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**ECOLOGICAL & ARBORICULTURAL ASSESSMENT**

**TO SUPPORT A PLANNING APPLICATION FOR ADDITIONAL UNITS  
NEAR BACLAW LANE**

at

**GORSE HILL CARAVAN AND LODGE PARK**

23rd May 2023

ECO 951



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## **SUMMARY**

*Ecoscope was commissioned to undertake a Preliminary Ecological Assessment of land proposed for development at Gorse Hill Caravan Park. The survey was first undertaken in 2017 and updated following changes to the design in 2019 & 2020. Our update survey found no significant material changes. The development is predominantly on improved grassland of little botanical merit. Enhancements including tree planting to link isolated woodland, hedgerow and wildflower meadow creation are proposed. Overall ecological impacts are minimal.*

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# 1. INTRODUCTION

## 1.1 Background

1.1.1 This assessment has been carried out by Ecologists and Arborists employed by Ecoscope Ltd. to evaluate the effect of proposed improvements to Gorse Hill Caravan and Lodge Park. The full address of the property is Gorse Hill Caravan and Lodge Park, Trefriw Road, Conwy, LL32 8HJ. The improvements include the siting of additional lodges/static caravans within agricultural fields adjacent to (the west of) Baclaw lane and a track to provide access into the proposal area from the existing caravan park. The proposal site is located at NGR SH 78156 74980.

1.1.2 This report describes the ecology and nature conservation assessment that has been carried out as part of a suite of preliminary work to accompany a planning application for these proposals.

1.1.3 This report relates to the drawing created by Environmental Associates Reference number EA/5316-101-02.



**Figure 1** Map showing Gorse Hill Caravan and Lodge Park



**Figure 2.** Aerial map with approximate site boundary

## **2. ASSESSMENT METHODS**

### **2.1 General approach**

2.1.1 To assess the likely effects of the proposed development of the site, a series of desk-top and site investigations were undertaken throughout spring and summer 2017 (updated in 2019, 2020 & 2023). The data collection method followed the general guidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM). Information about the site has been gathered through a graduated series of surveys and searches which have highlighted the key ecological issues concerning the proposals. The search area was not limited to the site boundary, the desk top search considered habitat and species within 1km.

2.1.2 Three levels of survey were used to establish the ecological baseline for the site:

- A desktop search;
- A preliminary ecological assessment;
- Species survey work as required.

2.1.3 The surveyors were all appropriately experienced ecologists licensed to undertake surveys for protected species as required and to undertake habitat surveys.

### **2.2 Ecology Survey and assessment methods**

#### **Desktop search**

2.2.1 A 'desk-top' search for protected species and sites within 1km radius of the site centred on NGR SH 780 751 was conducted, using Cofnod. Cofnod is one of the four Local Record Centres in Wales and holds the largest number of records for biodiversity and geo-diversity information in North Wales, Cofnod hold data sets for all species groups. The results of this combined with walkover surveys enabled surveys to focus upon specific species and habitats of particular relevance to the project.

#### **Preliminary Ecological assessment**

2.2.2 A preliminary ecological assessment of the site was undertaken during the summer of 2017 (updated June 2019, August 2020 & May 2023 ) to ascertain the ecological value, identify habitat types which have the potential to support protected species,

record any evidence of protected species and to establish whether further surveys needed to be undertaken. The survey recorded the general vegetation, making a list of vascular plant species that could be identified. Other features of wildlife interest were recorded, and the potential for protected / important species to be present was noted. In addition to this site assessment the results of previous ecological survey work for past planning applications was reviewed as much of this is applicable to the current proposal.

### **Detailed ecological surveys**

2.2.3 The following specialist surveys, shown by the desk-top and Phase 1 work to be needed, were undertaken at appropriate times of the year for the species concerned. All survey methods followed best practice guidance and were undertaken by suitably experienced and where appropriate licensed ecologists and arborists.

- Reptile survey
- Botanical walkover survey
- Bat assessment and survey

2.2.4 In addition, an assessment of the site was made against the local and national Bio-Diversity Action Plan Species (LBAP and UKBAP species) and the Section 7 list of habitats and species of principal importance for the purpose of maintaining and enhancing biodiversity under the Environment (Wales) Act 2016. Planning guidance publication Technical Advice Note 5 (TAN5) recommends that these species are considered (in addition to those protected by U.K. and European legislation) as a material consideration in the planning process. Letter to heads of Planning (23/10/2019 Neil Hammington Chief Planner) also details the responsibility to secure biodiversity enhancement.

### **2.3 Arboricultural Assessment Method**

2.3.1 The assessment of trees is carried out from ground level without invasive investigation and the disclosure of hidden defects cannot therefore be expected. The survey is not commissioned to report on matters of tree safety. We do not carry out



detailed safety inspections unless specifically instructed to do so in writing and have not carried out such inspections of trees on the proposal site. All trees or groups of trees which were likely to be affected by the proposal were considered.

2.3.2 The methodology followed best practice guidelines published by the Arboricultural Association (Fay et al., 2005) and additional guidance given in BS5837:2012. All plant names are taken from Stace (2010). The following parameters were recorded for each tree (T#), group (G#) or hedge (H#):

- Height;
- Stem Diameter at Breast Height (DBH) – measured according to Annex C of BS5837:2012;
- Crown spread – in the four cardinal directions;
- Lowest height of crown clearance;
- Age class – Young (Y), Mature (M), Over-mature (OM) or Veteran (V), or a combination thereof.

2.3.3 The radius of the Root Protection Area (RPA) for each tree/group is given. For a single stemmed tree, the RPA radius = the DBH × 12; for multiple stems, the RPA radius = the combined DBH × 12. To calculate the combined DBH of a multi-stemmed tree: -

EITHER  $\sqrt{(\text{stem diameter 1})^2 + (\text{stem diameter 2})^2 \dots + (\text{stem diameter 5})^2}$  (for up to 5 stems);

OR  $\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$  (for more than 5 stems)

2.3.4 Tree condition was evaluated using the Visual Tree Assessment (VTA) protocol described by Lonsdale (1999) and augmented by Mattheck & Breloer (1998) and Strouts & Winter (1998). This involves a systematic, non-invasive, ground-based examination of each tree (aided by binoculars), looking for signs of ill-health, vulnerability or damage and their causes.

2.3.5 The physiological and structural condition of each tree was graded (good, fair, poor or physiologically dead). This is a judgement based on the knowledge and experience of the surveyor and is derived from elements of the VTA and the known characteristics of the tree species.

2.3.6 The remaining contribution of each tree was noted: <10, 10-20, 20-40 or >40 years. This can only be an informed opinion based on the surveyor's experience and the current condition of the tree, and obviously cannot take account of catastrophic weather events or other stochastic events.

2.3.7 The current value of the trees is assessed in the Arboricultural Impact Assessment section (Section 4) using the quality categorisation scale published in BS5837: Categories A, B, C or U, ranging from high quality (A) to low quality (or DBH <150mm) (C), based on arboricultural, landscape and cultural values (including conservation). Category U trees are considered to be unsafe for arboricultural reasons and should be removed.

## **2.4 Limitations of the Method**

2.4.1 The observations and evidence of wildlife using the landscape are valid and accurate for the times the survey was undertaken. Wild animals can be unpredictable and regularly change their territories and habits. We therefore advise that the results are valid for two years from the date of collection. If the data is relied upon after this period update surveys will be required.

### **3. RESULTS**

#### **3.1 Desktop study**

##### **Nature conservation designations**

- 3.1.1 A COFNOD environmental information search was commissioned. Searches were also made through the NBN Gateway and the MAGIC map application websites, the results of these investigations are detailed below.

##### **Statutory wildlife sites**

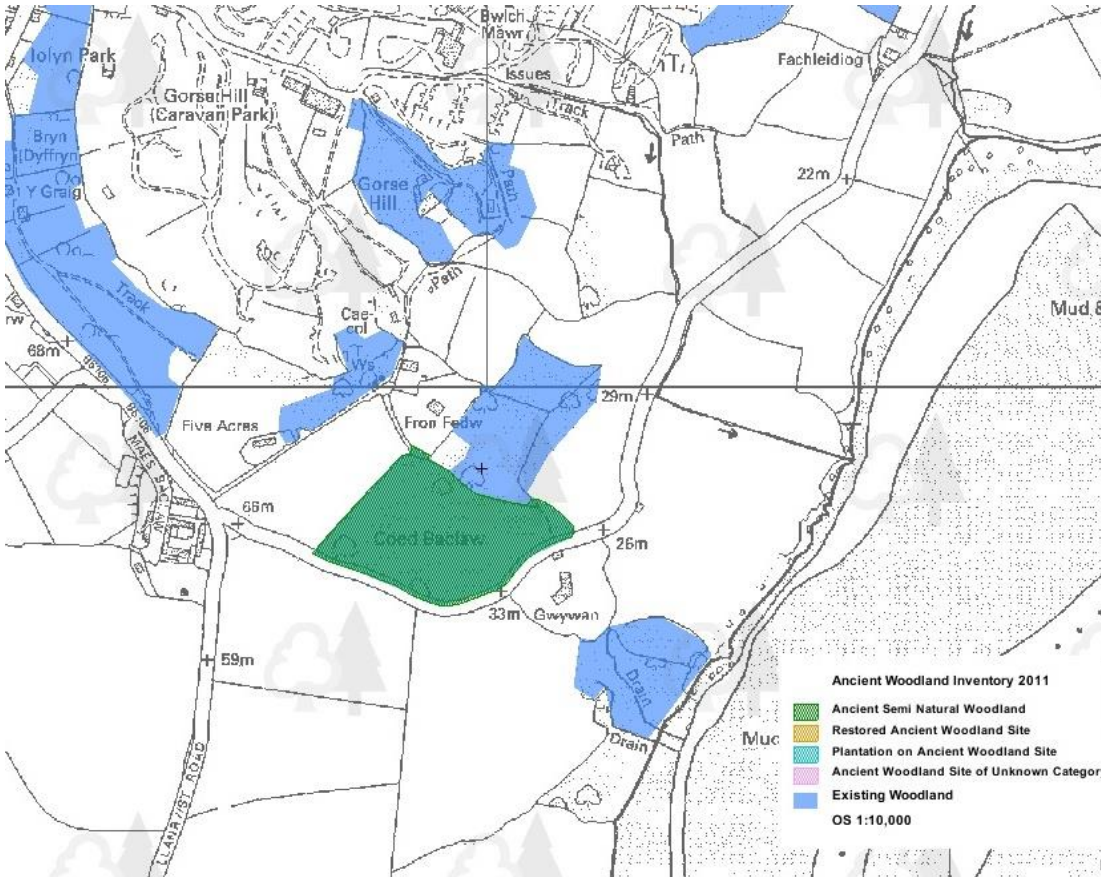
- 3.1.2 A desk study was carried out to identify species or habitats that are considered important in a local context and to identify any species recorded locally that may be associated with the application site. A search of the National Resources Wales website was undertaken to determine the presence of all statutory sites (e.g. Sites of Special Scientific interest [SSSI's]) within 2km of the application site.
- 3.1.3 Aber Afon Conwy SSSI, of special interest for its marine and terrestrial invertebrate biology, is located approximately 200m to the east/southeast of the application site. The proposal site lies within improved agricultural fields sited on the inland-side of Baclaw Lane, as such it not anticipated that the proposed development will have an effect upon Aber Afon Conwy SSSI.
- 3.1.4 Benarth Wood SSSI is located approximately 1.4km to the northeast of the application site. The mixed deciduous woodland has a diverse ground flora and a shrub layer which includes the nationally uncommon Wild Service Tree (*Sorbus torminalis*). The scale and nature of proposed works, considered with the relatively long distance from this SSSI suggests that Benarth Wood SSSI is highly unlikely to be affected by the proposals.

##### **Non-statutory wildlife sites**

- 3.1.5 Non-statutory wildlife sites in the area include Gorse Hill Meadow; this meadow lies within the boundaries of the caravan park and was created as mitigation/enhancement for works previously undertaken within the park. The meadow does not lie within the application boundary for this development, and it is not anticipated that the proposed works will impact upon the meadow.

3.1.6 Plas Iolyn Grass Verge is another non-statutory site in the area which lies to the west of the application site, it lies outside of the boundary of proposed works and it is not anticipated that proposed the works in this application will affect the habitat of Plas Iolyn Grass Verge.

3.1.7 Coed Baclaw is a relatively small non-statutory wildlife site listed as Ancient semi-natural woodland in the Ancient woodland inventory (NRW, 2014); this site lies adjacent to the south of the proposal site, with a small section of Coed Baclaw being in Gorse Hill Caravan Park ownership (please refer to **Figure 3** below). The proposal boundary does not lie within Coed Baclaw. Woodland adjacent to the west of the proposal boundary has direct connectivity with Coed Baclaw.



**Figure 3 Ancient woodland inventory (NRW 2014)**

## 3.2 Consultations

3.2.1 COFNOD, the Local Environmental Records Centre for north Wales were contacted for records of protected, priority and locally important species and habitats, international, national and local biodiversity sites within a 1km radius of the application site.

3.2.2 Category 1 (species with UK and/or European Legal Protection, Section 7 [Environment (Wales) Act] Species or UK BAP Priority species) recorded within the 1km search area include;

- Common Pipistrelle (*Pipistrellus pipistrellus*), approx. 110m W (2012)
- Soprano Pipistrelle (*Pipistrellus pygmaeus*), approx. 110m W (2012)
- Noctule (*Nyctalus noctula*), approx. 110m W (2012)
- Lesser Horseshoe bats (*Rhinolophus hipposiderus*), approx. 250m NW (2008-9)
- Brown Hare (*Lepus europaeus*), approx. 410m SW (2013)
- Hedgehog (*Erinaceus europaeus*), approx. 420m W (2003)
- Sky Lark (*Alauda arvensis*), approx. 425m SW (2005)
- Otter (*Lutra lutra*), approx. 730m SW (2010)
- Wall Brown (*Lasiommata megera*), approx. 820m NW (2013)

### Bats

3.2.3 A maternity roost of Lesser Horseshoe bats is present at the Manor House approximately 250m to the north-west of the application site boundary. Prior to the recent redevelopment of this building, over 200 Lesser Horseshoe bats were recorded during recent emergence counts.

### Slow-worm (*Anquils fragilis*), approx. 110m W (2012)

3.2.4 Records of Slow-worm were made in 2012, 2015 and 2017 approximately 110m to the north and west of the proposed development site; this record was made within Gorse Hill Caravan and Lodge Park however no records exist within the boundary of the application site. The habitat type at this location differs significantly from the proposal area.

**Bluebell (*Hyacinthoides non-scripta*), approx. 110m W (2012)**

- 3.2.5 Bluebell has been recorded within woodland 110m to the west of the proposal site in 2012 within property owned by Gorse Hill Caravan and Lodge Park, however no records exist within the boundary of the application site.
- 3.2.6 Category 2 species (Global Red List, British Red Data Book, Nationally Rare & Scarce, Welsh Red and Amber Birds & Welsh Vascular Plant Red Data List, where these are not identified in Category 1) and Category 3 species (LBAP Species not identified under Categories 1 & 2, Locally Important species as specified by local experts) identified during the data search include;
- Buzzard (*Buteo buteo*), approx. 270m NW (2012)
  - Woodcock (*Scolopax rusticola*), approx. 425m SW (2005)
  - Black Poplar (*Populus nigra subsp. betulifolia*), approx. 800m SW (2005)
  - Tawny Owl (*Strix aluco*), approx. 800m W (2007)
- 3.2.7 No species records came from within the boundary of the proposed development site.

**3.3 Initial walkover survey**

- 3.3.1 A 'walkover survey' (visual inspection) as part of a Preliminary Ecological Assessment of the site was conducted in daylight to assess the potential for the site to be used by protected species. The walkover survey was undertaken by Principal Ecologist Mr. Stuart Kato during the spring and summer of 2017. This was updated in June 2019 by Dr. Richard Birch and in August 2020 and again in May 2023 by Mr. Stuart Kato.
- 3.3.2 The study area is situated on a north-east facing slope. Surrounding land to the east is improved agricultural grassland, used predominantly for rearing livestock (sheep and cattle). The pastures are interwoven with a network of hedgerows providing excellent bat flight lines and foraging habitat. The land adjacent to the west and south-west is deciduous woodland, the north-west links to development area to the rest of the caravan/lodge park property. There are very few wetland areas in the locality with the exception of running ditches and the river Conwy. A Phase 1 map is included in Figure 5, APPENDIX .

**Table 1 Description of Habitats on site**

Feature	Description & Species list
<b>Hedgerows</b>	<p>Tall, overgrown hedgerows and trimmed hedgerows are present along part of the field boundaries and are typified by Hazel (<i>Corylus avellana</i>), Hawthorn (<i>Crataegus monogyna</i>), Blackthorn (<i>Prunus spinosa</i>) and Elder (<i>Sambucus nigra</i>) with the occasional standard Ash (<i>Fraxinus excelsior</i>) and Sessile Oak (<i>Quercus petraea</i>). Common hedgerow wildflowers such as Red Campion (<i>Silene dioica</i>) and Herb-Robert (<i>Geranium robertianum</i>) provide an attractive boarder to the hedgerow.</p> <p>The hedgerow running along the entire eastern boundary of the application site is a dense coppiced thicket consisting primarily of Hazel (<i>Corylus avellana</i>) and Bramble (<i>Rubus fruticosus</i>).</p>
<b>Broadleaved woodland</b>	<p>Mature, predominantly Sessile Oak (<i>Quercus petraea</i>) woodland is present beyond the western boundary and in the north-western corner of the application site, including areas of Bluebell (<i>Hyacinthoides non-scripta</i>). The woodland is described in detail in the woodland management plan (Ref: 2014/003) produced by Ecoscope in 2014.</p>
<b>Species-poor improved grassland</b>	<p>Species-poor improved pasture forms the majority of the proposed development area, this grassland has been heavily grazed for a number of years and has lost its botanical value. Subsequent lack of management is resulting in common dominant species of grass and dock (<i>Rumex sp.</i>) appearing in the centre of the field, while bramble (<i>Rubus fruticosus</i>) encroaches from the field boundaries in some areas, Ragwort (<i>Senecio jacobaea</i>) is frequent.</p>

3.3.3 The application area itself consists of two primary habitat types; improved grassland that has been subject to high grazing pressure over a number of years, and an intact native hedgerow. Native broadleaf woodland resides beyond the western boundary of the application site, however the application site itself does not include this habitat. The only habitat noteworthy from a nature conservation point of view is the hedgerow which may provide a foraging and commuting resource for the local population of Lesser Horseshoe bats. Hedgerows can provide an enclave of botanical diversity where flowering species have retained some limited protection from the grazing pressure. The botanical species detailed below were recorded during the walkover survey and subsequent investigations.

### 3.4 Protected species on site

3.4.1 Considering the results of the desk top search and initial walkover survey, the site investigations further considered the suitability of the site for protected species. Detailed information about the site in general has been gained through recent investigations undertaken for parallel development on the same site. Detailed surveys for the species detailed below were undertaken.

#### **Avifauna (Birds):**

3.4.2 An assessment of suitable nesting habitat was made during the botanical surveys undertaken as part of the site investigation. The majority of habitat within the boundaries of the proposal site is species-poor improved grassland and therefore has negligible value as a nesting site for most birds; however the boundaries of the site include (or are sited near to) dense hedgerows and woodland blocks of mature trees – all providing potentially ideal nesting habitat. A Goshawk (*Accipiter gentilis*) was recorded in woodland nearby in 2018 but there would be no anticipated impact due to the distance from the development. The Goshawk has not been observed since and there is no apparent reason for this.

