

Ecological Impact Assessment



**Tyler
Grange**

**Surf Snowdonia
5th December 2024**

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Summary

- S.1. This report has been prepared by Tyler Grange Group Limited on behalf of Global Shred Ventures Ltd. It sets out the findings of an Ecological Impact Assessment at Snowdonia Lagoon at Surf Snowdonia, Conwy Road, Dolgarrog, Conwy, Wales, LL32 8QE, hereinafter referred to as 'the site'. The proposals are for the construction of a new artificial surf and beaches with seventeen lodges and associated hardstanding, access, water treatment works and landscaping.
- S.2. An 'extended' Phase 1/UK Habitat Classification (UK Habs) survey and Preliminary Bat Roost Assessment was undertaken on 17th of July 2024.
- The site comprises a disused lagoon with associated hardstanding, buildings, modified grassland and artificial unvegetated; unsealed surface, all of negligible ecological importance; and
 - All buildings and structures were found to be unsuitable for roosting bats. However the boundaries of the site, particularly offsite mature trees to the north and south have the potential to be used by foraging and commuting bats.
- S.3. Standard best practice pollution prevention measures to be incorporated into a Construction Environmental Management Plan (CEMP) for the development are deemed sufficient to protect Coed Dolgarrog National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI) located 0.15 km from the site during the construction phase.
- S.4. All of the habitats to be impacted by the proposals are of negligible ecological importance, and as such, no specific mitigation is required for the loss of these habitats. All offsite trees will be retained as part of the proposals, along with the majority of the grassland to the east of the site. During construction, damage to retained offsite habitats, namely trees, as a result of machinery use or storage of materials, could occur. In the absence of mitigation, these impacts could trigger local planning policy. Therefore, to mitigate for the impacts, all retained offsite trees will be protected by tree protection fencing, installed in line with British Standard BS5837: 2012 'Trees in relation to design, demolition and construction'.
- S.5. Overall, the creation of modified grassland is expected to improve the site overall for biodiversity and deliver a net benefit for biodiversity.
- S.6. During site clearance, should any common amphibians be identified, they should be moved carefully by hand to a vegetated area outside of construction activities. A pre-commencement check for badger is recommended prior to the start of works to ensure to new setts have been created. Precautionary working methods for badger should also be followed, these methods will also protect hedgehog and otter during the construction phase.
- S.7. Clearance of suitable habitat for nesting birds (the buildings and lagoon) should be timed outside the nesting bird season (generally taken as March to September inclusive). If any clearance works to nesting habitats are required during the nesting season, then pre-removal checks for nesting birds must be carried out by a suitably experienced ECoW, no more than 48 hours prior to the works commencing.
- S.8. Further bat activity and statics surveys should be undertaken to determine the use of the site by foraging and commuting bats.
- S.9. All buildings and structures onsite were found to be unsuitable for roosting bats and no further mitigation for roosting bats is required prior to their removal of the buildings/structures.



- S.10. It is anticipated that lighting levels post-construction will not be greater than current levels. However, any outside lighting should avoid spilling onto retained offsite habitats, namely mature trees along the north and south of the site and newly created landscape planting.
- S.11. To enhance the site for species, four bat and four bird boxes are recommended to be incorporated within the scheme, and hedgehog highways are proposed in exterior fences.
- S.12. In conclusion, in anticipation of the implementation of any necessary mitigation, the proposed development will be compliant with relevant planning policies, as well as legislation with regard to ecology.



Section 1: Introduction and Context

Introduction

- 1.1. This report has been prepared by Tyler Grange Ltd on behalf of Global Shred Ventures Ltd. It sets out the findings of an Ecological Impact Assessment (EclA) completed at Snowdonia Lagoon at Surf Snowdonia, Conwy Road, Dolgarrog, Conwy, Wales, LL32 8QE (OS Grid Reference SH 77127 67472), hereafter referred to as 'the site'. See **Figure 1.1** for the red line boundary.



Figure 1.1: Red line boundary (© Google Aerial Imagery, 2024)

- 1.2. This assessment has been undertaken to inform a full planning application for the construction of a new artificial surf and beaches with seventeen lodges and associated hardstanding, access, water treatment works and landscaping. The site proposals are shown in **Appendix 1**.

Site Context

- 1.3. The site extends approximately 3.5 ha and comprises a large lagoon surrounded by artificial unvegetated, unsealed surface with three buildings, modified grassland and hardstanding. The site is located between a hotel and activity centre in Conwy. The site is accessed from Conway Road in the west of the site and is bounded by a hotel and spa with associated landscaping, parking and hardstanding to the north, grassland with recent disturbance to the east and a activity centre including a zip wire, railway and large car park is located to the south of the site.

Purpose

- 1.4. This report:



- Uses available background data and results of the field surveys to describe and evaluate the ecological features present within the likely “Zone of Influence”¹ (ZoI) of the proposed development;
- Describes the actual or potential ecological issues and opportunities that might arise as a result of the site’s development.
- Where appropriate, makes commitments for mitigation measures for adverse effects on ecological features as well as ecological enhancements, to ensure conformity with policy and legislation listed in **Appendix 2**; and
- Can be used to inform a planning application for the site’s development.

1.5. This assessment and the terminology used are consistent with the Guidelines for Preliminary Ecological Appraisal² and the Guidelines for Ecological Impact Assessment³. A full methodology is set out in **Appendix 3**.

Methodology

1.6. Full methods for the data search, ‘extended’ phase 1/ UK Habs survey, Preliminary Roost Assessment (PRA) and a Ground Level Tree Assessment (GLTA) can be found in **Appendix 3**.

Quality Control

1.7. All ecologists at Tyler Grange Group Limited are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) or are working towards membership, and act under the direction of members and abide by the Institute’s Code of Professional Conduct⁴.

1.8. The findings of this report are valid at the time of writing. Owing to the dynamic nature of ecological resources, if more than 12 months have elapsed since the report was written, advice should be sought to determine whether update work is required. The findings of the report should not be relied upon without this advice.

¹ Defined by the CIEEM (2018) Guidelines for Ecological Impact Assessment as the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries

² CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

³ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

⁴ CIEEM (2022) Code of Professional Conduct, CIEEM, Winchester



Section 2: Ecological Features and Evaluation

Designated Sites

- 2.1. The data search was based on records purchased from Cofnod - North Wales Environmental Information Service, as well as data from the Multi-Agency Geographic Information for the Countryside (MAGIC). See **Appendix 3** for full methodology.
- 2.2. The data search returned three Natura 2000 sites within 10 km of the site, seven statutory and eleven non-statutory designated sites within 2 km of the site. These are detailed in **Table 2.1** below.



