

If found guilty of an offence a person may be liable to imprisonment of up to two years, or a fine. Permits and licences may be made void where an offence is committed and a person may be banned from being granted a permit or licences again for up to 5 years.

The legislation in relation to the remaining species listed in Schedule 9 of the Wildlife and Countryside Act 1981 remains unchanged.

National Park and Access to the Countryside Act 1949 (as amended)

Local Nature Reserves (LNRs) can be given protection against damaging operations through powers within the National Parks and Access to the Countryside Act 1949. However, this protection is usually conveyed through inclusion of protection within local planning policy relating to these sites and other non-statutory sites such as Sites of Importance for Nature Conservation.

The Protection of Badgers Act 1992

Badger and their setts are protected under the Protection of Badgers Act 1992 which makes it an offence to kill, injure or take a badger, or interfere with a sett. Interference with a sett includes damaging or destroying it, obstructing access to it, causing a dog to enter it, or disturbing the badgers which are occupying it.

Hedgerow Regulations 1997

The Hedgerow Regulations 1997 set out a framework for the protection of hedgerows against removal where they are deemed to be important either due to their age, ecological or archaeological features. Approval is required from the local authority prior to the removal of hedgerows. Local authorities can enforce the retention of Important Hedgerows through the issuing of Retention Notices.

Salmon and Freshwater Fisheries Act 1975 (as amended)

The Salmon and Freshwater Fisheries Act (SAFFA) is legislation that aims to protect freshwater fish, with a particularly strong focus on salmon and trout. The legislation covers a broad range of topics, but of particular relevance to development are those sections covering water pollution, habitat disturbance and fish migration routes.

Under Section 2 (4) it is an offence to wilfully disturb spawn, spawning fish or spawning areas and under Section 4 (1) it is an offence to knowingly permit the flow of poisonous matter and polluting effluents into river courses that are poisonous or injurious to fish or the spawning grounds, spawn or food of fish. Sections 9 to 15 are concerned with fish passage and migration routes. It is the duty of the waterway owner that when constructing dams, screens or sluices to provide and maintain a facilitating fish pass for migrating salmon or trout. Section 9 allows the regulator to serve notice on the owner or occupier of a dam or obstruction, to install a fish pass where necessary. This section applies to dams

which are either new or have been altered to create an increased obstacle to the passage of migratory salmonids. It is also applicable where dams in a state of disrepair have been rebuilt over at least one half of their length.

Eels (England and Wales) Regulations 2009

This implements Council Regulation (EC) No 1100/2007 of 18 September 2007 establishing measures for the recovery of the stock of European eel. The regulations are focussed on the management of commercial eel fisheries (licences, catch returns and restocking) and the passage/migration of eels. The regulations afford powers to the regulators (Environment Agency and Natural Resources Wales) to implement eel recovery measures in all freshwater and estuarine waters in England and Wales.

Part 4 of the regulations is concerned with the passage of eels and makes it a legal requirement to notify the regulator of the construction, alteration, or maintenance of any structure likely to affect the passage of eels. This includes water intakes and outfalls, dams and weirs, sluices, or any other in-river obstruction. Where any such structure exists, the owner, occupier, or person in charge of the land on which the dam, structure or obstruction lies may be required to construct and operate an eel pass to allow the free passage of eels.

Wild Mammals (Protection) Act 1996

This Act operates in parallel with the legislation listed above conferring specific protection on rare or threatened mammal species by protecting all wild mammals from any action intended to cause unnecessary suffering.

Natural Environment and Rural Communities (NERC) Act 2006

The Act is primarily intended to implement key aspects of the Government's Rural Strategy published in July 2004; it also addresses a wider range of issues relating broadly to the natural environment. The Act also makes provision in respect of biodiversity, pesticides harmful to wildlife and the protection of birds, and in respect of invasive non-native species. It alters enforcement powers in connection with wildlife protection and extends time limits for prosecuting certain wildlife offences. It addresses a small number of gaps and uncertainties which have been identified in relation to the law on sites of special scientific interest. It also amends the functions and constitution of National Park authorities, the functions of the Broads Authority and the law on rights of way (DEFRA website September 2016).

The Environment (Wales) Act 2016

The Environment (Wales) Act 2016 replaces the duties on public bodies in Wales to conserve and enhance biodiversity in the exercise of their functions. This duty includes consideration of the resilience of ecosystems in terms of their diversity,

connectivity, adaptability, scale and condition. The Act also reinforces the duties in relation to the lists of species and habitats of importance and duties to conserve and enhance those species and habitats. Within this Chapter these are referred to as Section 7 Habitats and Species, although revised lists have not been published to date.

The Well-being of Future Generations (Wales) Act 2015

The Well-being of Future Generations Act requires public bodies in Wales to consider the long-term impacts of decisions on the social, cultural, environmental and economic well-being of both current and future generations.

In particular the Act includes a number of goals including to maintain and enhance a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change.

EIA Directive 2014/52/EU

The Directive 2014/52/EU states that EIAs shall identify, describe and assess the direct and indirect significant effects of climate change relevant to the project. The regulations implementing this directive were transposed into UK legislation in May 2017; The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations, 2107.

Policy Context

The Neath Port Talbot County Borough Council (NPTCBC) Adopted Local Development Plan (LDP) 2011-2026 includes a number of policies relating to nature conservation, in particular:

Policy EN 6 Important Biodiversity and Geodiversity Sites Development proposals that would affect Regionally Important Geodiversity Sites (RIGS), Local Nature Reserves (LNRs), Sites of Interest for Nature Conservation (SINCs), sites meeting SINC criteria or sites supporting Local Biodiversity Action Plan (LBAP) or S42 habitats or species (now referred to as Section 7 habitats and species, in response to the requirement of the Environment (Wales) Act 2016) will only be permitted where:

- They conserve and where possible enhance the natural heritage importance of the site; or
- The development could not reasonably be located elsewhere, and the benefits of the development outweigh the natural heritage importance of the site.

Mitigation and / or compensation measures will need to be agreed where adverse effects are unavoidable.

5.3.34. “Where harm to biodiversity sites is unavoidable, effective mitigation measures will be required to ensure that there is no reduction in the overall value of the area or feature. Where mitigation is not possible, compensation measures will normally be required to offset harm as far as practicable. However, compensation measures are considered to be a last resort option”.

5.3.35. “The Biodiversity Supplementary Planning Guidance (SPG) will indicate how biodiversity should be taken into account in the planning process and will also give details of the procedure for providing off-site compensation if necessary.”