3.4.3 No nests were identified within the boundaries of the proposed development site. Incidental sightings of birds using the entire property were also recorded; these are detailed in **Table 2** Bird species observed on site.

**Table 2. Bird species observed on site**

Common name	Scientific name
Blackbird	<i>Turdus merula</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Buzzard	<i>Buteo buteo</i>
Carrion Crow	<i>Corvus corone</i>
Chaffinch	<i>Fringilla coelebs</i>
Goldcrest	<i>Regulus regulus</i>
Great Spotted Woodpecker	<i>Dendrocopos major</i>
Great Tit	<i>Parus major</i>
Nuthatch	<i>Sitta europaea</i>
Song Thrush	<i>Turdus philomelos</i>



Common name	Scientific name
Tree creeper	<i>Certhia familiaris</i>
Wood Pigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

3.4.4 All wild birds benefit from protection under the Wildlife and Countryside Act 1981 (as amended). The following birds observed on the property are also included in the additional legislation or protected status as noted.

- Song Thrush (*Turdus philomelos*) – S7, Red list species, UKBAP
- Bullfinch (*Pyrrhula pyrrhula*) – S7, Amber list species, UKBAP

**Badger (*Meles meles*):**

3.4.5 No Badger setts (active or unused) were discovered within the proposed development area. However Badger foraging signs were discovered throughout the property and a dead Badger was discovered on Baclaw land close to the site in 2014. It is considered that Badgers are present nearby, however they are not currently using the proposed development area as a resting place. The nearby habitat is suitable for sett building with well-drained soil and sloping banks so future use for sett building is possible. Rabbit burrows are extensive in certain areas of the site.

**Bats (*Chiroptera*):**

3.4.6 Flight-line surveys of the entire property (including the application area) were undertaken by our suitably experienced and licenced ecologist during May 2016, updated again in May 2023 to confirm conformity. The surveys started at sunset and continued for three hours after sunset. Bats were observed using habitat outside of the application area and identified to species level where possible through the use of an Anabat Walkabout detector and visual interpretation. The surveyor took a mobile approach to the survey moving throughout the entire property including the area currently proposed development to generate a picture of how bat species use the habitat.

3.4.7 Details of bat surveys of the entire property are available from a report (Ref: 2014/003) produced by Ecoscope Ltd. in May 2014, five species of bat were recorded

within the property boundaries including Lesser Horseshoe (*Rhinolophus hipposideros*), Common Pipistrelle (*Pipistrellus Pipistrellus*), Soprano Pipistrelle (*P. pygmaeus*), Noctule (*Nyctalus noctula*) and Daubenton's bat (*Myotis daubentonii*). The only suitable bat habitat that will be affected by the proposal is a short area of hedgerow that will be temporarily removed and reinstated. This area was surveyed on the 24<sup>th</sup> August 2016 to determine use as a bat flightline. An anabat SDII detector was used and the survey started at sunset and continued for three hours. A single surveyor was used to survey the area. Several species of bat were recorded foraging in this area intermittently throughout the night including Common and soprano Pipistrelle, a Brown Long-eared bat and Noctule passes. The foraging was not concentrated around the lower hedgerow itself but around the adjacent woodland block with some use of the hedgerow. This survey was updated in June 2019 to confirm that the results remained consistent.

**Herpetofauna (Reptiles & Amphibians):**

- 3.4.8 Five update reptile survey visits were undertaken in 2017 searching artificial and natural refugia, the proposed development area was surveyed. Reptile searches were undertaken during ideal weather conditions of intermittent cloud and no heavy precipitation. The surveys were undertaken in all areas of suitable habitat including woodland fringes and hedgerow. These surveys were updated between April and May 2019 when three visits were made during suitable weather conditions observing natural refugia. The results were consistent, and no significant changes had taken place to the habitat. No further survey is considered necessary (2023) as there have been no significant changes in the habitat on site.
- 3.4.9 Surveys were undertaken following standard reptile survey methodology detailed in Refugia sheets (1m<sup>2</sup> Onduline™ sheets) were deployed at a density of 150 per hectare of suitable habitat. Twice the size of the standard 0.5 m<sup>2</sup> refugia, these are generally accepted to be more attractive to reptiles. Refugia were located evenly throughout the site, placed close to cover in areas considered to be good reptile habitat with an open mosaic of vegetated and open land. Surveys were generally undertaken before 1000hrs and were aided by the use of close-focusing binoculars

so that sheets could be observed without being disturbed. Surveys for newts were not considered necessary as no ponds were recorded within or close to the site and Great Crested Newts are not known to be present in this area of North Wales.

3.4.10 Table 3 in the report produced by Ecoscope Ltd. (Ref: 2014/003) in May 2014 shows the results of the visits undertaken previously, Slow Worms (*Anguis fragilis*) were located elsewhere on the property. However, no reptiles were found within the proposed development area. This area is considered unsuitable for this species based upon the habitat present. The results of the 2017 update survey are shown in Table 1.

**Table 2. Reptile update survey results**

Survey Date	Weather conditions	Results
20/4/2017	12°C part cloud no rain	No reptiles
27/4/2017	10°C part cloud no rain	No reptiles
3/5/2017	15°C part cloud no rain	No reptiles
17/5/2017	12°C part cloud no rain	No reptiles
25/5/2017	19°C part cloud no rain	No reptiles

**Assessment of other Section 7 and LBAP species present**

3.4.11 An assessment of the site was made on the ability of the habitat present to support species listed as important on Biodiversity Action Plans (Local and National) and those species listed on Section 7 of the Environment (Wales) Act 2016.

3.4.12 The habitat is considered to be suitable for a range of species which were not recorded but considered possible to be present. Their absence during the survey period may be because of a low population density, chance or simply that the species has not expanded its range to this area yet. Section 7 and LBAP species that meet these criteria are listed below along with their status and reasons for consideration:

- Brown Hare (*Lepus europaeus*) – S7, UKBAP, LBAP
- European Hedgehog (*Erinaceus europaeus*) – S7, UKBAP, LBAP
- Barn Owl (*Tyto alba*) – WCA1, LBAP
- Tawny Owl (*Lasiommata megera*) – LBAP

3.4.13 These species were not observed on site during the walkover & subsequent species surveys; however the habitat on and surrounding the site is suitable (pastures, hedgerows & deciduous woodland) and they are also known to occur locally.