Table 2.1: Designated Sites

Designated site	Distance and direction from site	Citation	Ecological Importance
Eryri / Snowdonia Special Area of Conservation (SAC)	1.4 km west	<p>Designated for its Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> • Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea • Siliceous alpine and boreal grasslands • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels • Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) • Calcareous rocky slopes with chasmophytic vegetation • Siliceous rocky slopes with chasmophytic vegetation <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <ul style="list-style-type: none"> • Northern Atlantic wet heaths with Erica tetralix • European dry heaths • Alpine and Boreal heaths • Alpine and subalpine calcareous grasslands • Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe) * Priority feature • Blanket bogs (* if active bog) * Priority feature • Depressions on peat substrates of the Rhynchosporion • Petrifying springs with tufa formation (Cratoneurion) * Priority feature • Alkaline fens • Alpine pioneer formations of the Caricion bicoloris-atrofuscae * Priority feature • Old sessile oak woods with Ilex and Blechnum in the British Isles <p>Annex II species that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> • Slender green feather-moss Drepanocladus (Hamatocaulis) vernicosus • Floating water-plantain Luronium natans 	International
Mwyngloddiau Fforest Gwydir / Gwydyr Forest Mines SAC	5.2 km south	<p>Designated for its Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> • Calaminarian grasslands of the Violetalia calaminariae <p>Annex II species present as a qualifying feature, but not a primary reason for site selection</p> <ul style="list-style-type: none"> • Lesser horseshoe bat <i>Rhinolophus hipposideros</i> 	International
Coedydd Aber SAC	10.0 km south west	<p>Designated for its Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> • Old sessile oak woods with Ilex and Blechnum in the British Isles <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <ul style="list-style-type: none"> • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) * Priority feature 	International
Coed Dolgarrog National Nature Reserve (NNR)	0.16 km west	It contains two distinct types of woodland that include mature beech trees which is particularly good for fungi in the autumn. The other habitat type is wet alder woodland.	National
Coed Dolgarrog Site of Special Scientific Interest (SSSI)	0.16 km west	Reason for designation unknown.	National



Morfa Uchaf, Dyffryn Conwy SSSI	0.25 km north	Morfa Uchaf, Dyffryn Conwy is of special interest for its reedbed communities, which are the largest in East Gwynedd (former county), its saltmarsh communities, and transitional vegetation supporting the nationally scarce marsh pea <i>Lathyrus palustris</i> , at its only known locality in North Wales.	National
Ceunant Dulyn SSSI	1.4 km north west	A wooded river valley and ravine on the Afon Dulyn. soils support Oak <i>Quercus petraea</i> and Birch <i>Betula pubescent</i> woodland with a sparse shrub layer and a ground flora with such species as Bracken <i>Pteridium aquilinum</i> and Wavy Hair Grass <i>Deschampsia flexuosa</i> . On more basic soils, Oak again dominates, but with Ash <i>Fraxinus excelsior</i> , Wych Elm <i>Ulmus Glabra</i> and Alder <i>Alnus glutinosa</i> . A shrub layer including Hazel <i>Corylus avellana</i> occurs and a ground flora rich in such species as Creeping Buttercup <i>Ranunculus repens</i> , Wild Angelica <i>Angelica sylvestris</i> , Sanicle <i>Sanicula europaea</i> and Male Fern <i>Dryopteris filix-mas</i> .	National
Eryri SSSI	1.4 km west	It is of special interest for its upland habitats including lichen and bryophyte heath, montane heath, dry heath, wet heath, blanket bog, flush and spring, calcareous grassland, tall herb and fern ledges, vegetated scree and broadleaved woodland communities and for its inland rock exposures with crevice vegetation and low nutrient lakes, with a mixture of other habitats including acid and neutral grasslands, fen, rush pasture and marshy grassland, swamp, bracken and scrub along with a large number of streams and rivers. The site supports vascular plant species of special interest including Snowdon lily <i>Lloydia serotina</i> , floating water-plantain <i>Luronium natans</i> , tufted saxifrage <i>Saxifraga cespitosa</i> , Killarney fern <i>Trichomanes speciosum</i> , oblong woodsia <i>Woodsia ilvensis</i> and alpine woodsia <i>W. alpina</i> , along with assemblages of rock, cliff ledge and crevice plants, montane grassland plants and aquatic and marginal plants. Lower plants of special interest include the slender green feather-moss <i>Hamatocaulis vernicosus</i> , the moss <i>Seligeria brevifolia</i> , tarn lecanora lichen <i>Lecanora achariana</i> , slender stonewort <i>Nitella gracilis</i> . The fungi <i>Entoloma bloxamii</i> and <i>Hygrocybe spadicea</i> are also present. The site also supports large assemblages of bryophytes and lichens of special interest. The site is also of special interest for chough <i>Pyrrhocorax pyrrhocorax</i> and for an assemblage of upland moorland and grassland birds.	National
Plas Maenan SSSI	1.6 km south east	Plas Maenan is host to a large colony of lesser horseshoe bats in the cellar tunnel complex, with an average of 170 in the summer roost.	National
Mwyngloddiau a Chreigiau Gwydyr SSSI	2 km south	This site consists of a large number of isolated areas of disused mine workings and spoil heaps. The different parts of the site are of special interest for their geological features, plant assemblages and their use by bat colonies as hibernation sites including lesser horseshoe bat. Other bat species which are found in the mine systems are Daubenton's bat <i>Myotis daubentonii</i> , whiskered bat <i>M. mystacinus</i> , brown long-eared bat <i>Plecotus auritus</i> , pipistrelle bats <i>Pipistrellus</i> sp., and Natterer's bat <i>M. nattereri</i> .	National
Afon Porth-llywd Wildlife Sites	0.26 km north west	Running water. Extent of interest uncertain.	County
Ceunant Porth Llwyd Wildlife Sites	0.27 km north west	Broadleaved woodland.	County
Pont Dolgarrog Marsh Wildlife Sites	0.35 km south east	Improved grassland and fen with wintering birds.	County
Coed Tal-y-bont Wildlife Sites	0.44 km north west	Broadleaved woodland.	County
Firs Cottage Wood Wildlife Sites	1.1 km north east	Broadleaved woodland.	County
Sewage Works Wildlife Sites	1.2 km north	Broadleaved woodland.	County
Afon Dulyn, Tal-y-Bont Wildlife Sites	1.3 km north	Running water and broadleaved woodland.	County
Plas Maenan Grassland Wildlife Sites	1.4 km south east	Neutral grassland.	County
Coed-y-Borthol Wildlife Site	1.7 km north east	Coniferous woodland.	County
Coed Plas Maenan (N) Wildlife Sites	1.7 km south east	Broadleaved woodland.	County
Ty-Bach Meadow Wildlife Sites	1.8 km north east	Neutral grassland.	County
Coed Cefn-y-coed Isaf Wildlife Sites	1.8 km north east	Broadleaved woodland.	County



Habitats and Flora

- 2.3. The habitats present onsite are summarised below in **Table 2.2**, along with a description of the composition of the main plant species present and an assessment of their ecological importance. The location of habitats are shown on the Habitats Features Plan **17210/P01**.



Table 2.2: Habitats and Flora

Habitat	Description and Species	Ecological Importance	Photograph
<p><u>Primary code:</u> Developed land; sealed surface u1b</p>	<p>A hardstanding access road leading to the buildings and lagoon is located in the west of the site and a narrow section around the eastern end of the lagoon.</p>	<p>Due to the inherent lack of species diversity and value to local fauna associated with this habitat, it is considered to be of negligible ecological importance.</p>	
<p><u>Primary code:</u> Buildings u1b5</p>	<p>Four buildings are present onsite. Two are located on the artificial lagoon and one is located in the north west of the site. The other building is located immediately adjacent the south west corner of the lagoon, see 17210/P01. The full description of the buildings are provided in Table 2.3 below.</p>	<p>Due to the inherent lack of species diversity and value to local fauna associated with this habitat, it is considered to be of negligible ecological importance.</p>	
<p><u>Primary code:</u> Artificial unvegetated; unsealed surface u1c</p>	<p>The artificial lagoon is surrounded by artificial unvegetated, unvegetated surface comprising astroturf with no vegetation present.</p>	<p>Due to the inherent lack of species diversity and value to local fauna associated with this habitat, it is considered to be of negligible ecological importance.</p>	



Habitat	Description and Species	Ecological Importance	Photograph
<p><u>Primary code:</u> Standing open water r1</p>	<p>The majority of the site comprises an existing lagoon (standing open water), which is a HPDE-lined waterbody with no vegetation.</p>	<p>Due to the lack of vegetation and artificial nature of the lagoon, it is considered to be of negligible ecological importance.</p>	
<p><u>Primary code:</u> Modified grassland g4</p>	<p>Surrounding the surf lagoon to the east is an area of closely mown modified grassland. The heavily managed nature of this habitat there is a low species diversity associated with this habitat</p>	<p>Due to the heavily managed and low species diversity of this habitat, and the wider availability in the surrounding landscape, it is considered to be of negligible ecological importance.</p>	



Protected and Notable Species

- 2.4. The below section sets out the potential for protected species on site. Species which are considered likely absent from the site based on professional judgement, following consideration of the habitats within the site, signs of species presence at the time of survey and data search records, are not discussed.

Amphibians

- 2.5. The data search returned no records of great crested newt or common toad *Bufo bufo* within the 2 km search area.
- 2.6. The artificial lagoon is considered unsuitable to support breeding great crested newt due to its size, lack of vegetation within the lagoon which is required for egg laying. There are no waterbodies within 250 m of the site. The river Conwy is located 0.7 km east of the site with the Afon Porth Ilwyd (river) located approximately 0.1 km north of the site. However, as both these watercourses are flowing, they are not suitable for great crested newt and would act as a barrier to dispersal for great crested newt within the wider landscape. The lagoon is surrounded by artificial and sealed surfaces to the north, south and west which provided limited opportunities for great crested newt within their terrestrial phase. Due to the lack of breeding habitat or connectivity to suitable waterbodies within the wider landscape, great crested newt are considered **absent from the site and are not discussed further within the report**.
- 2.7. The lack of vegetated habitats onsite also limits opportunities for more mobile amphibian species, such as common toad. Common toads are a priority species under The Natural Environment and Rural Communities (NERC) Act 2006⁵. However, the species could potentially use the lagoon for shelter and it is considered that any population of toads utilising the site, will also be using further habitat beyond the site boundary and will therefore not be reliant on the site alone. As such, any population of common amphibians onsite would be of **negligible ecological importance**.

Badger *Meles meles*

- 2.8. The data search returned twenty-one records of badger within 2 km of the site, the closest was approximately 0.5 km south west of the site. During the 'Extended' Phase 1 / UK Habitat Survey, no badger activity or evidence of badger was recorded, in the form of setts, mammal runs, latrines or hairs. It is therefore concluded that badger are currently absent from the site.
- 2.9. The developed nature of the site and surrounding landscape make it unlikely that badger would utilise the site. However, opportunities for sett excavation and foraging habitat are present within the wider landscape.
- 2.10. It is considered that any badger population that may use the site for foraging and commuting is of **negligible ecological importance**. Nevertheless consideration for badgers during construction to avoid a breach of legislation is discussed in **Section 3** of this report.

Bats

- 2.11. The data search returned records for seven bat species within 2 km of the site. Species included common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctule*, lesser

⁵ Section 40 of the NERC Act puts a duty on local authorities to have regard for the conservation of species and habitats listed at Section 41, including when considering planning applications.



horseshoe, brown long-eared, natterer's bat *Myotis nattereri* and whiskered/brandt's bat *M. mystacinus/brandtii*. The closest record is for a lesser horseshoe roost located approximately 15m north of the lagoon within an old air raid shelter, and a bat shed is also located to the north of the site.

Bat Activity

- 2.12. The lagoon and surrounding offsite mature trees have the potential to provide opportunities for foraging bats with the trees also providing commuting potential to the wider landscape. No surveys for foraging and commuting bats has currently been undertaken.

Preliminary Bat Roost Assessment (PRA)

- 2.13. A PRA and GLTA was conducted alongside the 'extended' Phase 1 Habitat survey. This assessment was carried out on the buildings, structures and trees on and directly adjacent to site, which may be impacted by the development. See **Appendix 3** for methodology, **Table 2.3** below for the PRA results, and the Habitat Features Plan **17210/P01** for locations of the buildings.
- 2.14. All buildings and structures onsite were assessed as having **negligible bat roosting potential** to support roosting bats.



Table 2.3: PBRA Results

Structure and Suitability	Potential Roost Feature (PRF)	Photograph
<p>Building B1</p> <p>Negligible Bat Roosting Potential</p>	<p>B1 is a concrete building within the lagoon.</p>	
<p>Building B2</p> <p>Negligible Bat Roosting Potential</p>	<p>B2 is a concrete building within the lagoon.</p>	
<p>Building B3</p> <p>Negligible Bat Roosting Potential</p>	<p>Building B3 is a single storey building with wooden boarding and a half pitched roof.</p>	

Building B4

Negligible Bat Roosting Potential

Building is a two to three-storey structure used as a shop / reception area / climbing wall. It has a flat roof and steel beam frame with metal cladding and large windows and glass doors. All elements of the building are well sealed and in good condition. There are a few ventilation grilles around the building, all in good condition and with a second grid behind which would prevent access for roosting bats.

The north west corner of the building has three levels, with the upper two comprising open balconies. In this area, there is a metal fascia which overlaps over metal cladding. There is a small gap between these two features, but due to the nature of the material (smooth metal), the gap has negligible suitability for roosting bats.



Birds

- 2.16. The data search returned a number of records of protected and notable birds species within 2 km of the site. Of these, the Schedule 1 species returned included barn owl *Tyto alba*, fieldfare *Turdus pilaris*, kingfisher *Alcedo atthis*, osprey *Pandion haliaetus*, peregrine falcon *Falco peregrinus*, red kite *Milvus milvus*, quail *Coturnix coturnix* and redwing *Turdus iliacus*.
- 2.17. The site however does not provide any suitable nesting habitat for these species as the buildings are low-rise and the brickwork is in good condition, with no suitable ground nesting habitat or riverbanks present, on or immediately adjacent to the site.
- 2.18. The onsite lagoon has the potential to be used by aquatic species of birds, however due to the lack of shelter and vegetation, it is likely to be used as part of a the wider resource.
- 2.19. It is considered that the assemblage of birds that may use the site for foraging and breeding is of **negligible ecological importance**. Nevertheless, consideration for nesting birds to avoid a breach of legislation is discussed in **Section 3** of this report.

Hazel Dormouse *Muscardinus avellanarius*

- 2.20. The data search returned seven records of hazel dormouse within 2 km of the site, the majority of which are located within woodland 0.28 km north west of the site. The habitats onsite are considered unsuitable for dormouse and are **not discussed further within the report**.

Invertebrates

- 2.21. The site is located within a B-Line (Cymru) which provides a networks of habitats including grasslands, heaths, ffridd and moorland result in unique mosaics which offer areas for our wild pollinators to forage, shelter, hibernate and move across the landscape.
- 2.22. The lagoon provides opportunities for invertebrates, however it is not likely to support a population of note due to the lack of vegetation and shelter.

Otter *Lutra lutra* and Water Vole *Arvicola amphibius*

- 2.23. The data search returned seventeen records of otter within the 2 km search area, the majority of which are located along the River Conwy. The data search returned six records for water vole with an accuracy to 1km to the east of the site and most likely associated with the River Conwy.
- 2.24. The lagoon has a concrete base with no vegetation present, is not stocked with fish and is unconnected from other watercourses. It is therefore considered unsuitable aquatic habitat for otter and water vole. There are no opportunities for holt or burrow building within the concrete wall or on other habitats onsite. It is therefore considered that the lagoon and site is considered unsuitable to support a population of otter or water vole, however consideration for the species within the wider landscape is discussed in **Section 3** of this report.