Policy EN 7 Important Natural Features: “Development proposals that would adversely affect ecologically or visually important natural features such as trees, woodlands, hedgerows / field boundaries, watercourses or ponds will only be permitted where:

- Full account has been taken of the relevant features in the design of the development, with measures put in place to ensure that they are retained and protected wherever possible; or
- The biodiversity value and role of the relevant feature has been taken into account and where removal is unavoidable, mitigation measures are agreed.”

The Powys County Council (PCC) LDP includes a number of policies relating to nature conservation, in particular:

Policy DM2 – The Natural Environment: “Development proposals shall demonstrate how they protect, positively manage and enhance biodiversity and geodiversity interests including improving the resilience of biodiversity through the enhanced connectivity of habitats within, and beyond the site”.

“Development proposals which would impact on the following natural environment assets will only be permitted where they do not unacceptably adversely affect:

The important site designations, habitats and species afforded the highest levels of protection through European legislation including:

European Sites (SAC, SPA and Ramsar).

Development proposals likely to have a significant effect on a European site, when considered alone or in combination with other proposals or plans, will only be permitted where it can be demonstrated that:

- a) The proposal is directly connected with or necessary for the protection, enhancement and positive management of the site for conservation purposes; or
- b) The proposal will not adversely affect the integrity of the site.

Where it cannot be demonstrated that development proposals would not adversely affect the integrity of the site and there is no satisfactory alternative solution, permission will be refused unless:

- a) There are imperative reasons of over-riding public interest; and
- b) Appropriate compensatory measures are secured.

European Protected Species afforded strict protection by the Conservation of Habitats and Species (Amendment) (Eu Exit) Regulations 2019 (Habitats Directive Annex IV Species)."

"Development proposals likely to have an adverse effect on a European Protected Species will only be permitted where it can be demonstrated that:

- The proposal is for the purposes of preserving public health or public safety or there are imperative reasons of over-riding public interest; and
- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the habitat or population of the species concerned at a favourable conservation status in their natural range.

The important site designations, habitats and species afforded levels of protection in line with national policy and legislation including:

- National Nature Reserves and Sites of Special Scientific Interest;
- Protected Species including those listed in Wildlife and Countryside Act 1981 (as amended) and the Protection of Badgers Act 1992;
- Habitats and Species of principal importance for the purpose of maintaining and enhancing biodiversity conservation in Wales as listed in Section 7 of the Environment (Wales) Act 2016; and
- National Biodiversity Action Plan Habitats and Species."

"Development proposals likely to have an adverse effect on the conservation value of nationally protected sites, habitats or species, either directly, indirectly or in combination, will only be permitted where it can be demonstrated that:

- The proposal contributes to the protection, enhancement or positive management of the site, habitat or species; or
- There is no suitable alternative to the proposed development; and

a) It can be demonstrated that the benefits from the development clearly outweigh the special interest of the site, habitat or species; and

b) Appropriate compensatory measures are secured; and

c) The population or range and distribution of the habitat or species will not be adversely impacted.

The locally important site designations, habitats and species including:

- Local Nature Reserves;
- Local Biodiversity Action Plan Habitats and Species; and
- Regionally Important Geodiversity Sites and Geological Conservation Review Sites.”

“Development proposals likely to have an adverse impact upon these sites, habitats or species will only be permitted where it can be demonstrated that:

- They conserve and where possible enhance the natural heritage importance of the site, habitat or species; or
- The development could not reasonably be located elsewhere; and
- The benefits of the development outweigh the natural heritage importance of the site, habitat or species; and
- Mitigation and/or compensation measures are provided where adverse effects are unavoidable.

Policy DM7 – Dark skies and External lighting: “Development proposals involving external lighting will only be permitted when a lighting scheme has been provided that demonstrates that the lighting will not individually or cumulatively cause:

- Unacceptable levels of light pollution especially in the countryside.
- An unacceptable adverse effect on the visibility of the night sky.
- A nuisance or hazard to highway users including pedestrians, and local residents.
- An unacceptable disturbance to protected species.”

4.2.48 “Thought needs to be given on how external lighting schemes can avoid potential impacts to nocturnal wildlife, particularly protected species, such as bats, otters and badgers. Dark wildlife movement corridors should be left, e.g. no external lighting of boundary habitat features, wildlife corridors, and watercourses.”

4.2.49 “Protected species are a material planning consideration. The way in which protected species are considered in the planning process is detailed in TAN 518. The LDP does not repeat this guidance on how to deal with protected species and in this instance relies upon national guidance.”

Planning Policy Wales (PPW) (Edition 11)

Planning Policy Wales²⁶ (WG, 2021) sets the national policies in relation to development control through the Town and Country Planning Act 1990. This is supported by a series of Technical Advice Notes (TAN), of particular relevance is Technical Advice Note 5 (WG, 2009) which sets out the consideration of nature conservation in the determination of planning applications.

PPW 11 sets out that “planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity” (para 6.4.5). This policy and subsequent policies in Chapter 6 of PPW 11 respond to the Section 6 Duty of the Environment (Wales) Act 2016.

A recent letter from WG to Local Planning Authorities (LPAs) clarified that in light of the PPW 11, and the Environment (Wales) Act 2016, where biodiversity enhancement is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations indicate otherwise it will be necessary to refuse permission.

Future Wales

Future Wales – the National Plan 2040 provides the National Development Framework for Wales, setting out the direction for development in Wales until 2040. It addresses national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate resilience, developing strong ecosystems and improving the health and well-being of communities in Wales. It is a spatial plan and therefore sets out a direction of where development and infrastructure should be located for the good of the communities in Wales.

The principles of the Well-being of Future Generations Act are embedded within the plan, to facilitate sustainable development. Importantly, it sets out how biodiversity needs to be safeguarded, and how actions should secure the maintenance and enhancement (net gain) of biodiversity, ecosystem resilience and green infrastructure, and part of development proposals.

United Kingdom Biodiversity Action Plan (UK BAP)

In 1992 the UK signed the Convention on Biological Diversity at the Rio Convention pledging the UK to develop national strategies for the conservation and sustainable use of biological diversity. The UK Government subsequently produced Biodiversity: The UK Action Plan in 1994, which described the biological resources of the UK as a whole and in turn led to the production of

²⁶ https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

Biodiversity Action Plans for individual habitats and species.

Biodiversity policy within the UK has been revised through the publication of the UK Post-2010 Biodiversity Framework (JNCC, 2012) which covers the period from 2011 to 2020. A total of 65 Priority Habitats and 1150 Priority Species have been identified as the most in need of protection. Such species and habitats present in Wales have been listed as species and habitats of principal importance for conservation in response to the requirements of the Environment (Wales) Act 2016. They are hereafter referred to as Section 7 (S7) species.