### **3.5 Arboricultural survey results and Impact Assessment**

3.5.1 The scheme has been designed with early arboricultural input. The position of trees and their root protection zones were ascertained before the design process. As such the bulk of the project has been aligned to avoid any interference with tree root protection zones. The position of trees and their root protection zones are shown on the Proposed Layout drawing presented in **Appendix I**. The anticipated impacts are detailed below.

3.5.2 The access road to the lodges has been aligned to avoid the root protection zones. Please refer to **Appendix I**.

3.5.3 Works come close to **G2** (recently planted woodland) but are outside the root protection zone. There is a minor incursion (less than 20%) into the root protection zone of **T3**. Impact to the roots of these trees can be mitigated through appropriate measures detailed in a site specific arboricultural method statement.

3.5.4 Recent planting on site has created a substantial woodland boundary alongside the western side of Baclaw Lane (**G2**). Because of the recent nature of this planting and distance from the proposed works it is not expected that the proposal will have any impact on its longevity. Some of these recently planted trees will need to be relocated during the culvert works.

3.5.5 No pruning or lopping is anticipated to be required as part of this proposal. In time the newly planted Beech trees by Baclaw lane may require the trimming of some branches as they overhang the lodges. However, this will not be necessary for a number of years,

3.5.6 The trees close to the development are detailed in **Table 3**. No other trees are sufficiently close to the development to be affected by the works however their Root

Protection Area's (RPA's) are marked on the drawing shown in **Appendix I**. No trees will be significantly affected by the proposal.

**Table 3. Tree survey schedule**

Tree no.	Species	Height (m)	DBH (mm)	RPA radius (m)	RPA area (m <sup>2</sup> )	Crown spread (m)				Crown clear. (m)	Age class	Condition		Rem. cont. (yrs.)	Quality Grade
						N	E	S	W			Physiological	Structural		
<b>T1</b>	<i>Quercus petraea</i>	15	1200 (MS)	14.4	652	5	5	4	4	3	M	Good	Good	>40	B2/3
<b>G1</b>	<i>Quercus petraea</i>	<18	<1200 (MS)	-	-	<5	<8	<10	<8	1	M	Good - minor and major deadwood	Good	>40	B2/3
<b>T3</b>	<i>Betula pendula</i>	13	433	5.1	81	4	10	4	0	0	M	Good	Good - poor balance	>40	B2/3
<b>T4</b>	<i>Quercus petraea</i>	14	1480	-	-	9	8	7	4	2	M	Good - minor deadwood	Good	>40	B2&B3
<b>G2</b>	<i>Quercus Petraea / Robur, Alnus glutinosa, Betula pendula, Corylus avellane, Salix sp.</i>	<9	<100	-	-	2	2	2	2	1	Y	Good	Good	>40	B2/3
<b>H1</b>	<i>Corylus avellana</i>	5	50	-	-	1	1	1	1	0	Y/EM	Good	Good	>40	B2
<b>T5</b>	<i>Quercus petraea</i>	9	480 & 510	-	-	6	6	6	6	1	M	Good - minor deadwood	Good	>40	B2
<b>T6</b>	<i>Quercus petraea</i>	8	900	-	-	6	6	6	6	2	M	Fair - minor deadwood, sparse foliage	Fair - dense Ivy	>40	B2
<b>T7</b>	<i>Quercus petraea</i>	8	920	-	-	6	6	6	4	0	M	Fair - minor deadwood, small leaves, epicormic shoots	Fair - dense Ivy	>40	B2
<b>T8</b>	<i>Quercus petraea</i>	14	est. 420	-	-	2	5	6	4	0	M	Good	Fair - poor balance	>40	C

<b>G9</b>	<i>Corylus avellana</i>	6	est. 800			6	6	6	6	0	M	Good	Fair - stems with poor balance	>40	B2/3
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### 3.6 Limitations

3.6.1 No significant limitations were encountered during the data collection. All data presented in this report was correct at the time of collection. Many species of wildlife are highly itinerant regularly changing their behaviour patterns. This update is considered to be valid for a period of two years from the date of collection.

## **4. IMPACT ASSESSMENT**

### **4.1 Construction and operational effects**

- 4.1.1 The anticipated development impacts, without mitigation, upon each receptor are outlined in the following section.

#### **Avifauna (Birds)**

- 4.1.2 The majority of the proposed development site comprises of grassland pasture and as such no significant long-term effects are anticipated upon local bird populations as part of the development, however some temporary disturbance may occur from general works in the proximity of nesting habitat as the site lies adjacent to hedgerows and woodland which are not directly affected by the works.
- 4.1.3 Longer-term effects of the proposal may include bird-feeding by residents (a common occurrence within the existing park) which may result in an increase in the survival of some common garden bird species. Overall it is anticipated that the impact on local avifauna without mitigation and enhancement is considered to be negligible and of a LOCAL scale.

#### **Chiroptera (Bats)**

- 4.1.4 The proposals do not interfere with any roosting areas for bats. No significant tree felling will be undertaken to facilitate the additional units, associated track or the culvert.
- 4.1.5 Lighting from lodge units or track lighting has a potential to illuminate the hedgerow located along the eastern boundary of the site adjacent to Baclaw lane, however the hedgerow has been significantly widened in anticipation of this proposal along the entire eastern boundary. The net result is expected to be a significant increase in the amount/width of unlit hedgerow habitat on the site. In order to maximise the ecological value of the proposed new woodland strip, artificial illumination will require consideration to avoid 'over-lighting' features of potential value to bats at night. This has been addressed by positioning the lodges with no windows directly facing the hedge to avoid light spill to this area. The impact on bats in the locality (without mitigation and enhancement) is considered to be LOW and on a LOCAL scale.



### **Habitat**

- 4.1.6 There would be no significant operational or construction impacts upon ecologically valuable habitats present within the development boundary. The development area is located on improved grazing land with limited use to wildlife or botanical interest. Overall there may be some increased disturbance caused by the occupants of the units. However, it is unlikely that all the units will be occupied at the same time and impacts on the better-quality wildlife habitat would be minimal. This is not expected to be a significant impact and would be offset by the removal of intensive grazing and improvement of habitat. The impact on habitat on the site without mitigation and enhancement is therefore considered to be TEMPORARY, LOW and of a LOCAL scale

### **Statutory sites**

- 4.1.7 No adverse impact on any statutory sites is anticipated either during construction or during the operation of the additional units or associated track. The proposed woodland planting along the entire eastern boundary of the site, combined with the proposed woodland planting in the north-western corner of the application site has the potential to improve connectivity to the native broadleaf woodland habitat to the west, as well as improving ecological connectivity to the non-statutory ancient woodland of Coed Baclaw adjacent to the south-west of the application site. These proposals would potentially increase the ecological value of Coed Baclaw by improving connectivity to the woodland from previously isolated copses and hedgerows in the surrounding area.

## 5. IMPACT AVOIDANCE, MITIGATION AND ENHANCEMENT MEASURES

### 5.1 Mitigation proposals

5.1.1 Having set out the impacts without mitigation, this section considers the expected impacts with mitigation. Mitigation is used as a generic term and is considered to include measures to avoid or to compensate for direct or indirect impacts, or to mitigate (to make an unavoidable impact less severe). The anticipated impacts and proposed mitigation measures are summarised in Table 3 below:

**Table 4. Impacts and mitigation**

Impact	Description of impact	Mitigation proposal	Impact following mitigation
Avifauna (birds)	Potential disturbance during bird nesting season	A reasonable avoidance measures statement (RAMS) will be followed, either avoiding the bird nesting season or completing a nesting bird survey before works.	Negligible
Chiroptera (bats)	Possible night-time illumination of hedgerows or woodland by lodges and associated infrastructure.	Lighting control measures to be implemented. The proposed lodges will not contain windows facing the eastern hedgerow. Any lighting required elsewhere within the site layout will be of low intensity and directional with minimal light spillage.	Negligible
Habitat	Permanent loss of improved grassland	No significant impact recorded to mitigate against. Please see enhancement	Negligible

#### Nesting birds

5.1.2 Removal or pruning of any hedgerow shrubs should be undertaken during October – February in order to prevent any offence regarding the damage or destruction of any active nests of any bird species under the Wildlife and Countryside Act 1981 (as amended). If this is not possible then clearance works should only be undertaken following a detailed search for active nests by a suitably experienced ecologist and then only once any active nests have been protected. No significant clearance work

is anticipated with the proposed development. Bird boxes (Schwegler type 1B) will be erected in appropriate locations within the development site as enhancement features.

### **Bats**

5.1.4 Hedgerows within the site and woodland outside the site boundary will not be illuminated by external lighting. The lodges proposed will not contain windows facing the eastern hedgerow. Any lighting required elsewhere within the site layout will be of low intensity and should be directional with minimal light spillage. Bat boxes (Schwegler type 2F) will be erected in appropriate locations within the development site as enhancement features.

## **5.2 Enhancement proposals**

5.2.1 The proposal also includes enhancements which are included within the proposal not for compensating any reduction in biodiversity but enhancing it. These enhancements are detailed in Table 4 below:

**Table 5. Enhancement proposals**

<b>Enhancement</b>	<b>Description</b>	<b>Proposal</b>	<b>Result</b>
Habitat; Boundary hedgerow widening	Planting of approximately 1000 native broadleaf trees.	Widening of hedgerow to create narrow woodland strip along eastern boundary of site. (completed in advance of application (2016)	Enhancement
Habitat; Woodland creation & local wildlife site	Planting of native broadleaf link woodland for connectivity. Six separate areas of woodland are proposed totaling 1915m <sup>2</sup>	Planting of native broadleaf trees as a link woodland between copses on western boundary of site, improving connectivity to Coed Baclaw local wildlife site.	Enhancement
Avifauna (birds)	Provision of additional nesting opportunities	Installation of 50 bird nesting boxes (Schwegler Type 1B) to be installed in suitable locations on site.	Enhancement

Enhancement	Description	Proposal	Result
Chiroptera (bats)	Provision of additional roosting opportunities	Installation of 50 bat boxes (Schwegler Type 2F) to be installed in suitable locations on site.	Enhancement
Wildflower habitat	Creation of 1,103m <sup>2</sup> of wildflower grassland	Creation of species rich wildflower grassland on areas of previously improved and species poor grassland.	Enhancement
Hedgerow	Creation of 48 Linear meters of Native hedgerow	To promote wildlife connectivity across previously isolated intensively managed farmland.	Enhancement

5.2.2 Significant woodland planting will be undertaken as part of the proposed works. The details of these measures are presented in the landscaping plans produced by Environmental Associates submitted as part of this application. The proposal includes enhancement of the hedgerow running along the eastern boundary of the site; tree planting is to occur along the length of the hedgerow resulting in the creation of a wider woodland strip (this has been created in advance of the application). Planting of new native woodland is also proposed to create a continuous woodland by connecting the woodland to the west and north-west of the application area, thereby re-connecting these woodland habitats. The proposed enhancement has the potential to benefit many legally protected species, including various foraging/nesting birds, foraging/commuting bats, as well as numerous Section 7 (Environment [Wales] Act 2016) species such as Hedgehogs and Tawny Owls, all of which have been recorded locally.

5.2.3 Provided that the mitigation and recommendations suggested are implemented it is anticipated that all the impacts discussed will be reduced to negligible levels. Overall it is considered that there will be a net biodiversity gain taking into account the enhancements highlighted in Table 4 and Table 5.

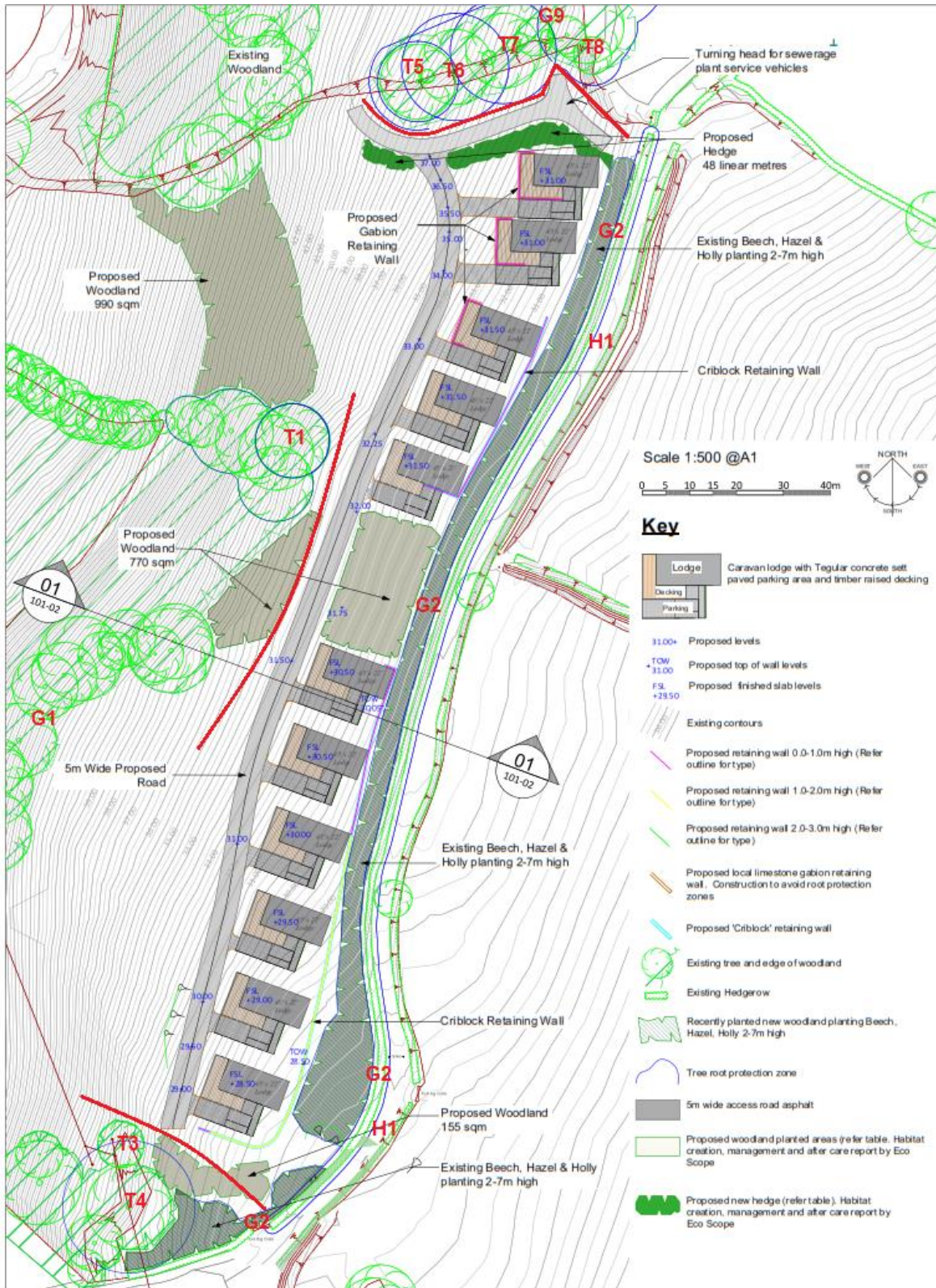
## **6. CONCLUSION**

### **6.1 Concluding Statement**

- 6.1.1 The proposal does not present any significant ecological impacts on the immediate development zone or wider landscape. This has been achieved through a considerate choice of poor-quality habitat (improved and heavily grazed grassland) and avoidance of tree protection zones. The enhancements proposed will result in a net biodiversity gain by improving the quality of the habitat on-site from an ecological perspective by increasing the woodland and hedgerow habitat.

# APPENDIX 1 TREE LOCATION AND PROTECTION PLAN

Figure 4 Proposed Development layout plan (showing Tree Root Protection Areas)



NB. Tree root protection areas in Blue and protective fencing in Red, indicative position.

## APPENDIX 2 SITE PHOTOGRAPHS



**A.** Looking south from the proposed entrance point



**B.** T1 Oak tree, close to the proposed access road



**C.** Planting of 6m Beech trees with Hazel and Holly understorey.



**D.** Lower field looking south showing heavily improved grassland.



**E.** Lower field looking North showing field margin surveyed for reptiles.



**F.** Baclaw lane looking South. Dark bat flight corridor maintained.



**G.** Looking south across the proposed lodge development site



**H.** Existing hedgerow will be retained



## APPENDIX 3 ARBORICULTURAL METHOD STATEMENT

### Protection of the Root Protection Zone

1. If possible, exclude all site traffic (vehicular and pedestrian) and works from the RPA's shown on the Tree Protection Plan in **Appendix I**. This exclusion can be achieved by the erection of barriers, which should be fit for purpose and maintained upright and complete (chestnut paling is often used). This will effectively establish a Construction Exclusion Zone (CEZ), which should not be used to stockpile materials and store machinery during the development.
2. If the passage of some site traffic over the RPA's cannot be avoided, ground protection should be installed as follows:
3. pedestrian traffic - a single thickness of scaffold planks on top of a compressible layer laid onto a geotextile;
4. vehicular traffic - the ground protection should be formulated by a suitably qualified person using a no-dig design to accommodate the likely loading, e.g., CellWeb ([http://www.geosyn.co.uk/products/cellweb-trees.asp?product\\_id=21](http://www.geosyn.co.uk/products/cellweb-trees.asp?product_id=21)) or Treeguard (<http://www.civilsandlintels.co.uk/Products/Geotechnical-Ground-Engineering/Treeguard/>). Where the new access would cover more than 20% of the RPA, or be wider than 3m within it, it should be constructed so as to allow moisture infiltration and gaseous diffusion.
5. Ground levels should not be lowered within the RPA. If levels must be raised, the fill should be a granular material that does not inhibit vertical gaseous diffusion.
6. New impermeable surfaces within the RPA should be restricted to a maximum width of 3m and situated tangentially to one side of a tree only, or confined to an area no greater than 20% of the RPA, whichever is the smaller.
7. Excess water in the RPA should be avoided. Any adjacent landscaping works, although outside the CEZ, should promote drainage away from the trees to prevent ponding and waterlogging.
8. Use no-dig, trenchless excavation techniques for the installation of underground services within the RPA where possible. As a last-resort alternative to machine-cut trenches, hand-dig a trench along the shortest distance across the relevant RPA.
9. Any excavations which have to be undertaken within the RPA should be carried out carefully by hand or by using an air-spade, avoiding damage to the protective bark covering larger roots. While exposed, these roots should be wrapped in dry, clean hessian sacking. Roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using a sharp cutting tool such as secateurs, loppers or a handsaw. Roots larger than 25mm should only be severed following consultation with an arboriculturist. Prior to backfilling, any hessian wrapping should be removed, and retained roots should be surrounded by sharp sand (not builder's sand) before soil or other material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots.
10. If hard standing within the RPA does need to be removed using an excavator, park the excavator outside the RPA and reach in with the hydraulic arm, keeping the weight of the machine outside the RPA.

**Arboricultural Works:**

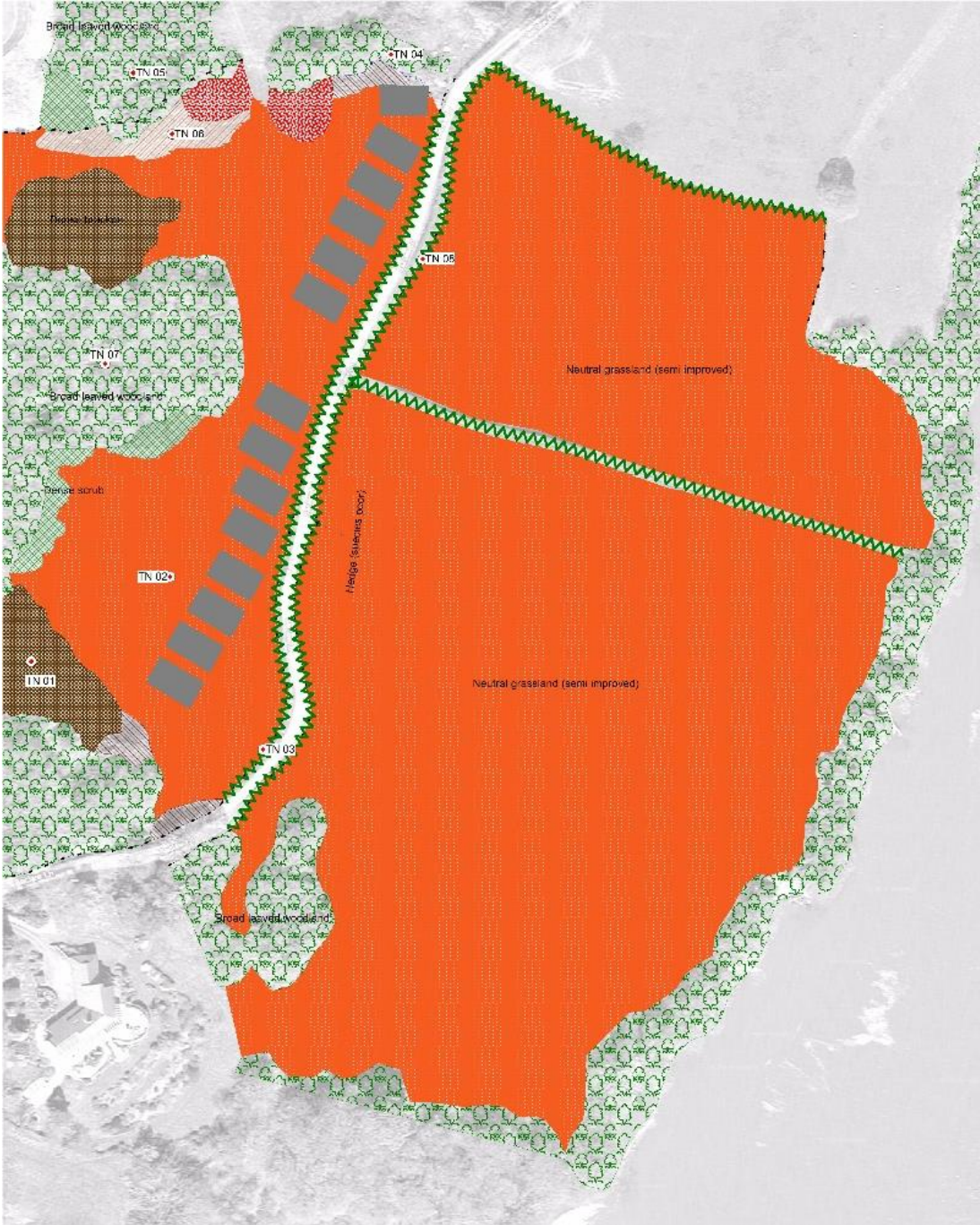
1. Before the erection of the temporary protective fencing, any tree removal required, or scrub clearance shall be implemented in accordance with the Tree Survey Schedules.
2. All possible efforts must be made to prevent damage to retained trees including potential root incursion or compaction caused by vehicle access.
3. All arboricultural works shall conform to the recommendations of BS 3998 (2010) 'Recommendations for Tree Work'
4. Performance of all arboricultural operations and use of equipment shall be in accordance with current codes of practice.

**Tree Protection Specification:**

1. The Root Protection Area (RPA) and Construction Exclusion Zone (CEZ) enclosed by temporary protective fencing shall:
2. Be erected prior to any demolition works, delivery of site accommodation or materials and shall remain for the duration of construction works.
3. Preclude all construction activity with the sole exception of specified arboricultural works and as such works as have been agreed by all parties and to be carried out under supervision.
4. Be protected by temporary protective fencing and other measures as specified.
5. Preclude the storage or tipping of all materials and substances, in addition, toxic substances such as fuels, oils, additives, cement, or other deleterious substances within 5.0 meters of an exclusion zone.
6. Clearly legible weatherproof signage, stating "Protected Trees – Exclusion Zone" shall be attached to the fencing 1.5m from the ground, facing out of the Tree Protection Zone located at regular intervals along the fence line.
7. Other than works detailed within this method statement or approved in writing by the Local Planning Authority (LPA), no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

**APPENDIX 4: PHASE ONE MAPPING & TARGET NOTES**








**Figure 5 Phase 1 map & key (with approximate position of proposed units)**




**Nb. Lodge positions are indicative, please refer to**

**KEY:**

**HABITAT**

	Acid grassland (species-rich)
	Broad leaved woodland
	Dense bracken
	Dense scrub
	Neutral grassland (semi improved)
	Tall ruderal
	Tips

**LINEAR FEATURES**

	Fence
	Hedge (species poor)
	Running water eutrophic

**TARGET NOTES**

 TN 07

**Table 6 Target Notes**

TN	NOTES
1	Continuous bracken
2	Semi-improved neutral grassland dominated by Cock's-foot ( <i>Dactylis glomerata</i> ) and Soft grass ( <i>Holcus mollis</i> ) with very few herbs.
3	Species-poor hedge dominated by Hazel ( <i>Corylus avellana</i> ) with intermittent planted Beech ( <i>Fagus sylvatica</i> ) and rare Hornbeam ( <i>Carpinus betula</i> ).
4	Line of mature Oak ( <i>Quercus petraea</i> ) and section of running water into a closed drain.
5	Broad leaved woodland dominated by Oak ( <i>Q. petraea</i> )
6	Species-rich acidic grassland dominated by Common bent ( <i>Agrostis capillaris</i> ) with Musk mallow ( <i>Malvus moschata</i> ), Ragwort ( <i>Jacobeia vulgaris</i> ) Perforate St John's-wort ( <i>Hypericum perforatum</i> ) and Smooth hawk's-beard ( <i>Crepis capillaris</i> ).
7	Broad leaved woodland dominated by Oak ( <i>Q. petraea</i> ), with an understorey of Bluebell ( <i>Hyacinthoides non-scriptus</i> )
8	Species-poor hedge to 5m either side of Baclaw lane. 90% Hazel ( <i>Corylus avellana</i> ).