West European Hedgehog *Erinaceus europaeus*

- 2.25. The data search returned six records of hedgehog within 2 km of the site. The habitats onsite provide limited sheltering and foraging opportunities for hedgehog, however suitable habitat is located within the wider landscape.
- 2.26. However, due to the small size and relative isolation of the suitable habitats, it is considered that any population of hedgehog utilising the site will also be using further habitat beyond the site boundary and will therefore not be reliant on the site alone. As such, any population of hedgehog on-site would be of **negligible ecological importance** nevertheless, this species group is experiencing significant population declines; therefore hedgehog are discussed in the mitigation section of this report (**Section 3**).

Invasive Species

- 2.27. The data search returned a number of records of Japanese knotweed *Fallopia japonica* within 2 km of the site, including a record from 0.2 km west of the site. Numerous records of Himalayan balsam *Impatiens glandulifera* were also returned mainly from the Llanrwst Road located just over 1 km east of the site. These species are listed under Schedule 9 of the Wildlife and Countryside Act (WCA), and as such causing this species to spread is unlawful. No invasive species were identified on the site.



Section 3: Ecological Impacts, Mitigation, and Enhancement

Proposed Development

- 3.1. The proposed development comprises the Redevelopment of the existing surfing lagoon with updated wave generation technology to create a new surfing experience, engineering works to infill part of the surfing lagoon together with associated landscaping and siting of 21 lodges. Refurbishment and extension to the existing Adrenaline Indoors building to house a new leisure attraction along with all associated site infrastructure and external works. The potential impacts as a result of the proposed development are set out below, with reference to relevant legislation and planning policy, which is summarised in **Appendix 2**.

Design Evolution

- 3.2. The design of the Development has been iterative, and in accordance with policy and best practice guidance, follow the 'mitigation hierarchy'. As such, the Development has been designed to avoid and retain the most important ecological features to ensure they can be managed in the long-term to enhance their importance for biodiversity. Where this is not possible, new habitats have been proposed to compensate for habitat losses with the aim of maximising the overall ecological value of the habitats proposed on site. A summary of how the design follows the mitigation hierarchy is set out below:
- Creation of habitats not currently present onsite to provide a net benefits for biodiversity.

Designated Sites

- 3.3. Eryri / Snowdonia SAC is located 1.4 km from the site. Impacts during the operational phase are not anticipated due to the nature of the proposals. Impacts during construction activities could potentially occur to these sites via dust deposition and run-off. Standard best practice pollution prevention⁶ is expected to be incorporated into a Construction Environmental Management Plan (CEMP).
- 3.4. Mwyngloddiau Fforest Gwydir / Gwydyr Forest Mines SAC, located 5.2 km from the site, is designated for its Calaminarian grasslands, however Lesser horseshoe bat *Rhinolophus hipposideros* are listed as an Annex II species present as a qualifying feature, but not a primary reason for site selection. Although there is a known lesser horseshoe roost to the north of the site boundary, throughout the operational phase of the development there will be no impacts on the roosting potential for the species and no impacts to the foraging resources. There is other suitable foraging habitat present within the wider landscape surrounding the site. Impacts during construction activities could potentially occur to these sites via dust deposition and run-off. Standard best practice pollution prevention⁷ is expected to be incorporated into a Construction Environmental Management Plan (CEMP).
- 3.5. Coed Dolgarrog NNR and SSSI is located 0.16 km from the site. Impacts during the operational phase are not anticipated due to the nature of the proposals. Impacts during construction activities could potentially occur to these sites via dust deposition and run-off. Standard best practice pollution prevention⁸ is expected to be

⁶ CIRIA (2015) *Construction Work Sector Guidance for Designers*. Fourth edition. (C755D).

⁷ CIRIA (2015) *Construction Work Sector Guidance for Designers*. Fourth edition. (C755D).

⁸ CIRIA (2015) *Construction Work Sector Guidance for Designers*. Fourth edition. (C755D).



incorporated into a Construction Environmental Management Plan (CEMP). These potential impact pathways will therefore be controlled, and impacts to statutory and non-statutory designated sites, including Coed Dolgarrog NNR and SSSI avoided.

- 3.6. In summary, the production and implementation of a CEMP, to include standard best practice pollution prevention, is expected to be conditioned and therefore prevent impacts to the designated sites above.

Habitats and Flora

- 3.7. Most of the habitats onsite to be impacted by the proposals are of negligible ecological importance, namely the lagoon, buildings, hardstanding, modified grassland and artificial unvegetated; unsealed surface and as such, no specific mitigation is required for the loss of these habitats.
- 3.8. All offsite trees will be retained as part of the proposals, along with the majority of the grassland to the east of the site. During construction, damage to retained offsite habitats, namely trees, as a result of machinery use or storage of materials, could occur. In the absence of mitigation, these impacts could trigger local planning policy. Therefore, to mitigate for the impacts, all retained offsite trees will be protected by tree protection fencing, installed in line with British Standard BS5837: 2012 'Trees in relation to design, demolition and construction'.
- 3.9. Overall, the retention of the majority of habitats of local ecological importance and the creation of modified grassland is expected to improve the site overall for biodiversity.

Protected and Notable Species

Amphibians

- 3.10. During site clearance, should any common amphibians be identified, they should be moved carefully by hand to a vegetated area outside of construction activities.

Badger

- 3.11. No setts or badger field signs were identified on-site or within 30 m of the site (where access was possible) during the survey. However, badger may use the site to forage and commute and as such, the following precautionary working methods should be adhered to and detailed within a CEMP for the site, including, but not be restricted to:
- Provision of a toolbox talk to all contractors prior to works commencing within the site to explain the legislation afforded to badgers, and what to do in the event a badger or suspected sett is encountered;
 - All materials to be stored off the ground in skips or on pallets;
 - Capping of all pipework >200 mm in diameter left overnight;
 - Sealing of trenches/excavations or providing a mammal ladder/escape ramp to allow badgers and small mammals to escape; and
 - No night-time works or illumination of off-site habitats or retained habitats.



- 3.12. Badgers are mobile and transient, however, and can occupy former setts, excavate new ones or displace/share rabbit burrows in a short space of time. For this reason, an updated survey immediately prior to works commencing is recommended to ensure that any setts which become active between the time of reporting and development activity are protected.



Bats

- 3.13. All the buildings onsite were found to have negligible bat roosting potential, no further mitigation for roosting bats will be required prior to their removal.
- 3.14. The lagoon and surrounding offsite habitat provide commuting and foraging habitats for bats into the wider landscape and there are known roosts of lesser horseshoe bat within close proximity to the site and within the wider landscape. The loss of the lagoon during the construction phase will result in a temporary loss of a feeding resource for bats and the lagoon will be slightly smaller post-development. The proposals will include landscape planting providing habitats which are not currently present onsite, including grassland, trees and shrubs which will increase invertebrates resources, which in turn will provide a foraging resource for bats.
- 3.15. Nocturnal static and activity survey should be undertaken seasonally to determine the use of the site by foraging and commuting bats, particularly lesser horseshoe bats.
- 3.16. It is anticipated that lighting levels post-construction will not be greater than current levels. However, any outside lighting should avoid spilling onto adjacent offsite habitats, including retained mature trees along the northern and southern boundaries and newly planted landscape planting.
- 3.17. To enhance the site for roosting bats, four bat boxes are recommended to be incorporated within the scheme by either using integrated bat boxes or externally erected bat boxes (expected to be secured via a suitably worded planning condition).