Powys Local Biodiversity Action Plan

The Powys Local Biodiversity Action Plan²⁷ was published by the Carmarthenshire Biodiversity Partnership. It includes 17 Habitat and 28 Species Action Plans with a number of actions relating to the protection of biodiversity within the county.

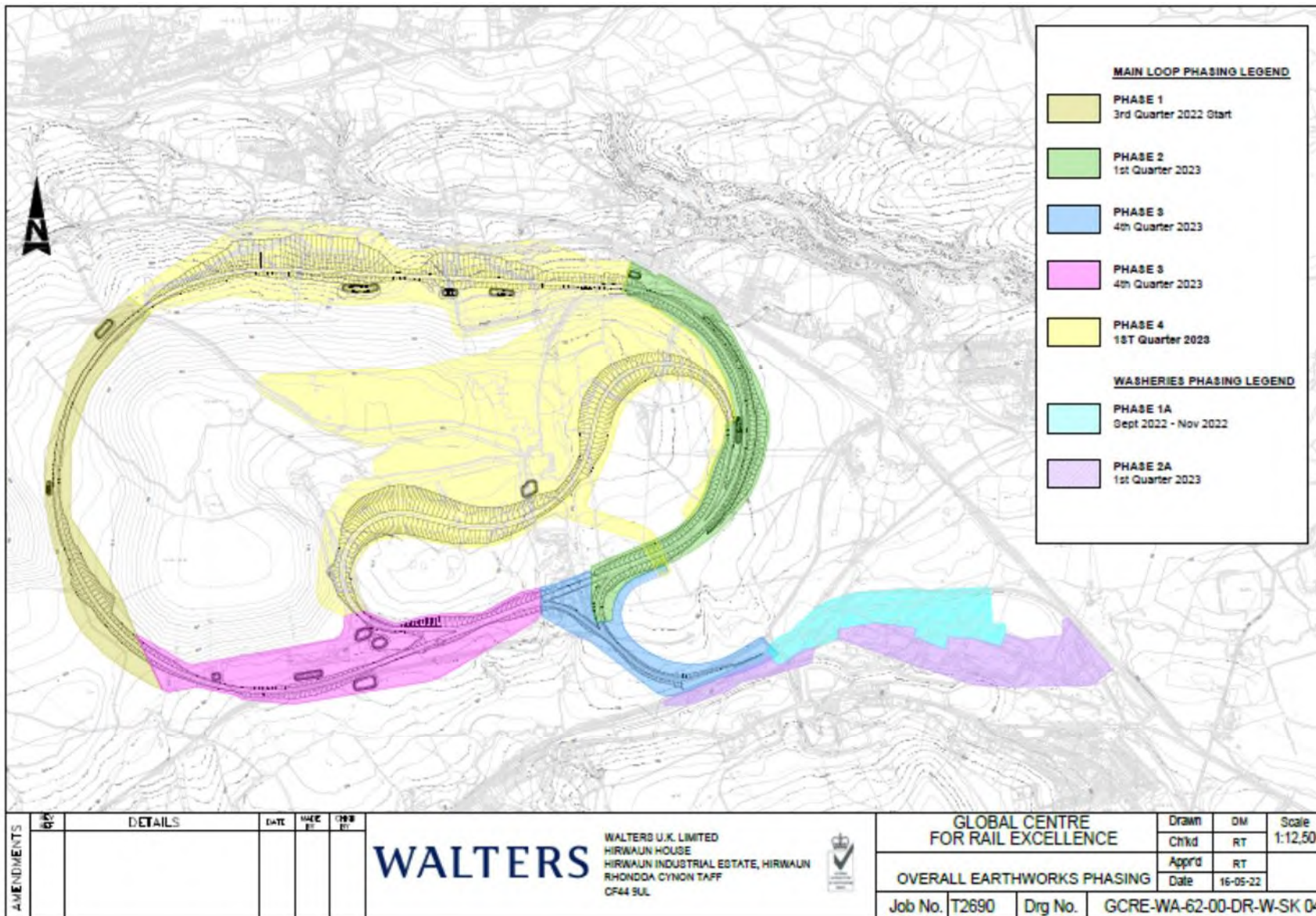
Neath Port Talbot Biodiversity Action Plan

No information is currently available on the Neath Port Talbot LBAP. The report is unpublished, due to containing confidential information on partners, and currently being revised to tie in with WG's new Nature Recovery Plan. As such the NPTCBC ecologist has recommended using the published list of habitats and species of principal importance for the purpose of maintaining and enhancing biodiversity conservation in Wales, in response to Section 7 requirements of the Environment (Wales) Act 2016 (i.e. Section 7 habitats and species).

²⁷ <https://en.powys.gov.uk/article/2553/Local-biodiversity-action-plan>. Accessed online 12/11/2019.

Appendix 3

Indicative Earthworks Phasing Plan



Note: the dates have been updated: see programme in Tables 1 and 2

Appendix 4

Ecological baseline 2018-2019

Table 11 provides a summary of ecology surveys that were undertaken to provide information on the 2018-2019 ecological baseline, and to inform the Nant Helen Complementary Earthworks ES³ and GCRE ES¹.

Table 11: Ecology survey information

Survey	Dates	Summary
Extended Phase 1 Habitat	26th November 2018, 25th April 2019, 26th April and 29th May 2019	An Extended Phase 1 Habitat survey and protected species walkover was completed of the Site in suitable conditions by two Suitably Qualified Ecologists (SQE). Further details are provided in the Extended Phase 1 report in Appendices of the GCRE ES¹. Phase 1 habitat survey is a standard technique for rapidly obtaining baseline ecological information over a large area of land²⁸. It is primarily a mapping technique and uses a standard set of habitat definitions for classifying areas of land on the basis of the vegetation present. Incidental records of flora and fauna were also made during the survey including any invasive species listed under Schedule 9 of the wildlife and countryside act 1981 (as amended), in the form of Target Notes, and the habitats identified were evaluated for their potential to support protected species and other species of conservation concern, including those listed above.
National Vegetation Classification (NVC) survey	June and July 2019	The objective was to describe the plant communities in habitats judged to be of highest value for nature conservation using NVC methods²⁹. The vegetation types initially selected for study were identified from a Phase 1 Habitat Survey report as detailed within the ES. Other habitats were also present but considered less likely to be

²⁸ Joint Nature Conservation Council (2010) Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (ISBN 0 86139 636 7).

²⁹ Joint Nature Conservation Committee (JNCC), 2006: National Vegetation Classification: A User's handbook.

Survey	Dates	Summary
		of nature conservation significance, and although initially not included in the scope for the NVC survey, some were later included. The survey was undertaken over several days in June and July 2019. A total of 127 quadrats were recorded. The quadrat areas were generally selected as being representative samples of the stand in which they occurred. The survey aimed to collect a minimum of five quadrats from each of the main plant communities, aiming to provide a reasonable representation of the vegetation type. Some unusual or poorly represented communities were sometimes described by just one or two quadrats. The quadrat data was analysed using the appropriate software and published reference sources, to determine NVC communities and sub communities present. Further details are provided in the NVC report in Appendices of the GCRE ES¹
Fungi	September, October and November 2019	A survey was undertaken to identify notable fungi species. Three walk-over survey visits were spread between September and November 2019, and which coincided with the main fungi fruiting season. Each visit involved a walk-through survey of the fungi survey plots, through vegetation considered to be of highest potential value for grassland fungi, such as old, short-grazed, semi-improved acid grassland (especially where anthills were present, indicating a long history without disturbance). The survey was restricted to three target groups that are generally recognised as being good indicators of nature conservation value for grassland fungi; namely waxcap fungi (<i>Hygrocybe spp.</i>), earth tongues (<i>Geoglossaceae</i>) and fairy clubs (<i>Clavariaceae</i>). Other fungi were also noted incidentally during the survey, but as a lower priority and most were not identified to species level except where they were readily identifiable in the field.

Survey	Dates	Summary
		Further details are provided in the Fungi report in Appendices of the GCRE ES ¹
Invertebrates	A walkover was undertaken on the 10th May 2019. Four sampling sessions were undertaken in May, June July and September 2019.	An initial site visit identified habitats likely to be of greatest importance for invertebrates. Sampling sessions were undertaken between spring and early autumn and timed to coincide with the peak periods of invertebrate activity. The main emphasis for more detailed invertebrate surveys was on those habitats likely to have the greatest invertebrate interest. Other less promising habitat types were also surveyed in less detail, with the aim being to ensure complete coverage of the whole range of main invertebrate habitats represented across the site. In addition to general spot-searching techniques, some more specialised sampling methods were used to ensure all potentially important habitat features were sampled effectively including using sweep nets, pond nets and light traps. Where subsequent microscopic examination was required in order to ensure an accurate identification, specimens were collected into tubes with either ethyl acetate or iso-propyl alcohol. Further details are provided in the Invertebrate report in Appendices of the GCRE ES
Amphibian surveys	April 2019	Seventy-six waterbodies within the Site were subject to a Habitat Suitability Assessment (HSI) ³⁰ . Waterbodies scoring above 0.5 (equating to below average and above) were then sampled for the presence of great crested newt (<i>Triturus cristatus</i>) environmental DNA (eDNA) in accordance with the approved methodology

³⁰ Amphibian and Reptile Groups of the UK (2010) Great crested Newt Habitat Suitability Index. Froglife

Survey	Dates	Summary
		endorsed by the Statutory Environmental Bodies³¹. Ten waterbodies were subject to eDNA surveys. Further details are provided in the Amphibian report in Appendices of the GCRE ES¹.
Reptile survey	Seven checks of each refugia undertaken between 6th June 2019 and 25th September 2019.	A reptile survey was carried with the aim of determining the presence or likely absence of reptiles within the Site. Habitats, which were considered most suitable for reptiles, were identified during the Extended Phase 1 Habitat survey. 250 refugia (roofing felt) were deployed in late spring 2019. Seven checks were undertaken in suitable weather, with the last check at the end of September 2019. During each survey artificial refugia was carefully checked for signs of reptiles. In addition, any natural refugia within the area, were checked for signs of reptiles. This is in line with best practice survey guidance³². Further details are provided in the Reptile survey report in Appendices of the GCRE ES¹.
Breeding bird survey	Transect surveys completed between April and June 2019.	Breeding bird surveys were undertaken within the Site, by SQE, in accordance with current best practice including the CBC³³ Techniques and Bird Monitoring methods³⁴. This comprised walking transects (the same as those used for bat surveys) to sample all accessible habitat and recording all signs of breeding using the BTO standard activity recording codes. Surveys were undertaken on three occasions between April and June 2019, between dawn and 10 am. One of the three visits was

³¹ Biggs *et al.*, (2014) Using eDNA to develop a national citizen science-based monitoring programme for the great crested newt (*Triturus cristatus*), biological conservation.

³² Froglife (1999) Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth

³³ Bibby, B.B., (2000). Bird Census Techniques. London: Academic Press.

³⁴ Gilbert, G.G., Gibbons, D.W. and Evans, J.,(1998). Bird Monitoring Methods: A manual of techniques. Bedfordshire, RSPB.

Survey	Dates	Summary
		walked in the opposite direction, to balance any temporal variation in behaviour levels. All breeding bird surveys were carried out by a team of two surveyors, with at least one experienced in undertaking ornithological survey work and able to identify birds by calls and songs, as well as visually. The transect route is walked at a slow pace, with all birds seen and heard mapped in accordance with the BTO standard activity recording codes. Focused surveys were also undertaken for Goshawk (<i>Accipiter gentilis</i>) and Honey buzzard (<i>Pernis apivorus</i>) between March and July 2019 following survey guidance³⁵. In addition, a search for barn owl was undertaken during bat surveys of trees and buildings. Further details are provided in the Breeding bird survey report in Appendices of the GCRE ES¹Error! Bookmark not defined..
Wintering bird survey	December 2018 to March 2019.	A wintering bird survey, comprising monthly visits between December 2018 and March 2019, was undertaken across the site. Transects were walked, and any bird species noted. This was undertaken in accordance with best practice survey guidance³⁶³⁷ All Wintering bird surveys were carried out by a team of two surveyors, with at least one experienced in undertaking ornithological survey work and able to identify birds by calls and songs, as well as visually. Further details are provided in the Wintering bird report in Appendices of the GCRE ES¹Error! Bookmark not defined.

³⁵ Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B., & Thompson, D. (2009). Raptors. A field guide for surveys and monitoring

³⁶ Bibby, B.B., (2000). Bird Census Techniques. London: Academic Press.

³⁷ Gilbert, G.G., Gibbons, D.W. and Evans, J.,(1998). Bird Monitoring Methods: A manual of techniques. Bedfordshire, RSPB

Survey	Dates	Summary
Riparian mammal (otter and water vole) survey	Three surveys undertaken of suitable waterbodies in spring, summer and autumn 2019 (between May and September 2019)	The otter (<i>Lutra lutra</i>) /water vole (<i>Arvicola amphibius</i>) field survey involved surveying all waterbodies (25 ponds and nine streams/ditches) present within the Site that had been identified during the Phase 1 habitat survey or Ordnance Survey data. Three otter /water vole surveys (spring, summer and autumn) were completed of each of these waterbodies between May and September 2019 (inclusive). Due to the cross-over in habitat requirements and survey methodology both species were surveyed for at the same time. The water vole survey was completed in accordance with the standard survey guidelines^{38 39} The survey comprised walking the ditch banks to search for signs of water vole presence, including but not limited to burrows, latrines, footprints, feeding remains and sightings of animals. The otter survey was conducted in line with relevant survey guidance⁴⁰. This involved accessing the watercourse and walking in-channel (where possible), to search for evidence of otter presence such as resting places, spraints, food remains, prints, slides and holts. Camera traps (Minox DTC 650) were installed at four locations within the Site to provide additional data on usage of identified features, or where a complete survey of waterbodies/courses was difficult (due to dense vegetation). The images obtained were checked for otter and water vole. Further details are provided in the Riparian mammal report in Appendices of the GCRE ES¹Error! Bookmark not defined.

³⁸ Strachan R, Moorhouse T and M Gelling (2011). Water vole conservation handbook, Third edition, Wild Cru

³⁹ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). The Mammal Society

⁴⁰ Chanin, P. (2003). Monitoring the Otter *Lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10. English Nature. Peterborough.

Survey	Dates	Summary
Bat roost survey (buildings/structures and trees)	Preliminary roost assessment survey undertaken in June and July 2019. Emergence and re-entry surveys undertaken between July and September 2019. Ground level inspection of trees in August 2019, and aerial inspections in September 2019.	All trees, buildings and structures within the Site were assessed for their suitability to support roosting bats as well as checking for signs of bats (such as dead specimens, droppings, urine splashes, fur oil - staining and/or squeaking noises by bat squeaking noises) in accordance with published guidance^{41,42}, in summer 2019. Potential roost features in either trees, buildings or structures were categorised as being of high, moderate or low suitability for use by bats in accordance with the Bats: Good Practice Survey Guidelines⁴¹. Trees, buildings and structures with potential roosting features were subject to further assessment. Trees were subject to aerial inspections by bat licensed tree climbers, to inspect these features more closely. Buildings and structures were subject to nocturnal surveys i.e. either a dawn re-entry survey or a dusk emergence survey. Those assessed as having low potential were subject to one nocturnal survey, and those of moderate potential were subject to two nocturnal surveys (a minimum of two weeks apart). Further details are provided in the bat roost survey report in Appendices of the GCRE ES¹
Bat activity (static and transects)	Monthly surveys between April and October 2019.	Bat transect surveys were undertaken monthly from April to October 2019 (inclusive) in accordance with best practice survey guidance⁴¹ transect routes, which covered the Site, were walked each month, and all bat activity recorded using bat detectors (Echo Meter touch and bat loggers). Static bat activity monitoring was also undertaken between April to October 2019, in accordance with best practice survey guidance⁴¹. Sixteen ultrasonic bat detectors are deployed in suitable habitat

⁴¹ Bat Conservation Trust (2016). Bat Surveys for Professional Ecologists (3rd Edition); Good Practice Guidelines.

⁴² Bat Tree Habitat Key (2018). Bat Roosts in Trees – A Guide to Identification for Tree-care and Ecology Professionals. Exeter: Pelagic Publishing.

Survey	Dates	Summary
		within the site and left in-situ for five consecutive nights to record calls by foraging/commuting bats within the site. Data recorded by the detectors (as Wildlife Acoustic Compression files i.e. wac files), were downloaded and processed using Kaleidoscope Pro Software to produce audio files (.wav) and zero crossing files. The processing also included the automatic identification of bat species based on the classifiers developed by Wildlife Acoustics (Bats of Europe 3.0.0). these files were then reviewed by a bat specialist to ensure the correct identification of species. A Bat Activity Index (BAI) was then calculated for each bat species at each location during each session. Further details are provided in the bat activity survey report in Appendices of the GCRE ES¹.
Badger survey	16th, 17th and 22nd May 2019	A badger (<i>meles meles</i>) survey was conducted within the Site, by SQE, to identify evidence of badger activity in accordance with the standard methodology⁴³ and the principles of other published guidance⁴⁴. Dedicated searches were made for signs of badger activity such as sett holes, footprints, latrines, hairs and paths which constitute characteristic evidence of badger presence. Further details are provided in the badger survey report in Appendices of the GCRE ES1.
Dormouse	Monthly checks between April and November 2019.	Dormouse (<i>Muscardinus avellanarius</i>) surveys were undertaken using nest tubes and boxes (279 tubes and 20 boxes), installed in suitable habitat on site during spring 2019.

⁴³ Harris, S. Cresswell, P and Jefferies, D. (1989) Surveying Badgers. The Mammal Society Publication No. 9. Mammal Society.

⁴⁴ Neal, W. and Cheeseman, C. (1996) badgers. Published by Poyser. 1st Edition.

Survey	Dates	Summary
		The tubes and boxes were carefully checked on a monthly basis by a dormouse licenced ecologist to record dormice or their nests, if present, in accordance with best practice survey guidance⁴⁵. Further details are provided in the dormouse survey report in Appendices of the GCRE ES¹.
Arboreal mammals	Transects were completed monthly between May and October 2019.	Transect and feeding stations were set up within suitable habitat identified during the Extended Phase 1 Habitat Survey (i.e. woodland) in early summer 2019: surveys and associated baiting were undertaken monthly until October 2019, by SQE. Signs of target species (i.e. red squirrel, pine martin (<i>Martes martes</i>) and polecat (<i>Mustela putorius</i>) were searched for during transects, and in video footage (including red squirrel nests, paw prints, pine martin scats, and sightings) in accordance with guidance⁴⁶⁴⁷. Any mustelid scats identified were collected and sent for DNA analysis at EcoWarwicker Ecological Forensics⁴⁸. Further details are provided in the Arboreal mammal report in Appendices of the GCRE ES¹Error! Bookmark not defined..

⁴⁵ Bright, P, Morris, P, & Mitchell-Jones, T. (2006). The Dormouse Conservation Handbook (2nd ed.). English Nature.

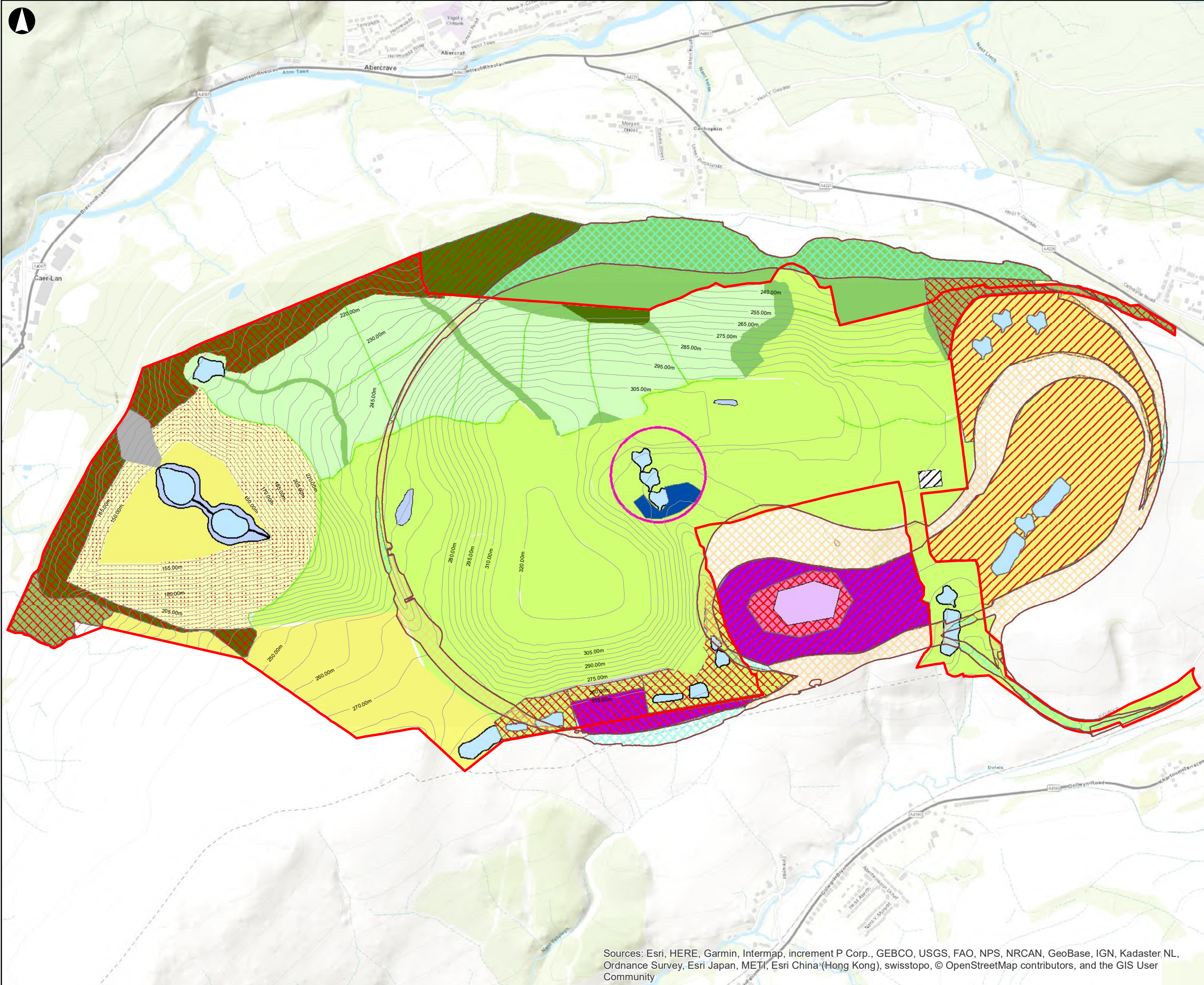
⁴⁶ O'Mahony et al. (2006). National Pine Marten Survey of Ireland 2005

⁴⁷ Gurnell et al. (2009). Practical techniques for surveying and monitoring squirrels. Practice Note. Forestry Commission

⁴⁸ https://warwick.ac.uk/fac/sci/lifesci/research/archaeobotany/ecological_forensics/.

Appendix 5

Nant Helen Habitat Creation and Enhancement Plan (Consent Earthworks Scheme – subject to revision)



Legend

Earthworks Outline

Restoration Site Boundary

Cuttings - Lichen/Heath Establishment

Embankments

HEDGEROW

<all other values>

PEATLAND

WET HEATH

HEATH EXISTING

MARSHY GRASSLAND POTENTIAL FOR ENHANCEMENT

INOCULATED HEATH/ACID GRASSLAND

POTENTIAL SPHAGNUM-RICH / FEN-MIRE

ACID GRASSLAND

ACID GRASSLAND EXISTING

ACID GRASSLAND LICHEN HEATH

BROADLEAF WOODLAND

BROADLEAF WOODLAND EXISTING

CONIFEROUS WOODLAND

CONIFEROUS WOODLAND MANAGED FOR BROADLEAVED WOODLAND

CONIFEROUS WOODLAND EXISTING

ENCLOSED PASTURE

HEATH/ACID GRASSLAND EXISTING

MARSHY GRASSLAND

POND

WETLAND

Cutting

Hardstanding

F1	2020-01-13	KSJ	CP	NH
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Issue	Date	By	Chkd	Appd
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Metres
0 162.5 325 650

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Client
Celtic Energy Ltd.

Job Title
Nant Helen Complementary Restoration Earthworks

Habitat Creation and Enhancement

Scale at A3
1:12,000

Job No 271968-05	Drawing Status For Issue
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Drawing No 7.9	Issue F1
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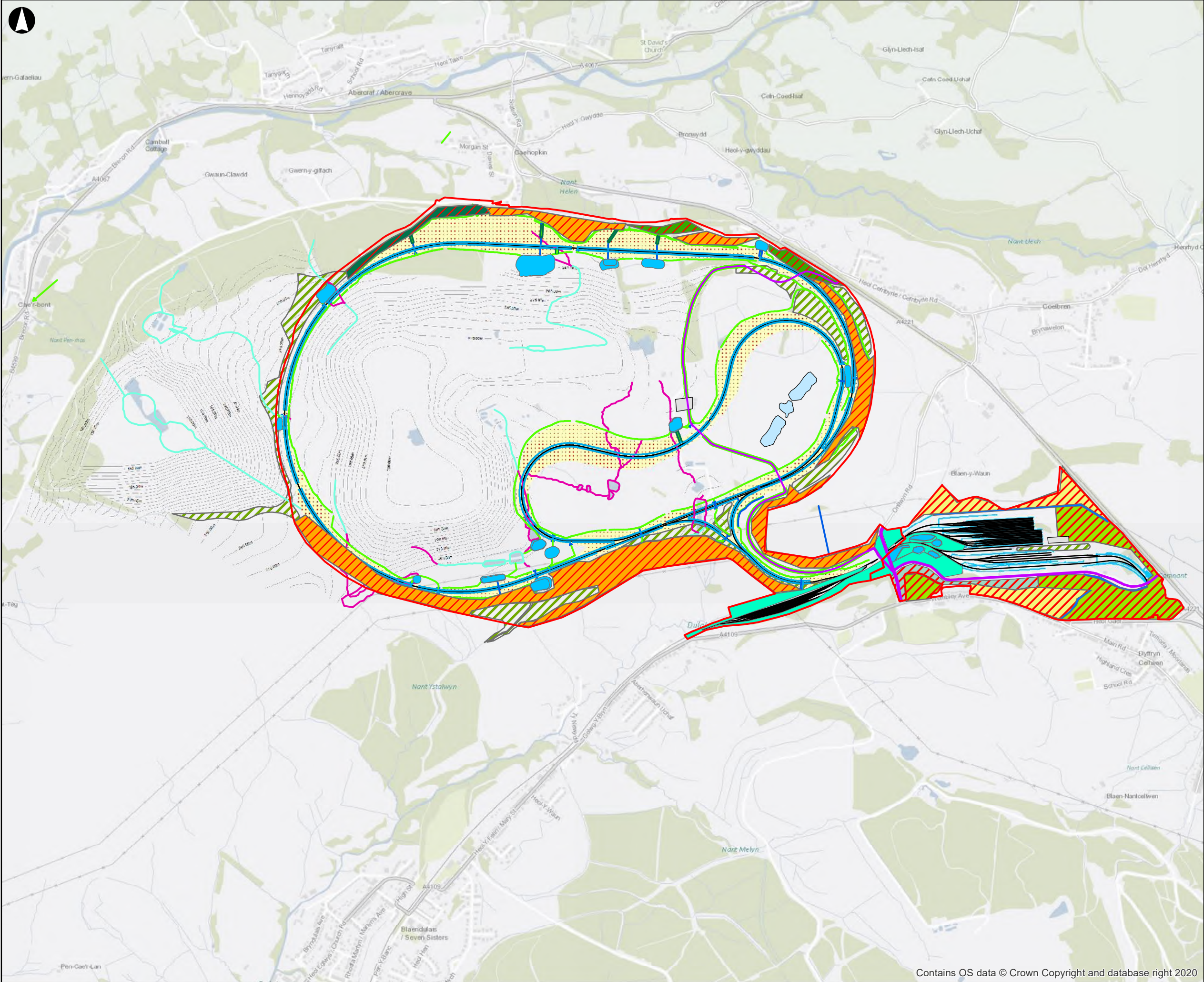
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

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© Arup

Appendix 6

GCRE Habitat Creation and Enhancement Plan (Approved outline scheme, subject to revision)



- Legend**
- Planning Development Boundary
 - Site Layout Plan
 - Access Road
 - Car Park
 - Acid Grassland Lichen Heath
 - Landscape Mitigation
 - Restoration Watercourse
 - Restoration Watercourse to be removed/discontinued
 - Proposed Cut Off Ditch
 - Proposed Carrier Drain
 - Proposed Culvert
 - Proposed Filter Drain
 - Proposed Ponds
 - Acid Grassland Potential for Enhancement
 - Marshy Grassland Potential for Enhancement
 - Mixed Woodland Potential for Enhancement
 - Retained Acid/Marshy Grassland
 - Retained Broadleaved Woodland
 - Retained Coniferous Woodland
 - Species-rich Grassland
 - Pond
 - Existing Washery Watercourse

P01.3	2021-01-20	KSJ	CP	RE
Issue	Date	By	Chkd	Appd
Meters				
0	125	250	500	

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Job Title
Global Centre for Rail Excellence

Figure Title
HABITAT CREATION AND ENHANCEMENT
HABITATS

Scale at A3
1:16,500

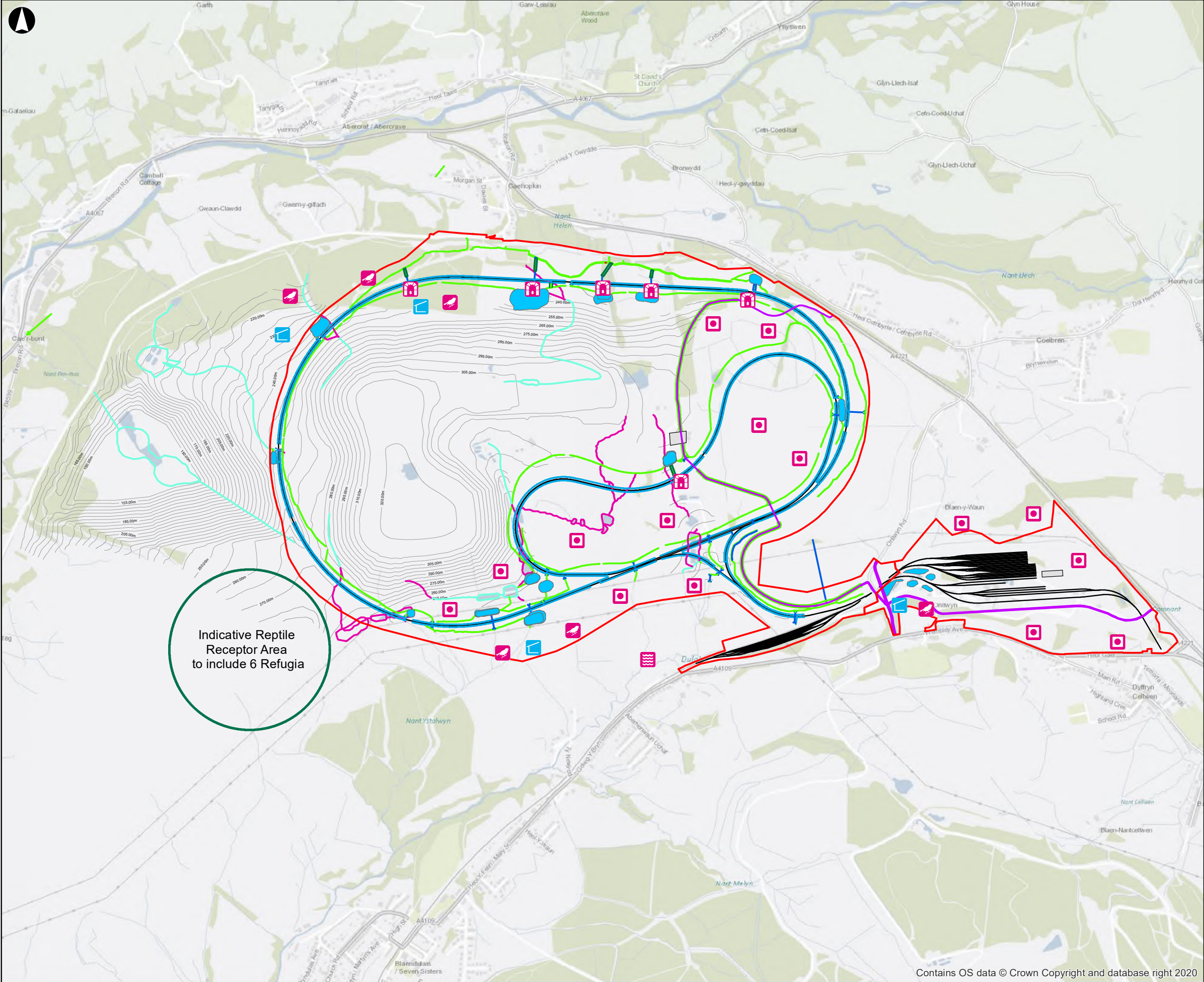
Job No 264904	Drawing Status For Issue
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Drawing No Figure 7.9	Issue P01.3
---------------------------------	-----------------------

Appendix 7

GCRE Species Enhancement Plan

(Approved outline scheme, subject to revision)



- Legend**
- Planning Development Boundary
 - Site Layout Plan
 - Access Road
 - Car Park
 - Restoration Watercourse
 - Restoration Watercourse to be removed/discontinued
 - Proposed Cut Off Ditch
 - Proposed Carrier Drain
 - Proposed Culvert
 - Proposed Filter Drain
 - Proposed Ponds
 - Indicative Wildlife Corridor Location
 - Indicative Artificial Otter Holt Location
 - Indicative Reptile Refugia Location
 - Indicative Area for 5 Bird Boxes
 - Indicative Area for 5 Bat Boxes

P01.3	2021-01-20	KSJ	CP	RE
Issue	Date	By	Chkd	Appd

Meters

0 125 250 500

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Job Title

Global Centre for Rail Excellence

Figure Title

HABITAT CREATION AND ENHANCEMENT

SPECIES

Scale at A3

1:16,500

Job No	Drawing Status
264904	For Issue

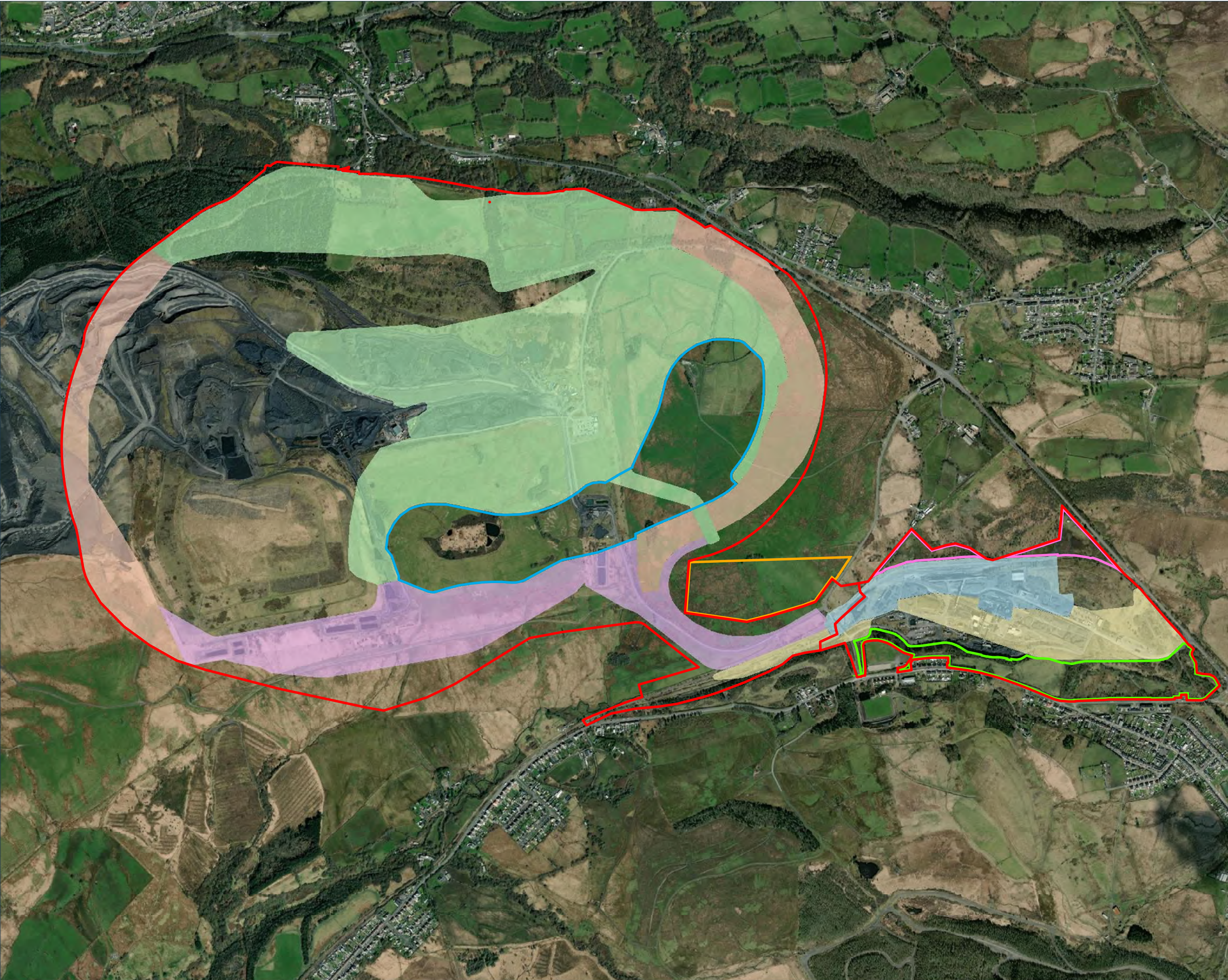
Drawing No	Issue
Figure 7.9	P01.3

Appendix 8

Indicative reptile receptor plan

**(subject to revision following final design of
adjacent Nant Helen Complementary Earthworks
scheme)**

Drawing Location: C:\Users\chloe.ingram\Documents\21006904 - Geomatics\01 DM Plans\20220721_21006904_PLN_INFO_6.1.mxd



- Key:
- Planning Development Boundary
 - Phase 1 and 2
 - Reptile Receptor Area 1a
 - Reptile Receptor Area 2a
 - Reptile Receptor Area 3 and 4
 - Phase 1
 - Phase 1a
 - Phase 2a
 - Phase 3
 - Phase 4

Notes:

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936

Interest:
N/A

Location:
Land north of Wembley Avenue, Onllwyn,
Neath, SA1 9HL

Coords: 283,343 210,970

Scheme Name:
GCRE Planning Conditions

Drawing Name:
Reptile Receptor Areas

Drawing No: 21006904_PLN_INFO_6.1

Rev	Date	Description
-	12.08.2022	First Issue

Drawn:	AF	
Approved:	CP	
Sheet No:	1 of 1	
Sheet Size:	A3	

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Appendix 9

Future Baseline Plan