence
- Built up areas inc. hardstanding
- Buildings
- Bare ground
- Development Footprint
- Site boundary

BSG | ecology

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JOB REF: P24-830

PROJECT TITLE
MARGAM GREEN ENERGY PLANT - SOUTH SIDE

DRAWING TITLE
Figure 1: Baseline Habitat Conditions

DATE: 27/03/2025	CHECKED: OG	SCALE: 1:775
DRAWN: KG	APPROVED: OG	VERSION:1.0

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All site dimensions shall be verified by the Contractor on site prior to commencing any works.

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Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

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

- 9.1 This section briefly summarises the legislation, policy and related issues that are relevant to the main text of the report. The following text does not constitute legal or planning advice.

Environment (Wales) Act 2016

- 9.2 The Environment (Wales) Act 2016 passed into law in March 2016. Part 1 of the Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.
- 9.3 Section 6 of the Act places a duty on public authorities to '*seek to maintain and enhance biodiversity*' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to '*promote the resilience of ecosystems*'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 in relation to Wales, and applies to those authorities that fell within the previous duty.
- 9.4 Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience. This is expanded on in sub-section (2):
- 9.5 In complying with subsection (1), a public authority must take account of the resilience of ecosystems, in particular the following aspects—
- diversity between and within ecosystems;
 - the connections between and within ecosystems;
 - the scale of ecosystems;
 - the condition of ecosystems (including their structure and functioning);
 - the adaptability of ecosystems.
- 9.6 Section 7 concerns biodiversity lists and the duty to take steps to maintain and enhance biodiversity. It replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitats in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.
- 9.7 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitats included in any list published under this section, and encourage others to take such steps.

Planning Policy Wales 12

- 9.8 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is periodically revised. The latest iteration is PPW version 12 (February 2024). Chapter 6 (Distinctive and Natural Places) sets out how the planning system in Wales meets the challenges set out in the Global Biodiversity Framework⁸, the Biodiversity Deep Dive recommendations developed in response to this (Welsh Government, 2022), and the Duty, under Section 6 of the Environment (Wales) Act 2016, to maintain and enhance biodiversity and ecosystem resilience in Wales.
- 9.9 The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation and resultant duties.

⁸ See: <https://www.cbd.int/gbf/>

Biodiversity and Ecological Networks

- 9.10 PPW sets out to outline the planning system's role in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. The following are key principles:
- Biodiversity and resilience considerations should be taken into account at an early stage in both development plan preparation and when proposing or considering development proposals.
 - All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on biodiversity and ecosystem resilience cannot be avoided, minimised or mitigated/restored and, as a last resort, compensated for, it will be necessary to refuse planning permission.
 - Development plan strategies, policies and development proposals must consider the need to:
 - support the maintenance and enhancement of biodiversity and the resilience of ecosystems;
 - ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats, including the most recent targets set out in the 2022 UN Global Biodiversity Framework;
 - ensure statutorily and non-statutorily designated sites and habitats are properly protected and managed and their role at the heart of resilient ecological networks is safeguarded;
 - safeguard protected species and species of principal importance and existing biodiversity assets from direct, indirect or cumulative adverse impacts that affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water, air and soil, including peat; and
 - secure the maintenance and enhancement of ecosystem resilience and resilient ecological networks by improving diversity, extent, condition, and connectivity.

The Section 6 Duty

- 9.11 PPW further sets out that planning authorities must demonstrate that they have sought to fulfil the duties and requirements of Section 6 of the Environment Act by taking all reasonable steps to maintain and enhance biodiversity in the exercise of their functions. PPW set out that this means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.
- 9.12 In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:
- diversity between and within ecosystems
 - the extent and scale of ecosystems
 - the condition of ecosystems including their structure and functioning;
 - the connections between and within ecosystems, and
 - the adaptability of ecosystems.
- 9.13 In fulfilling this duty, planning authorities must have regard to:
- the list of habitats and species of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
 - the SoNaRR, published by NRW;

- any Area Statement that covers all or part of the area in which the authority exercises its functions; and,
- guidance given to public authorities by Welsh Ministers under Section 6 of the Environment (Wales) Act.

Designated Sites

- 9.14 PPW states that planning authorities must have regard to the relative significance of international, national and local designations in considering the weight to be attached to nature conservation interests. PPW sets out:
- That statutorily and non-statutorily designated sites and habitats should be properly protected and managed and their role at the heart of resilient ecological networks is safeguarded.
 - Both statutorily and non-statutorily designated sites make a vital contribution to protecting biodiversity, maintaining the resilience of ecosystems and are important in providing opportunities for achieving wider well-being objectives.
 - All designated sites must be able to continue to protect the biodiversity and features for which they were designated and contribute to the resilience of ecosystems at the appropriate scale. This ability should not be compromised by inappropriate development or other activity.
 - Special Areas of Conservation, Special Protection Areas, RAMSAR sites, Sites of Special Scientific Interests, and National Nature Reserves comprising statutory designations carry greatest weight, and there is a presumption against all forms of development within such designated sites (that are not necessary for the management of the site) as a matter of principle. This presumption should be appropriately reflected in development plans and development management decisions.
 - Non-statutory designated sites should be given adequate protection in development plans and the development management process and should be considered in line with a 'step-wise' approach. Before authorising development likely to damage a local wildlife designation, planning authorities should give notice of the proposed operation to the County Ecologist and third sector environmental organisations. Policies for non-statutory sites should make it clear that such designations do not preclude appropriate developments, where there are no adverse impacts on the features for which a site is designated.