Birds

- 3.18. All birds, their nests and eggs, are protected by law and as such it is an offence to intentionally kill, injure, or take any wild bird; intentionally take, damage, or destroy the nest of any wild bird while it is in use or being built; and intentionally take or destroy the egg of any wild bird.
- 3.19. To avoid triggering the legislation protecting nesting birds, clearance of suitable habitat (should be timed outside the nesting bird season (generally taken as March to September inclusive, though this is not defined in law and birds may nest outside of this time). If any clearance works to nesting habitats are required during the nesting season, then pre-removal checks for nesting birds must be carried out by a suitably experienced Ecological Clerk of Works (ECoW), no more than 48 hours prior to the works commencing. If any nesting birds are found to be present, an appropriate buffer zone will be implemented, within which works are excluded for the duration of the breeding attempt. Any active nests will need to be left in situ until a suitably experienced ecologist confirms that the chicks have fledged and the nest is no longer active.
- 3.20. Habitat creation such as native shrub and tree planting is expected to maintain nesting opportunities on-site. Additionally, four bird boxes are recommended to be incorporated within scheme, targeting species of conservation concern known to be present (expected to be secured via a suitably worded planning condition).

Hedgehog

- 3.21. Hedgehog are a priority species and therefore afforded consideration in planning policy. Hedgehog are in population decline, efforts should be made to conserve this species and enhance sites for hedgehog wherever possible; the proposed habitat enhancements for birds will also benefit this species. Gaps of 30 cm underneath boundary fences should be implemented into the scheme design to allow hedgehog to pass through the site and



into the wider landscape for foraging. To safeguard this species during the construction phase, implementing safe working methods, such as:

- Storing construction materials in skips or off the ground in pallets where possible;
- Ensuring any excavations are sealed overnight, or left ramped or with an exit should any hedgehogs or other small mammals become trapped;
- Capping any pipework overnight.

3.22. It is also proposed that Hedgehog Highways will be created through the site to maintain the permeability of the site for commuting hedgehog, via the inclusion of small openings at the base of exterior fences.

Otter and Water Vole

3.23. The site does not provide any suitable aquatic or holt building habitat for otter, however due to the proximity of watercourses known to support the species, the precautionary working methods detailed above for badger are deemed sufficient to protect otter during construction.



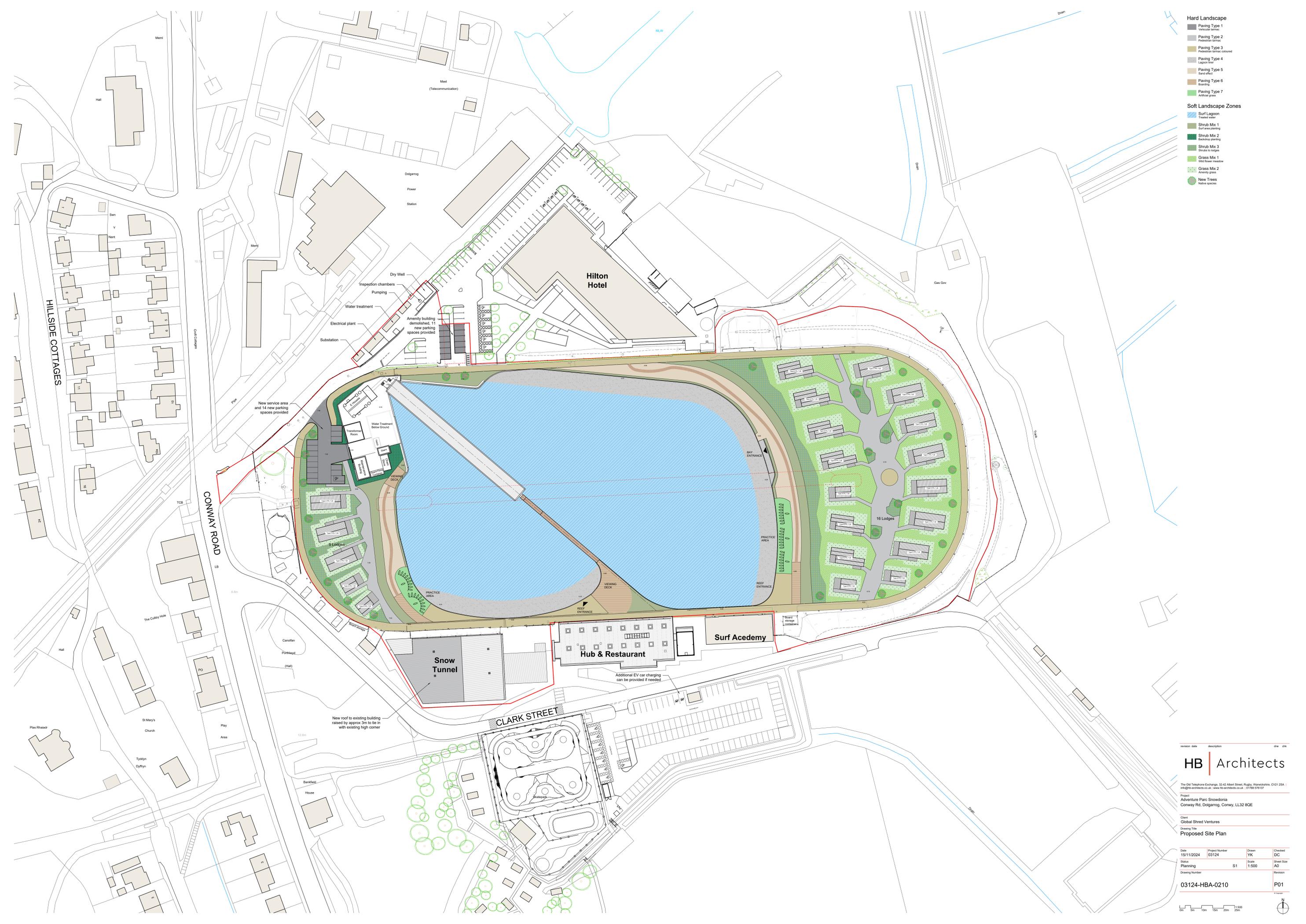
Section 4: Conclusions

- 4.1. Standard best practice pollution prevention measures to be incorporated into a CEMP for the development are deemed sufficient to protect the SAC's NNR and SSSI and other statutory and non-statutory designated sites within the search area.
- 4.2. All habitats onsite to be impacted by the proposals are of negligible ecological importance, namely the lagoon, buildings, hardstanding, modified grassland and artificial unvegetated; unsealed surface, and as such, no specific mitigation is required for the loss of these habitats. The proposals include the creation of habitats not currently present onsite, including grassland, trees and shrubs which is expected to improve the site overall for biodiversity and deliver a net benefit for biodiversity.
- 4.3. During site clearance, should any common amphibians be identified, they should be moved carefully by hand to a vegetated area outside of construction activities. A pre commencement check for badger is recommended prior to the start of works to ensure to new setts have been created. Precautionary working methods for badger should also be followed, these methods will also protect hedgehog and otter during the construction phase.
- 4.4. Clearance of suitable habitat for nesting birds (the buildings and lagoon) should be timed outside the nesting bird season (generally taken as March to September inclusive). If any clearance works to nesting habitats are required during the nesting season, then pre-removal checks for nesting birds must be carried out by a suitably experienced ECoW, no more than 48 hours prior to the works commencing.
- 4.5. Further bat activity and statics surveys should be undertaken to determine the use of the site by foraging and commuting bats. All buildings and structures onsite were found to be unsuitable for roosting bats and no further mitigation for roosting bats is required prior to their removal of the buildings/structures.
- 4.6. It is anticipated that lighting levels post-construction will not be greater than current levels. However, any outside lighting should avoid spilling onto retained offsite habitats, namely mature trees along the north and south of the site and newly created landscape planting.
- 4.7. To enhance the site for species, four bat and four bird boxes are recommended to be incorporated within the scheme, and hedgehog highways are proposed in exterior fences.
- 4.8. In conclusion, in anticipation of the implementation of any necessary mitigation, the proposed development will be compliant with relevant planning policies, as well as legislation with regard to ecology.



Appendix 1: Proposed Site Plan





- Hard Landscape**
- Paving Type 1: Vehicular tarmac
 - Paving Type 2: Pedestrian tarmac
 - Paving Type 3: Pedestrian tarmac coloured
 - Paving Type 4: Lagoon liner
 - Paving Type 5: Sand effect
 - Paving Type 6: Shading
 - Paving Type 7: Artificial grass
- Soft Landscape Zones**
- Surf Lagoon: Trained water
 - Shrub Mix 1: Surf area planting
 - Shrub Mix 2: Backing planting
 - Shrub Mix 3: Shrubs to lodges
 - Grass Mix 1: Wild flower meadow
 - Grass Mix 2: Amenity grass
 - New Trees: Native species

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Project: Adventure Parc Snowdonia
Conway Rd, Dolgarrog, Conwy, LL32 8QE

Client: Global Shred Ventures

Drawing Title: Proposed Site Plan

Date	Project Number	Drawn	Checked
15/11/2024	03124	YK	DC
Scale	Sheet Size		
Planning S1	A0	1:500	
Revision			
03124-HBA-0210	P01		

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Appendix 2: Legislation and Planning Policy

Legislation

A2.1. Specific habitats and species receive legal protection in the UK under various pieces of legislation, including:

- The Environment (Wales) Act 2016;
- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Countryside and Rights of Way (CRoW) Act 2000;
- The Natural Environment and Rural Communities Act (NERC) 2006;
- The Hedgerows Regulations 1997; and
- The Protection of Badgers Act 1992.

A2.2. The European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, 1992, often referred to as the 'Habitats Directive', provides for the protection of key habitats and species considered of European importance. Annexes II and IV of the Directive list all species considered of community interest. The legal framework to protect the species covered by the Habitats Directive has been enacted under UK law through The Conservation of Habitats and Species Regulations 2017 (as amended).

A2.3. In Britain, the WCA 1981 (as amended) is the primary legislation protecting habitats and species. SSSIs, representing the best examples of our natural heritage, are notified under the WCA 1981 (as amended) by reason of their flora, fauna, geology or other features. All breeding birds, their nests, eggs and young are protected under the Act, which makes it illegal to knowingly destroy or disturb the nest site during nesting season. Schedules 1, 5 and 8 afford protection to individual birds, other animals and plants.

A2.4. The CRoW Act 2000 strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site.

The Environment (Wales) Act 2016

A1.1 This piece of legislation is to plan and manage Wales' natural resources. The key area that is relevant to the proposals relates to the sustainable management of the Welsh Natural Resources, the principles of which are outlined below:

- Building resilience-A resilient ecosystem is one that is healthy and functions in a way that is able to address pressures and demands placed on it and is able to deliver benefits over the long term to meet current social, economic and environmental needs.
- Managing multiple benefits -Our ecosystems provide us with a wide range of services and benefits. We need to take all of these into account when we make decisions about how we use them , so that they provide multiple benefits for the long term. This includes taking into account their intrinsic value.



- Adaptive management -Ecosystem processes and functions are complex and variable, and our approach will be adaptive with a focus on active learning derived from monitoring and outcomes and taking into account the time lags and feedback times for ecosystems to respond to interventions. It is about 'learning by doing'.
- Long term -It is also important to take account of the short, medium and long-term consequences of actions, and consider time lags and feedback times for ecosystems to respond to any interventions.
- Evidence -This means gathering information and considering all the social, economic and environmental evidence (including evidence in respect of uncertainties) from a wide range of experts and stakeholders at the local, regional and national level as appropriate, both to identify priorities and opportunities for their management and also in delivering the management actions.
- Collaboration and co-operation -It is about having a two-way communication across local, regional, national and international levels and being interconnected between policy, process and people to break down silo ways of working. This approach supports the development and implementation of the new, innovative solutions that are needed.
- Working at the right scale -An ecosystem is a functioning unit that can operate at any scale depending on the problem or issue being addressed.

National Planning Policy

Planning Policy Wales (PPW) Edition 12 (February 2024)

A1.2 Chapter 6 of the PPW (Distinctive and Natural Places) includes the following commitments and what they relate to where they are applicable to this site:

- 6.2: Green Infrastructure – The planning system should protect and enhance green infrastructure assets and networks because of [their] multi-functional roles. The protection and enhancement of biodiversity must be carefully considered as part of green infrastructure provision...The quality of the built environment should be enhanced by integrating green infrastructure into development.
- 6.4: Biodiversity and Ecological Networks – Promoting biodiversity by enhanced biodiversity and resilience of ecosystems duty (as set out in The Environment (Wales) Act 2016. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss and increase the resilience of ecosystems.

A1.3 Development plan strategies, policies and development proposals must consider the need to:

- Support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- Ensure statutorily and non-statutorily designated sites are properly protected and managed;
- Safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation; interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and



- Secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.
- Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty) – Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. 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. In doing so planning authorities must also take account of and promote the resilience of ecosystems.
- Designated sites - 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.
- Protection and Management of Designated Sites - Statutorily designated sites must be protected from damage and deterioration, with their important features conserved and enhanced by appropriate management.
- Maintaining and Enhancing Biodiversity - Planning authorities must follow a stepwise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.
- Protected species - The presence of 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.
- Trees, woodlands and hedgerows - Planning authorities should protect trees, hedgerows, groups of trees/...woodland where they have ecological value, contribute to the character or amenity...or perform a beneficial...green infrastructure function.

Technical Advice Note 5 (TAN 5), Nature Conservation and Planning (2009)

A1.4 The purpose of Technical Advice Note (Wales) 5 (TAN5) is to supplement the information provided in PPW. This provides advice for 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.

Local Planning Policy

Conwy Local Development Plan 2007 - 2022

A2.5. Policies relating to ecology and nature conservation are summarised as follows:



A2.6. Policy NTE/1 The Natural Environment

'In seeking to support the wider economic and social needs of the Plan Area, the Council will seek to regulate development so as to conserve and, where possible, enhance the Plan Area's natural environment, countryside and coastline. This will be achieved by:

- a. Safeguarding the Plan Area's biodiversity, geology, habitats, history and landscapes through the protection and enhancement of sites of international, national, regional and local importance, in line with Policy DP/6 – National Planning Policy and Guidance';*
- b. Using Green Wedges and settlement boundaries to control the identity of individual settlements, to prevent coalescence and to protect the immediate landscape surrounding urban areas in line with Policy NTE/2 – 'Green Wedges and Meeting the Development Needs of the Community';*
- c. Where appropriate and necessary, improving the quality of statutory and non-statutory landscapes and areas of biodiversity value affected by development, through management agreements, habitat connectivity, improved planting, landscape and maintenance specifications, in line with the Development Principle Policies and Policy NTE/3 – 'Biodiversity';*
- d. Working with developers to safeguard protected species and enhance their habitats in line with Policies DP/6 and NTE/3;*
- e. Seeking to minimise the loss of Grade 2 and 3a agricultural land to new development, in particular, in the east of the Urban Development Strategy Area, in line with Policy DP/6;*
- f. Respecting, retaining or enhancing the local character and distinctiveness of the individual Special Landscape Areas in line with Policy NTE/4 – 'The Landscape and Protecting Special Landscape Areas' and as shown on the Proposals Map;*
- g. Protecting the Coastal Zone in line with Policy NTE/5 – 'The Coastal Zone';*
- h. Promoting energy efficiency and renewable technologies in development in line with Policy NTE/6 – 'Energy Efficiency and Renewable Technologies in New Development';*
- i. Preventing, reducing or remedying all forms of pollution including air, light, noise, soil and water, in line with Policy DP/6.'*

A2.7. Policy NTE/3 Biodiversity

'1. New development should aim to conserve and, where possible, enhance biodiversity through:

- a) Sensitive siting; avoiding European protected sites or those of national or local importance,*
- b) Sensitive layout and design which avoids impacts or mitigates through an agreed programme for any identified adverse impact on biodiversity.*
- c) Creating, enhancing and managing wildlife habitats and natural landscapes including connectivity,*
- d) Integrating biodiversity measures into the built environment,*



e) Contributing to achieving targets in the Conwy Local Biodiversity Action Plan (LBAP),

f) Providing for a management agreement with the Local Planning Authority to secure the retention and long term future of biodiversity interests where applicable.

2. All proposals should include a Biodiversity Statement detailing the extent to impact on biodiversity.

3. The Council will refuse proposals which would have a negative impact on a European Site, protected or priority species or habitat unless the impact is adequately mitigated and appropriate remediation and enhancement measures are proposed and secured by planning conditions or obligations.'

Supplementary Planning Guidance (SPG)⁹

- A2.8. The Conwy Local Development Plan 2007 – 2022 includes LDP5 Biodiversity Adopted November 2014 can be used to assist new development in Conwy and assess what impacts it may have on biodiversity.

Conwy Local Biodiversity Actions Plan (BAP)¹⁰

- A2.9. The Conwy Local BAP identified those species and habitats that are of local conservation importance and require action in order to conserve and protect them. The BAP includes all the Section 42 species and habitats occurring within the Conwy Planning Authority area plus any others of local significance.

⁹ Conwy Council (2014) Supplementary Planning Guidance LDP5 Biodiversity. Available at: <https://www.conwy.gov.uk/en/Resident/Planning-Building-Control-and-Conservation/Strategic-Planning-Policy/Supplementary-planning-guidance-documents/Assets/Natural-environment/LDP5-Biodiversity-Adopted-Nov-2014.pdf> [accessed 24/10/2024]

¹⁰<https://www.conwy.gov.uk/en/Resident/Planning-Building-Control-and-Conservation/Strategic-Planning-Policy/Supplementary-planning-guidance-documents/Assets/Natural-environment/LDP5-Biodiversity-Adopted-Nov-2014.pdf>



Appendix 3: Methodology and Results

Data Search

- A3.1. A desk-based study was conducted whereby records of designated sites and records of protected and priority species were purchased and interrogated for the site and the surrounding landscape. The aim of the data search is to collate existing ecological records for the site and adjacent areas. Obtaining existing records is an important part of the assessment process as it provides information on issues that may not be apparent during a single survey, which by its nature provides only a 'snapshot' of the ecology of a given site.
- A3.2. The following resources were consulted/contacted:
- Multi-Agency Geographic Information for the countryside (MAGIC) website¹¹;
 - Cofnod - North Wales Environmental Information Service¹²; (Data received on 22/10/2024);
 - Local Council website¹³;
 - Joint Nature Conservation Committee (JNCC) website¹⁴;
 - DataMap Wales designated site website¹⁵;
 - Ordnance Survey mapping; and
 - Google Maps, including aerial photography.
- A3.3. The following areas of search around the boundary of the site boundary were applied:
- 2 km for protected and priority species, national statutory designated and non-statutory sites; and
 - 10 km for European statutory sites.

'Extended' Phase I Habitat Survey and UKHabs

- A3.4. An 'extended' Phase 1 survey was carried out on the 17th of July 2024 by Elliot Grundy BSc MSc, a suitably experienced ecologist and qualifying member of CIEEM. The methods used during the walkover survey broadly followed methods used in an 'extended' Phase I habitat survey¹⁶ and entailed recording the main plant species and classifying and mapping habitat types with reference to the Habitat Definitions provided by the UK Habitat Classification Working Group¹⁷.

¹¹ <https://magic.defra.gov.uk/> [Accessed 20th October 2024]

¹² <https://www.cofnod.org.uk/Home> [Accessed: 20th October 2024]

¹³ <https://www.conwy.gov.uk/en/Resident/Planning-Building-Control-and-Conservation/Planning-Building-Control-Conservation.aspx> [Accessed 20th October 2024]

¹⁴ <http://jncc.defra.gov.uk/ProtectedSites/> [Accessed 20th October 2024]

¹⁵ <https://datamap.gov.wales/search/?limit=20&offset=0> [Accessed 20th October 2024]

¹⁶ Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey - a technique for environmental audit. JNCC, Peterborough.

¹⁷ UKHab Ltd. (2023). UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>)



- A3.5. Additionally, the habitats identified were evaluated for their potential to support legally protected and notable fauna species. Where access allowed, adjacent habitats were also considered in order to assess the site within the wider landscape and to provide information with which to assess possible impacts within the context of the site boundary.
- A3.6. All habitats were assessed utilising the relevant condition criteria for the relevant habitat type under the Statutory Metric, which included confirming 'pass' / 'fail' criteria taken from the UK Habitat/Phase 1 methodology where necessary.

Bat Surveys

- A3.7. The surveys followed standard methodologies set out in the Bat Mitigation Guidelines¹⁸, the Bat Workers Manual¹⁹ and Bat Surveys for Professional Ecologists- Good Practice Guidelines 4th Edition²⁰ and comprised:
- Preliminary Roost Assessment (PRA) – External building inspection survey to assess potential of buildings on-site to support roosting bats;
 - Ground Level Tree Assessment (GLTA) – Ground level inspection of trees to assess potential of trees on-site to support roosting bats; and
 - Day-time Bat Walkover (DBW) – Walkover of the site to assess potential bat activity including foraging areas and potential commuting routes.

Preliminary Roost Assessment (PRA)

- A3.8. A PRA was undertaken on all buildings within the site boundary. The assessment was undertaken on 17th of July 2024 by Elliot Grundy. The survey was a daytime inspection and the conditions for the survey was considered optimal. The location of the buildings on-site are shown on **17210/P01**. All buildings were inspected for Potential Roosting Features (PRFs) and bat field signs from the ground using binoculars. In relation to buildings, such field signs may include bat droppings, urine splashes, staining and PRFs include gaps behind soffits / hanging tiles / ridge tiles, lifted slates / flashing).
- A3.9. The potential of the buildings to support roosting bats was assessed using the criteria shown in **Table A3.1** below.

Table A3.1: Building / Structure Assessment Criteria - adapted from Collins, 2023.

Suitability	Description of Roosting Habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide

¹⁸ Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

¹⁹ Mitchell-Jones, A.J. & McLeish, A.P. (eds). (2004) 3rd Edition Bat Workers' Manual., JNCC, Peterborough, ISBN 1 86107 558 8

²⁰ Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London. ISBN-978-1-7395126-0-6



Suitability	Description of Roosting Habitats
	enough space, shelter, protection, appropriate conditions ^b and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^b and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed)
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^b and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.

^a Negligible is defined as ‘so small or unimportant as to be not worth considering, insignificant’. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

^b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

^c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments. Common pipistrelle swarming has been observed in the UK and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland. This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

Ground Level Tree Assessment (GLTA)

A3.10. A GLTA was undertaken on all trees within the Site boundary. The assessment was undertaken on 17th of July 2024 by Elliot Grundy. The survey was a daytime inspection and the conditions for the survey were considered optimal. All trees were inspected from the ground using binoculars. PRFs of interest are detailed in **Table A3.2** below.

Table A3.2: PRF Types that can be Exploited by Bats and How they Form - adapted from Collins, 2023.

PRFs formed by disease and decay	PRFs formed by damage	PRFs formed by association
woodpecker holes squirrel holes knot holes pruning cuts tear outs wounds cankers compression forks butt rots	lightning strikes hazard beams subsidence cracks shearing cracks transverse snaps welds lifting bark desiccation fissures frost cracks	fluting ivy

A3.11. The potential of trees to support roosting bats was assessed using the criteria shown in **Table A3.3** below.



Table A3.3: Assessment of Tree Suitability Criteria - adapted from Collins, 2023.

Roost Suitability	Description of Roosting Habitat
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

Day-time Bat Walkover (DBW)

A3.12. A DBW was undertaken on all habitats within the site boundary. The assessment was undertaken on 17th of July 2024 by Elliot Grundy. The survey was a daytime inspection and the conditions for the survey was considered optimal. The DBW assessed habitats on-site for the likelihood to be used by foraging and commuting bats as detailed in **Table A3.4** below. This combined with desk study records of local bats and bat roosts, and potential for roosting bats on-site is used to determine suitability of the site for bat activity.

Table A3.4: Flight Path and Foraging Habits Assessment Criteria - adapted from Collins, 2023.

Suitability	Description of Roosting Habitats
None	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.



Evaluation

- A3.13. The evaluation of habitats and species is defined in accordance with published guidance²¹. The scale of importance of each ecological feature is assigned within a defined geographical context, namely international and European, national, regional, county, and local. Below these are features considered to be of negligible importance.
- A3.14. Consideration will also be given to legally protected or controlled species which are 'important features' in the context of this assessment, for which mitigation measures are required to ensure legal compliance, regardless of their geographic scale of importance. Thus, it is possible for a feature of negligible ecological importance to be legally protected and hence require mitigation.
- A3.15. Evaluation is based on various characteristics that can be used to identify ecological features likely to be important in terms of biodiversity. These include site designations (such as Sites of Species Scientific Interest (SSSIs), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological feature. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

Impact Assessment

- A3.16. The assessment of impacts identifies impacts and their effects as a result of the proposed development on important ecological features. This includes consideration of impacts at all relevant stages of the development, including construction and operation/occupation. The assessment includes reference to legislation and policy, and supplementary planning guidance where relevant.

Application of Mitigation Hierarchy

- A3.17. Application of the mitigation hierarchy is fundamental to the ecological impact assessment process. This requires consideration of the following measures, in order of priority, for all potential impacts, to determine the most appropriate mitigation, compensation and enhancement strategy for the project. This is taken into account within **Section 3** of this report and set out below:

- Avoidance – measures to avoid harm to ecological features (set out in 'Design Evolution', Section 3);
- Mitigation – measures to avoid or minimise potential impacts as part of the design or guaranteed by planning controls;
- Compensation – measures required to offset significant residual negative effects following avoidance and mitigation; and
- Enhancement – measures over and above requirements for avoidance, mitigation and compensation to provide biodiversity net gain.

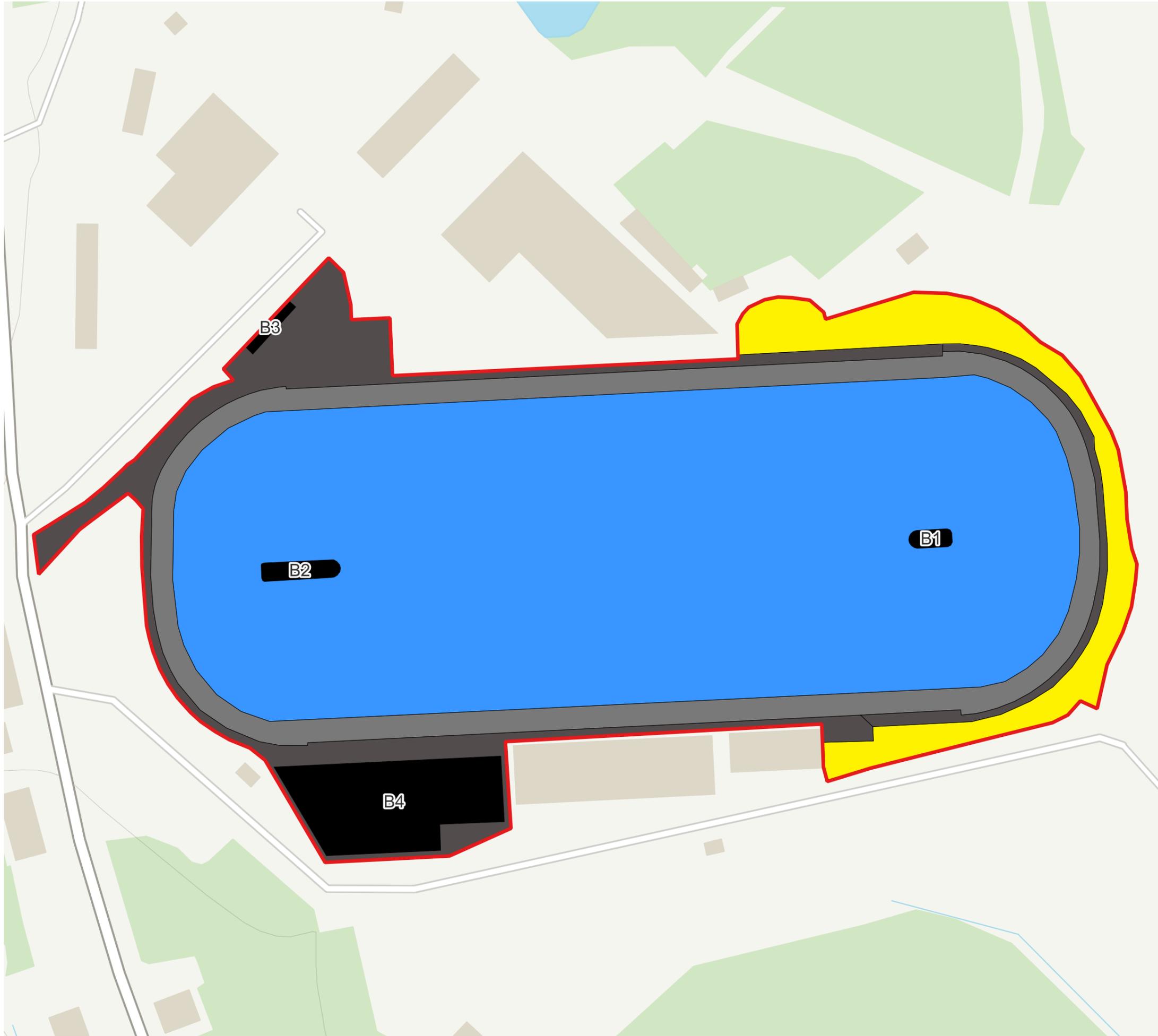
²¹ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.



Plan:

Plan 1: Habitat Features Plan **17210/P01**





- Redline boundary
- g4 - modified grassland
- u1b - developed land. sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- r1 - standing open water



Project	Surf Snowdonia, Dolgarrog
Drawing Title	Habitat Features Plan
Scale	As Shown (Approximate)
Drawing No.	17210/P01
Date	05/12/2024
Checked	EG/JM



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