Maintaining and Enhancing Biodiversity

- 9.15 PPW states that development should not cause any significant loss of habitats or populations of species, locally or nationally and, must working alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement of, the resilience of ecosystems.
- 9.16 A step-wise approach should be worked through iteratively, with the result being a scheme of enhancement secured through the Proposed Development to provide a net benefit for biodiversity, with the improvement of ecosystem resilience, particularly improving the connectivity to the immediate surroundings, being a key contribution to on-site avoidance, minimisation, and mitigation strategies and enhancement
- 9.17 A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through securing immediate and long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the Site. The step-wise approach is the means of demonstrating the steps which have been taken towards securing a net benefit for biodiversity.
- 9.18 In doing so, regard must also be given to promoting the resilience of ecosystems, through the DECCA framework, which is framed as such:
- Diversity between and within ecosystems;
 - The extent or scale of ecosystems;

- The condition of ecosystems including their structure and functioning;
- The connections between and within ecosystems; and
- Adaptability of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change, for example.

9.19 PPW notes that a proactive and creative approach facilitating the delivery of biodiversity and ecosystem resilience outcomes must be taken by all those participating in the planning process, as all interventions contribute to a national scale resilience. The step-wise approach will help in securing a net benefit for biodiversity, with the onus on applicants to bring forward proposals in a way which will achieve a net benefit for biodiversity and demonstrate how they have used the step-wise approach.

9.20 Furthermore, PPW notes that *‘all development must deliver a net benefit for biodiversity and ecosystem resilience from the baseline state (proportionate to the scale and nature of the development proposed). Even if the biodiversity value has been maintained, there must still be a proactive process to look for and secure enhancement through the design and implementation of the development’*.

Protected Species

9.21 With regard to protected species PPW states:

- A species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained.
- Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned.
- An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre.

9.22 Developments are always subject to the legislation covering European protected species. Proposals for which development works would contravene the protection afforded to European protected species require derogations from the provisions of the Habitats Directive. A derogation may only be authorised if there is no satisfactory alternative and if the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in its natural range.

TAN 5 Nature Conservation and Planning

9.23 Technical Advice Note (TAN) 5 supplements Planning Policy Wales and provides advice about how the land use planning system in Wales ‘should contribute to protecting and enhancing biodiversity and geological conservation.’

9.24 The TAN provides guidance to local planning authorities on: ‘the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.’

9.25 In section 2.4 when deciding planning applications that may affect nature conservation, ‘local authorities should:

- contribute to the protection and improvement of the environment...seeking to avoid irreversible harmful effects on the natural environment,
- ensure that appropriate weight is attached to designated sites of international, national and local importance,
- protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans,
- ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of a development on nature conservation,
- ensure that the range and population of protected species is sustained,
- adopt a stepwise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.'

9.26 At section 3.3.2 regarding Local Development Plans policies the guidance states that a policy should be included in respect of the application of the precautionary principle.

9.27 Section 4 includes specific and detailed guidance, expanding on the principles set out in 2.4, in respect of the development control process including pre-application discussions, preparing planning applications, requests for further information and ecology in respect of Environmental Impact Assessment (EIA). The broad principles of development control requirements are set out as follows:

- 'adopting the five-point approach to decision-making – information, avoidance, mitigation, compensation and new benefits;
- ensuring that planning applications are submitted with adequate information, using early negotiation, checklists, requiring ecological surveys and appropriate consultation;
- securing necessary measures to protect, enhance, mitigate and compensate through planning conditions and obligation;
- carrying out effective planning enforcement; and
- identifying ways to build nature conservation into the design of new development.'

European protected species (Animals)

9.28 The Conservation of Habitats and Species Regulations 2017 (as amended) consolidates various amendments that have been made to the original (1994) Regulations which transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.

9.29 "European protected species" (EPS) of animal are those which are shown on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). They are subject to the provisions of Regulation 43 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:

- a. Intentionally or deliberately capture, injure or kill any wild animal included amongst these species
- b. Possess or control any live or dead specimens or any part of, or anything derived from a these species
- c. deliberately disturb wild animals of any such species
- d. deliberately take or destroy the eggs of such an animal, or
- e. intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place

- 9.30 For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—
- a. to impair their ability—
 - i. to survive, to breed or reproduce, or to rear or nurture their young, or
 - ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
 - b. to affect significantly the local distribution or abundance of the species to which they belong.
- 9.31 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in England are currently determined by Natural England (NE) for development works and by Natural Resources Wales in Wales. In accordance with the requirements of the Regulations (2017, as amended), a licence can only be issued where the following requirements are satisfied:
- a. The proposal is necessary 'to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'
 - b. 'There is no satisfactory alternative'
 - c. The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.'

Definition of breeding sites and resting places

- 9.32 Guidance for all European Protected Species of animal, including bats and great crested newt, regarding the definition of breeding and of breeding and resting places is provided by The European Council (EC) which has prepared specific guidance in respect of the interpretation of various Articles of the EC Habitats Directive.⁹ Section II.3.4.b) provides definitions and examples of both breeding and resting places at paragraphs 57 and 59 respectively. This guidance states that 'The provision in Article 12(1)(d) [of the EC Habitats Directive] should therefore be understood as aiming to safeguard the ecological functionality of breeding sites and resting places.' Further the guidance states: 'It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.'

Competent authorities

- 9.33 Under Regulation 7 of the Conservation of Habitats and Species Regulations 2017 (as amended) a "competent authority" includes "any Minister of the Crown..., government department, statutory undertaker, public body of any description or person holding a public office."
- 9.34 In accordance with Regulation 9, "a competent authority must exercise their functions which are relevant to nature conservation, including marine conservation, so as to secure compliance with the requirements of the [Habitats and Birds] Directives. This means for instance that when considering development proposals, a competent authority should consider whether EPS or European Protected Sites are to be affected by those works and, if so, must show that they have given consideration as to whether derogation requirements can be met."

⁹ Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC.