



**PROPOSED DEVELOPMENT:**

**LAND AT TREVOR CLOSE, PANT, MERTHYR TYDFIL**

**ECOLOGICAL ASSESSMENT**

**MAY 2021**

**ISSUE 1, VC**

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LAND AT TREVOR CLOSE, Pant, Merthyr Tydfil

## Proposed Development: Land Trevor Close, Pant, Merthyr Tydfil

### Ecological Assessment

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## **NON-TECHNICAL SUMMARY**

An ecological assessment was undertaken of land at Trevor Close, Pant, Merthyr Tydfil, South Wales in support of a planning application to erect a number of residential dwellings.

The work involved a phase 1 habitat survey to categorise the habitats present, an assessment of the site's ability to provide suitable habitats for protected species and recommendations for further survey and actions if considered necessary.

The habitats on and adjacent to the site comprise of semi improved poor grassland, scrub, tall ruderal and bare ground.

Japanese knotweed was observed in close proximity to the culvert at the site entrance. It is likely that this has appeared as a result of dumped garden waste. It appears that this has been treated, however, it is starting to regrow.

None of the trees to be removed have potential roosting features due to their size, age and species.

It is always possible that some of the scrub present on the site could be used by dormice, however, the site is isolated, there are no records within 2km, food sources are not abundant and the site is subject to large levels of disturbance. As such, due to the limited removal of suitable habitat (scrub), providing that this habitat is cleared in accordance with a method statement and ecological supervision, there will be no requirement for further survey effort. If at any point dormice or evidence of dormice are found, all works will cease and a licence from Natural Resources Wales must be applied for prior to works recommencing.

There were no waterbodies on or immediately adjacent to the site which could be suitable for use by breeding great crested newts (or other amphibians). There are records within the data search, however, these records at a minimum are 1153m from the site and are isolated by roads and infrastructure.

It is possible that otters would travel using the watercourse present on site and for them to use the scrub and tall ruderal for lying up. However, the habitats on site that would otherwise be suitable for otters are frequently disturbed due to the proximity of housing. As such, otters lying up on the site is considered extremely unlikely.

No evidence of badger activity was recorded within or immediately adjacent to the site boundary. It is possible that badgers will use the site for foraging, however, no evidence of badger was found throughout. It is unlikely that badgers will use the site for sett building to the high levels of disturbance present at the site.

It should be assumed that all areas of scrub and longer tall ruderal will be utilised by nesting birds during the breeding season. There is no habitat suitable for ground nesting species due to the site being overlooked and highly disturbed.

The site provides reptiles with potential habitat for foraging, basking, sheltering and hibernation purposes. Surveys undertaken in the appropriate time of year failed to identify the presence of reptiles. It is likely that reptiles will be present, however, they are much more likely to use the existing refugia present and therefore their presence may have gone unnoticed. The presence of low numbers should be assumed.

All site clearance works should be undertaken in accordance with a method statement and ecological supervision to ensure that species are not harmed at any stage of the project.

Mitigation will be required and is outlined within the various habitat and species sections contained herein.

This report will need to be updated once the final development layout has been agreed.

## **1 INTRODUCTION**

### **1.1 OBJECTIVE**

The objectives of this report are to:

- identify the habitats present on the site;
- identify the potential for protected species to be present on site;
- using the information gathered to determine whether there may be any impacts (both positive and negative) on protected species present;
- provide recommendations for further survey as necessary; and
- suggest outline mitigation and enhancement ideas and principles

### **1.2 METHODOLOGY**

To achieve the objectives set out above, the following actions were taken:

- Field based assessments in respect of
  1. Habitats;
  2. Protected species, primarily:
    - i. Bats;
    - ii. Dormice;
    - iii. Otters;
    - iv. Amphibians (particularly great crested newt);
    - v. Badgers
    - vi. Reptiles; and
    - vii. Breeding birds

The impact assessment has been undertaken by ecological feature rather than by section i.e. each subject is discussed and assessed separately and summarised in conjunction with the others.

### **1.3 SITE DESCRIPTION**

The red line development site boundary encloses an area of approximately 1.1ha and is located in Pant on the northern edge of Merthyr in South Wales (centred on NGR SO06770920) (Figure 1). The site is located at the north eastern end of Trevor Close with Brecon Rise to the north west and Edward St to the south east. The Blaenmorlais SINC is located 80m to the north.

The eastern part of the site comprises of semi-improved poor grassland. Species here include timothy, soft rush, creeping buttercup, red fescue, perennial ryegrass, creeping bent, common bent, ribwort plantain, coltsfoot, broad leaved dock, curled dock, nettle, common daisy, creeping thistle, monbretia, rose bay willowherb, cut leaved cranesbill, herb Robert, dandelion, bramble, silverweed. There are areas of bare ground and paths throughout this location. There are two grey willows on the western boundary. There is a group of willow and a hazel on the northern boundary with a culvert under the old railway line. The northern most area of the eastern portion comprises of species typical of a tall ruderal habitat.

The western portion of the site is a mix of habitat comprising of scrub, heath and a mosaic of tall ruderal and semi improved poor grassland. The scrub is found in patches across the site and along the boundaries of the western portion of the site. Species here include grey willow, hawthorn, bramble, gorse and silver birch. The heath habitat is found to the north of the western portion and comprises of

bare ground with regenerating gorse, *deschampsia cespitosa*, common bent, common heather and devils bit scabious.

The remainder of the western portion comprises of tall ruderal and semi improved poor grassland including species such as *deschampsia*, *Molina*, ribwort plantain, hearts tongue, curled dock, broadleaved dock, cocks foot, heather, common vetch, common sorrel, silver weed, creeping cinquefoil, common cats ear, meadow foxtail, nettle, rosebay willowherb, ragwort, creeping thistle, birdsfoot trefoil, greater birds foot trefoil, black knapweed, dandelion, common cats ear, wild strawberry, red clover, white clover, *monbretia*, toad rush and Yorkshire fog.

There are rubble piles scattered throughout the western portion. Photographs are at Appendix A.

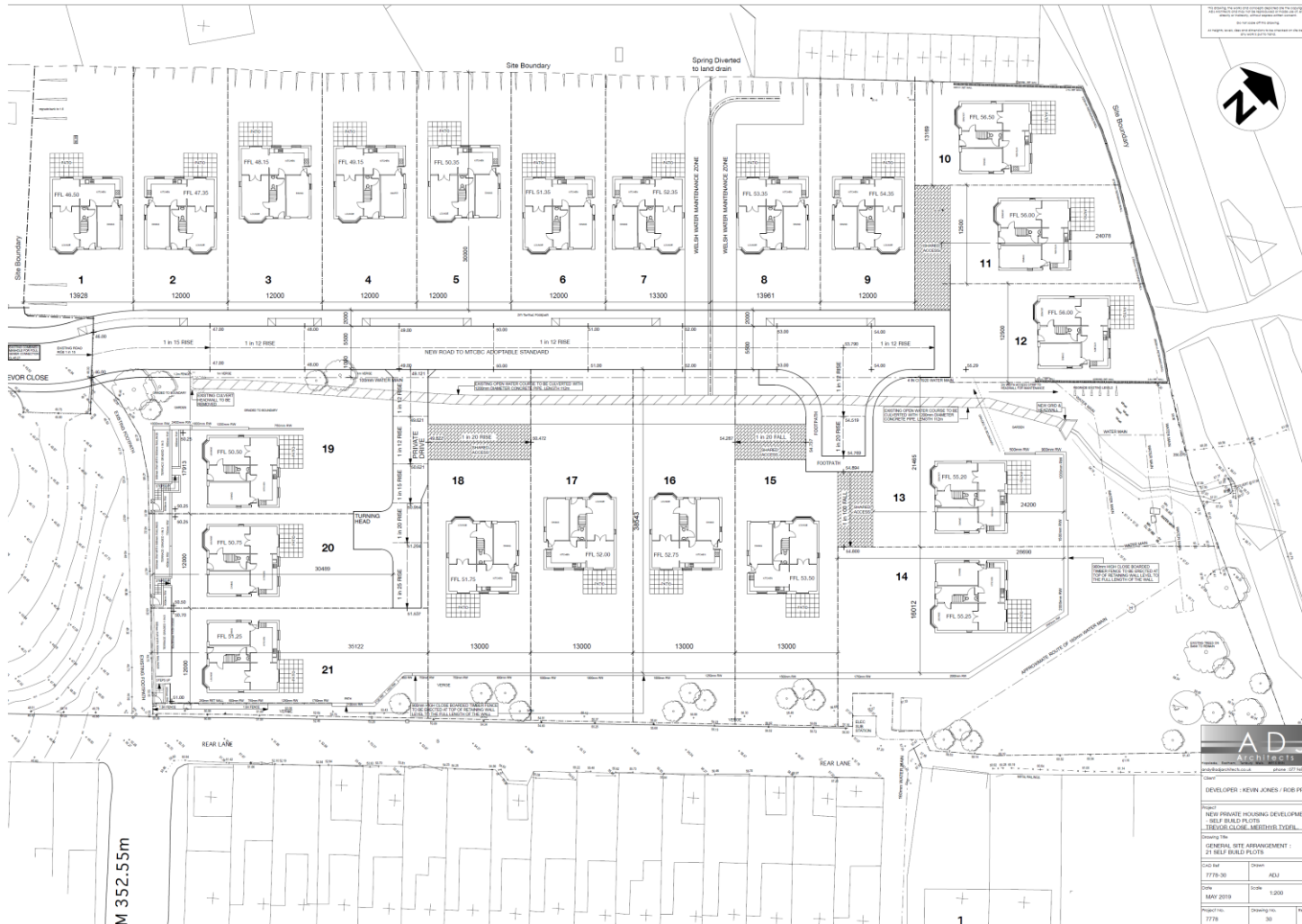
**Figure 1** – Detailed view of the site (approximate boundary boxed red)



**Figure 2** - aerial overview of the site (arrowed red)



## 1.4 PROPOSED DEVELOPMENT



## **1.5 STUDY AREA**

The field survey looked at the red line development area itself and up to 20m from the site boundaries wherever possible.

The biological records search covered a search radius of 2000m from the centre of the development site for protected sites (international, national and local), protected and priority species, other species of conservation concern and locally important species. A buffer of 2000m was applied to locally designated sites.

## **2 REGULATORY FRAMEWORK**

### **2.1 INTERNATIONAL**

European Union legislation requires that member states designate sites for the protection of habitats and species included in the annexes of both Council Directive 92/43/EC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive) and Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). This legislation is implemented in the UK by the Conservation of Habitats and Species Regulations 2017 (as amended) (“the Habitat Regulations”). This results in sites being designated as Special Areas of Conservation (SACs) and Special Protection Areas respectively (SPAs).

### **2.2 NATIONAL (UK)**

The Wildlife and Countryside Act 1981 (as amended) allows sites to be designated as Sites of Special Scientific Interest (SSSI) for one or all of the following categories:

- Flora;
- Fauna;
- Habitat; and
- Geological importance.

European designated sites are automatically designated as SSSIs prior to their designation.

Other relevant legislation includes:

- The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- Countryside and Rights of Way Act 2000;
- Environment (Wales) Act 2016
- Wild Mammals (Protection) Act 1996;
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997.

Section 40 of the Natural Environment and Rural Communities Act 2006 (as amended) requires all public bodies to have regard wherever possible to conserving biodiversity. Section 42 of the Act requires that a list of habitats and species of Principle Importance for the Conservation of Biological Diversity in Wales be produced; however, this has been replaced by Section 7 of the Environment (Wales) Act 2016 Priority Habitats and Species lists.

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that “Every public authority must, in exercising its functions, have

regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

Biodiversity Action Plans (BAPs) are tools which are used to monitor, manage and enhance those habitats and species which are of significance to an area or organisation, The United Kingdom BAP lists a number of priority habitats and species which are of conservation concern.

## **2.3 NATIONAL (WALES)**

Planning Policy Wales (Welsh Government, 2016) and Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning (Welsh Assembly Government, September 2009) set out the protection given to wildlife (sites, habitats and species) by the planning system operational in Wales.

## **2.4 LOCAL AND REGIONAL**

The proposed development is wholly within the Merthyr Tydfil County Borough Council (MTCBC) area of responsibility. Therefore, all policies adopted by that Planning Authority will apply, including policies which may not be specific to nature conservation or the natural environment but that may apply or be relevant and should be considered during the planning process.

There are a number of habitats and species which are of a high priority to MTCBC. These have been determined following examination of the UK BAP and the Environment (Wales) Act Section 7 list of Priority Species and Habitats and those habitats and species determined to be locally important by the Local Biodiversity Partnership.

## **2.5 PLANNING FRAMEWORK**

The proposed development will be undertaken wholly under the auspices of the Town and Country Planning Act 1990 (as amended).

## **2.6 PREVIOUS SURVEYS**

There are no known previous surveys of this site.

## **2.7 CONSTRAINTS**

There were no constraints to the survey.

### **3 DESK STUDY**

#### **3.1 SUMMARY**

There are no records of any priority or protected species, species of local conservation concern or other species of conservation concern from the site or immediately adjacent to it. The closest records are from 206m away.

14 non statutorily designated sites, e.g. Sites of Importance for Nature Conservation, 38 ancient semi natural woodland and 13 restored ancient woodland sites were identified within the data search.

The sites boundary forms part of a SINCC and RAWS site.

#### **3.2 BACKGROUND**

A desk study provides background information on historical and current biological data which can identify ecological constraints, mitigation, and biodiversity enhancement opportunities.

#### **3.3 METHODOLOGY**

The South East Wales Biodiversity Records Centre (SEWBReC) was consulted in order to provide biological information on the presence of species and sites on or adjacent to the site (0201-047).

A 2000m search buffer was applied to priority and protected species, species of local conservation concern and other species of conservation concern, statutorily designated sites (for nature conservation purposes) and 1000m locally designated sites.

The Multi-Agency Geographical Information System (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and the Local Biodiversity Action Plan (LBAP) for CCC were also consulted.

#### **3.4 CONSTRAINTS**

There were no constraints to the data search

### 3.5 RESULTS

#### 3.5.1 Statutorily protected sites

##### 3.5.1.1 European designated sites

There are no European Designated Sites within 2000m of the development site.

##### 3.5.1.2 United Kingdom designated sites

There are two United Kingdom Designated Sites within 2000m of the development site.

**Table 3** - non-statutorily designated sites within 1km of the proposed development site:

| Site                          | Designation | Grid reference | Area (ha) | Distance from site |
|-------------------------------|-------------|----------------|-----------|--------------------|
| Baltic & Tyle'r Bont Quarries | SSSI        | SO065115       | 6.7       | 1987m              |
| Cwm Taf Fechan Woodlands      | SSSI        | SO 05210       | 60.9      | 1211m              |

There are no ecological links between the development site and the SSSIs. There are no features present on the development site that the SSSIs are designated for. The sites are isolated by roads and other infrastructure. As a result it is unlikely that the sites will be affected and they will therefore not be considered further in this report.

#### 3.5.2 Non-statutory designations

**Table 4** - non-statutorily designated sites within 1km of the proposed development site:

| Site   | Designation | Grid reference | Area (ha) | Reason for designation                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Distance from site |
|--------|-------------|----------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Brynau | SINC        | Unknown        | Unknown   | Complex semi-upland area of limestone-influenced habitats, partly derived from old limestone quarries (Morlais Quarries) and screes associated with the former Morlais Castle. Part of the site is currently in use as a golf course. Extensive calcareous grasslands and screes supporting numerous rare and characteristic species, including nationally scarce plants. Also includes areas of neutral grassland and some small areas of acid grassland. Other habitats include | 819m               |

| Site         | Designation | Grid reference | Area (ha) | Reason for designation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Distance from site |
|--------------|-------------|----------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|              |             |                |           | limestone outcrops with ledge communities, bracken stands, limestone scrub and a pond.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |
| Morlais Hill | SINC        | Unknown        | Unknown   | Complex semi-upland area of limestone-influenced habitats, partly derived from old limestone quarries (Morlais Quarries) and screes associated with the former Morlais Castle. Part of the site is currently in use as a golf course. Extensive calcareous grasslands and screes supporting numerous rare and characteristic species, including nationally scarce plants. Also includes areas of neutral grassland and some small areas of acid grassland. Other habitats include limestone outcrops with ledge communities, bracken stands, limestone scrub and a pond. | 811m               |
| Cwm Tafechan | SINC        | Unknown        | Unknown   | The SINC contains Cwm Taf Fechan SSSI. The limestone geology gives rise to limestone woodlands, species-rich calcareous grasslands, species-rich neutral grasslands and calcareous scrub. Many species of interest have been recorded from the woodlands which are the designated feature of the SSSI. The neutral and calcareous grasslands of the valley slopes and bottom are typically species-rich. Otter ranges along the Afon Taf Fechan, which also supports a range of                                                                                          | 1087m              |

| Site                 | Designation | Grid reference | Area (ha) | Reason for designation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Distance from site |
|----------------------|-------------|----------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|                      |             |                |           | native fish species including salmon. Nationally rare and scarce invertebrate and bryophyte species have been recorded from the SSSI.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |
| Blaenmorlais         | SINC        | Unknown        | Unknown   | A large area supporting a mosaic of upland habitats at the western edge of Merthyr Common. Mainly acid grasslands with acidic flushes, grass-heaths, dry heathlands, marshy grasslands, bracken slopes and smaller areas of wet heathland and scrub. The site also contains small disused quarries (Garth Quarries) and acid screes. A section of the Nant Morlais within the site has steep valley sides with rocky outcrops. A large pond in the south of the site supports a regionally rare plant, and several uncommon dragonflies. To the north the site contains an area of limestone spoil tips supporting unimproved upland calcareous grassland, as well as some limestone outcrops and scree. | 80m                |
| Merthyr Common North | SINC        | Unknown        | Unknown   | Very extensive area of upland common land supporting a mosaic of both wet and dry moorland habitats. These include extensive areas of unimproved acid grassland, marshy grassland, dry heathland and grass-heath, together with areas of wet heath,                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 638m               |

| Site                                   | Designation | Grid reference | Area (ha) | Reason for designation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Distance from site |
|----------------------------------------|-------------|----------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|                                        |             |                |           | acid flush, bracken stands, scree and exposed gritstone bedrock. Tracts of modified blanket bog occur on the highest ground in the north-east of the site; these are often wet with abundant bog-mosses, although sometimes drier where drainage channels have been cut. Numerous small ponds and streams are present, including the headwaters of the Nant Morlais. Several ponds support floating bur-reed, a rare species in Glamorgan. In the north-west of the site, in contrast, there are areas of outcropping limestone, scree and extensive disused quarries (Twynau Gwynion) supporting calcicole grassland and ledge communities of very restricted occurrence in the County Borough. These areas are characteristically species rich, and support many regionally rare and scarce species. Numerous other localised plant species also occur in these habitats. |                    |
| Taile Hydd                             | SINC        | Unknown        | Unknown   | unknown                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1048m              |
| Pan March and Traed Y Milwyr, Llechryd | SINC        | Unknown        | Unknown   | An extensive upland area supporting a mix of wet and dry acid grassland and heath. Dominant species include Purple Moor-grass, Heather, Bilberry, Mat Grass, Cross-leaved Heath, Deer-grass, Heath Rush, Soft Rush, Common Cotton-grass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1436m              |

| Site | Designation | Grid reference | Area (ha) | Reason for designation                                                                                                                                                                          | Distance from site |
|------|-------------|----------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|      |             |                |           | and Sphagnum mosses. The area includes several flushes and ditches, with particularly diverse flushes located beside the Nant Pitwellt stream at SO091110, and adjacent to the road at SO089090 |                    |

There is probably connectivity in some shape or form to all of the above SINC's to the site. However, it is considered that due to the similarity in habitats across sites, the protection of the Blaenmorlais SINC that is adjacent to the site's northernmost boundary will protect the sites connected to this SINC. As such, this report will not further mention any other SINC's excluding the Blaenmorlais SINC.

### 3.5.3 Species: SEWBreC data search

There are no species records for the proposed development site or its immediate vicinity.

However, there are multiple records for protected species within 2000m of the site. A summary of the species found in the data search buffer and their legislative status is at **Appendix B**.

The closest records are of red kite and grayling approximately 305m and 353m from the centre of the proposed development site.

## 3.6 PREVIOUS SURVEYS

None known.

## 4 DESIGNATED SITES

### 4.1 NON-STATUTORY SITES – EVALUATION & IMPACT ASSESSMENT

As described previously, the Blaenmorlais SINC is directly adjacent to the sites northernmost boundary. Protection of this site will also protect other SINC's within the vicinity.

#### 4.1.1 Blaenmorlais

##### 4.1.1.1 Blaenmorlais – evaluation

Qualifying features

A large area supporting a mosaic of upland habitats at the western edge of Merthyr Common. Mainly acid grasslands with acidic flushes, grass-heaths, dry heathlands, marshy grasslands, bracken slopes and smaller areas of wet heathland and scrub. The site also contains small disused quarries (Garth Quarries) and acid screes. A section of the Nant Morlais within the site has steep valley sides with rocky outcrops. A large pond in the south of the site supports a regionally rare plant, and several uncommon dragonflies. To the north the site contains an area of limestone spoil tips supporting unimproved upland calcareous grassland, as well as some limestone outcrops and scree.

##### 4.1.1.2 Blaenmorlais - impact characterisation

It is anticipated that there will be no direct adverse impacts on Blaenmorlais. The SINC will be retained in its entirety. There is no SINC within the red line boundary, The site does not support species indicative of acid grasslands. The grassland on the site is not true grassland, the species present comprise of early succession, tall ruderal species. There is some scrub on the site, however, this is sparse and species and its removal is unlikely to affect the integrity of the SINC. There is some heathland to the northern end of the site, however this is limited. The area is mostly bare ground and is only just starting to recolonise, meaning species diversity is low. The area is subject to lots of disturbance, including fire setting and the loss of this habitat is unlikely to affect the integrity of the SINC.

It is anticipated that there could be some indirect impacts as a result of lighting, however, lighting can be mitigated for.

##### 4.1.1.3 Blaenmorlais- assessment without mitigation

There is a small potential for indirect impacts if lighting is not appropriately mitigated. Species that use the SINC may be adversely affected if they are not appropriately mitigated for.

##### 4.1.1.4 Blaenmorlais - mitigation measures

- The sites northernmost boundary will be fenced off prior to the development commencing
- All site boundaries will remain unlit at all times. Site lighting must face downwards and be set on timers
- There will be no tipping of builders waste or garden waste to the north of the site at any time
- The species and habitat mitigation outlined in the various sections of this report will be carried out in full

##### 4.1.1.5 Blaenmorlais - significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **moderate**.

4.1.1.6 *Blaenmorlais - significance of the impact*

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **negligible**.

## **5 PHASE 1 HABITAT SURVEY**

### **5.1 SUMMARY**

A number of habitats were recorded across and adjacent to the survey area. These included:

- Scrub;
- Bare ground;
- Tall ruderal vegetatio
- Semi improved grassland (poor) and
- Heath

The potential for a number of protected species was recorded, including habitats suitable for:

- Bats;
- Badgers;
- Dormice
- Breeding birds;
- Reptiles
- Otter
- Invertebrates

The habitats are shown on **Figure 3** below.

### **5.2 BACKGROUND**

The Phase 1 habitat survey was carried out to assess the existing habitats, identify any protected habitats or species that may be present, determine the impact of the proposed works on them, and identify any mitigation measures that may be necessary. This was done by undertaking both a desk study and field survey.

The survey was undertaken in August 2020 and again in October 2020.

Phase 1 habitat survey is a way of recording the basic habitat data to form a baseline level of knowledge of the ecology of a site and provide recommendations for future surveys if considered necessary.

### **5.3 METHODOLOGY**

#### **5.3.1 Desk study:**

A biological data search was undertaken. Refer to section 3 above.

#### **5.3.2 Field survey:**

Experienced surveyors from BE Ecological Ltd carried out a habitat assessment and mapping exercise in May 2020 using the Phase 1 habitat survey technique. Nomenclature follows Stace (1997)<sup>1</sup>. The survey was carried out by Beth Evans and Hugh Dixon. Licences include Bats, dormouse and great crested newt. Both Hugh and Beth have numerous years' experience in habitat and protected species surveys from both small consultancy and multi-disciplinary level.

---

<sup>1</sup> Stace, C (1997). *New Flora of the British Isles* (2nd Ed.). Cambridge University Press

Features of note are assigned Target Notes (TN) and referenced accordingly and described at **Appendix C**.

A full species list is at **Appendix D**.

## **5.4 CONSTRAINTS**

There were no constraints.

## **5.5 RESULTS**

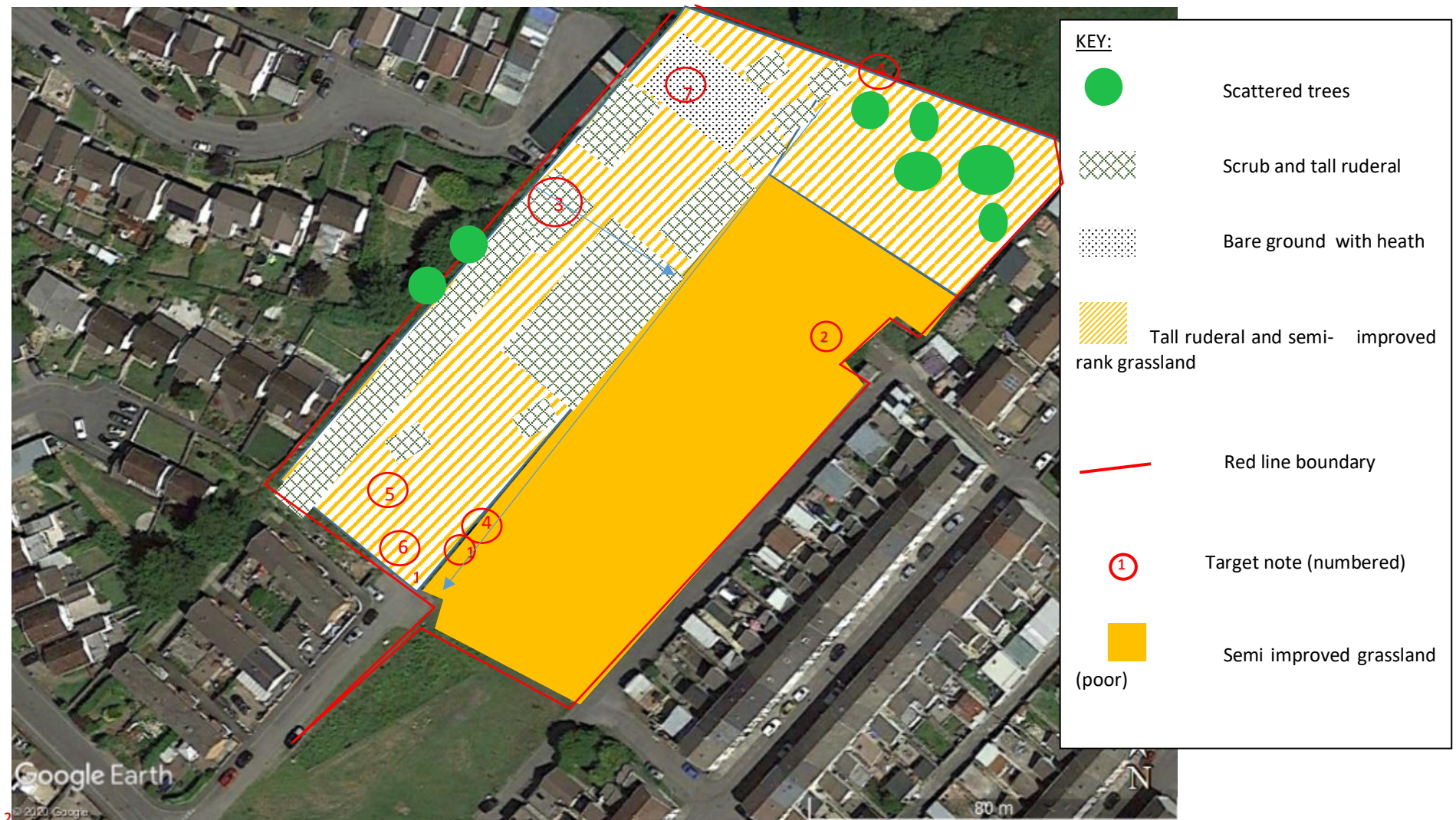
### **5.5.1 Habitats**

The following habitats were found on the site and are mapped on **Figure 3** below:

- Scrub;
- Bare ground;
- Tall ruderal vegetatio
- Semi improved grassland (poor) and
- Heath

Photos are located at **Appendix A**.

**Figure 3** – habitat survey results



#### 5.5.1.1 *Semi-improved grassland (poor)*

The eastern part of the site comprises of semi-improved poor grassland. Species here include timothy, soft rush, creeping buttercup, red fescue, perennial ryegrass, creeping bent, common bent, ribwort plantain, coltsfoot, broad leaved dock, curled dock, nettle, common daisy, creeping thistle, monbretia, rose bay willowherb, cut leaved cranesbill, herb Robert, dandelion, bramble, silverweed. There are areas of bare ground and paths throughout this location.

This habitat type is also found mixed in with tall ruderal.

#### 5.5.1.2 *Scrub*

The scrub is found in patches across the site and along the boundaries of the western portion of the site. Species here include grey willow, hawthorn, bramble, gorse and silver birch.

#### 5.5.1.3 *Bare ground*

These habitats are found in a mosaic across the main body of the site. This habitat is interspersed with piles of building rubble, tall ruderal, heath and semi-improved grassland.

#### 5.5.1.4 *Heath*

The heath habitat is found to the north of the western portion and comprises of bare ground with regenerating gorse, *deschampsia cespitosa*, common bent, common heather and devils bit scabious.

#### 5.5.1.5 *Tall ruderal mixed with semi-improved grassland*

This area comprises of tall ruderal and semi improved poor grassland including species such as *deschampsia*, *Molina*, ribwort plantain, hearts tongue, curled dock, broadleaved dock, cocks foot, heather, common vetch, common sorrel, silver weed, creeping cinquefoil, common cats ear, meadow foxtail, nettle, rosebay willowherb, ragwort, creeping thistle, birdsfoot trefoil, greater birds foot trefoil, black knapweed, dandelion, common cats ear, wild strawberry, red clover, white clover, monbretia, toad rush and Yorkshire fog.

#### 5.5.1.6 *Scattered trees*

There are two willows on the western boundary of the site with the north of the eastern portion of the site having a group of willows and two hazel trees.

The two willows on the western boundary are young, thin stemmed and are of low ecological value. The trees in the north eastern portion of the site will be retained.

#### 5.5.1.7 *Stream*

There is a culverted stream that enters the site above the old railway line and runs directly down the middle of the development site. There is a tributary that crosses the western portion of the site from west to east. The stream leaves the site via a culvert that goes beneath Trevor Close. The stream has a metal trash screen at the southern end of the site. The water flows quickly through this area and fills the trash screen and it is therefore unsuitable for use by any species..

#### 5.5.1.8 *Non native invasive species*

There is Japanese knotweed present in the southern part of the western side of the site (Target note 1). There is Monbretia present on the site. All invasive non native species will be subject of appropriate treatment to remove them from the site via a specialist contractor.

### 5.5.2 **Protected species assessment**

#### 5.5.2.1 *Bats*

The closest record for members for this group is from approximately 500m from the centre of the proposed development site. It refers to roosting lesser horseshoe, brown long-eared and Daubenton's bats.

There are no buildings or trees present on the site that could offer bats with any roosting potential.

Bat surveys undertaken in August and October revealed that bats use the site for foraging.

This group will be considered further in this report.

#### 5.5.2.2 *Amphibians & great crested newt*

There are no waterbodies on the development site which could be used by this group for breeding purposes. The terrestrial habitat on the site could provide amphibians with suitable foraging and sheltering habitat. There are records of great crested newt from approximately 1800m away, however, the records are isolated from the site by roads, housing and associated infrastructure.

It is considered that amphibians are unlikely to pose an ecological constraint to the development and that only common species (frog and toad with the possibility of smooth and / or palmate newts) are likely to be present on the site. Therefore, it is considered that this group can be safely dealt with via a reasonable avoidance method statement to prevent harm to individuals during site clearance. A method statement is attached at **Appendix F**.

This group will not be considered further in this report.

#### 5.5.2.3 *Dormouse*

It is always possible that some of the scrub present on the site could be used by dormice, however, the site is isolated, there are no records within 2km, food sources are not abundant and the site is subject to large levels of disturbance. As such, due to the limited removal of suitable habitat (scrub), providing that this habitat is cleared in accordance with a method statement and ecological supervision, there will be no requirement for further survey effort. If at any point dormice or evidence of dormice are found, all works will cease and a licence from Natural Resources Wales must be applied for prior to works recommencing.

This species will not be considered further in this report.

#### 5.5.2.4 Otters

The closest record of otter is from 919m from the site.

It is possible that otters would travel using the watercourse present on site and for them to use the scrub and tall ruderal for lying up. However, the habitats on site that would otherwise be suitable for otters are frequently disturbed due to the proximity of housing. As such, otters lying up on the site is considered extremely unlikely. No evidence of otter was found at the site.

If a holt is discovered on site during supervisory works, all works must cease and NRW will be consulted.

This species will not be considered further in this report.

#### 5.5.2.5 Badgers

The closest record of badger is 2196m from the site.

Even though no evidence of this species was recorded from the site or immediately adjacent land despite the suitable sett excavation and foraging habitat present, this species will be considered further in this report.

#### 5.5.2.6 Breeding birds

There are multiple records for members of this group within the data search but none from the site.

Birds heard and seen on and adjacent to the site include gold finch, sparrow, blue tit, black bird, wren, dunnoek, pigeon, buzzard (land to the rear of the site) and chaff finch.

There is suitable habitat within the scrub, scattered trees and longer tall ruderal present on the site.

The habitats on the site are not considered to be suitable for ground nesting birds given the small overlooked nature of the site, the small area of open ground, the high levels of disturbance on the site, the availability of avian predator perches and the presence of predators.

Scrub and tree nesting species will be considered further in this report.

#### 5.5.2.7 Reptiles

There are records of slow worm and common lizard greater than 650m from the site.

The site offers optimal habitat for this species for foraging, basking, sheltering and hibernation purposes and it should be assumed that slow worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*) and grass snake (*Natrix natrix*) use the site. It is likely that the population densities of these species are at perhaps lower levels given the amount of disturbance on the site and the amount of available habitat to the north of the site.

This group will be considered further in this report.

#### 5.5.2.8 Invertebrates

It is likely that common and widespread invertebrates will utilise the site. There is a record of grayling using the SINC to the north of the site. The habitats on site are considered to be unsuitable for grayling due to the fact it is completely surrounded (enclosed) by scrub and houses. There is a lack of variety of food plants for this species found on the site.

**5.5.3 Other features**

None.

## 5.6 HABITATS - EVALUATION, IMPACT CHARACTERISATION AND ASSESSMENT

The following habitats were recorded on the site:

- Semi improved grassland (poor);
- Scrub;
- Bare ground;
- Tall ruderal vegetation and semi-improved grassland
- Stream
- Non native invasive species
- Scattered trees and
- Heath

### 5.6.1 Semi-improved grassland (poor)

#### 5.6.1.1 *Semi-improved grassland (poor)- evaluation*

This habitat is of some importance and utilised by a wide range of species, particularly invertebrates, breeding birds, and mammals. The species present are all common, widespread and representative of the habitat in the area. The grassland has a low species diversity and is not good quality.

The grassland therefore has a **low local (county)** ecological importance.

#### 5.6.1.2 *Semi-improved grassland (poor)- - impact characterisation*

It is anticipated that the majority of grassland will be lost to the development.

#### 5.6.1.3 *Semi-improved grassland (poor)- - impact assessment without mitigation*

It is considered that the proposed development will have an moderate short term **adverse** impact at a **local (site) level** on the grassland.

#### 5.6.1.4 *Semi-improved grassland (poor)- - mitigation measures*

The following mitigation measures will be implemented:

- Retention of as much grassland as possible
- There will be no tipping of garden or other waste in retained areas during the operational phase of the development;
- Grassland planting with a more diverse species mix

#### 5.6.1.5 *Semi-improved grassland (poor)- - impact assessment with mitigation*

It is anticipated that there would be a **minor short term adverse impact** at a **local (site) level**

#### 5.6.1.6 *Semi-improved grassland (poor)- – significance of the impact*

##### Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **moderate**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

## 5.6.2 Scrub and tall ruderal

### 5.6.2.1 Scrub - evaluation

Scrub is a widespread habitat in the area and the species found are common and representative of the habitat and urban garden location. Denser areas can provide a valuable source of food and shelter to a wide range of invertebrates, birds, reptiles and mammals.

The scrub on the site is generally sparse and low, dominated by young willow and hawthorn.

It is considered that the scrub habitats on the site are of a **low local (site)** importance due to the young age and species present.

### 5.6.2.2 Scrub - impact characterisation

It is anticipated that the areas of scrub within the red line development boundary will be lost to the development.

### 5.6.2.3 Scrub - impact assessment without mitigation

It is considered that, in the absence of mitigation, there would be a **certain moderate** adverse impact at a **local (site) level** on this habitat as a result of the development.

### 5.6.2.4 Scrub - mitigation measures

Mitigation is required although the scrub on the site is a quick growing common "nuisance" habitat. Measures will include:

- Scrub should either be allowed to re-grow wherever possible; OR
- Where natural regeneration is not possible, scrub should be replanted as part of a post development landscaping scheme;
- Planting should use native species of as local a provenance as possible to replace those species lost or utilise species that will be able to provide a dense vegetated habitat;

### 5.6.2.5 Scrub - impact assessment with mitigation

It is considered that there will be a **minor short term** adverse impact at a **local (site) level** on this habitat as a result of the development.

### 5.6.2.6 Scrub – significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

### 5.6.3 Stream

#### 5.6.3.1 Stream - evaluation

Watercourses are of high value. The stream on site is fast flowing (during periods of adverse weather). There is a trash screen at the southern end of the stream. The screen is heavily overgrown and leads into a piped culvert. On numerous occasions the water is extremely fast flowing.

#### 5.6.3.2 Stream - impact characterisation

It is anticipated that the stream will be retained or worst case scenario diverted.

#### 5.6.3.3 Stream- impact assessment without mitigation

It is considered that, in the absence of mitigation, there would be a **certain moderate** adverse impact at a **local (site) level** on this habitat as a result of the development.

#### 5.6.3.4 Stream - mitigation measures

Mitigation is required:

- Retention of the stream where possible
- Measures may need to be implemented for working in close proximity to water via a CEMP.

#### 5.6.3.5 Stream - impact assessment with mitigation

It is considered that if the stream is retained there will be a there will be a **low** adverse impact at a **local (site) level** on this habitat as a result of the development.

#### 5.6.3.6 Stream – significance of the impact

##### Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **moderate**.

##### With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

#### 5.6.4 Tall ruderal and semi improved (poor) grassland

##### 5.6.4.1 Tall ruderal and semi-improved grassland- evaluation

Tall ruderal is a widespread habitat in the area and the species found are common and representative of the habitat. Denser areas can provide a valuable source of food and shelter to a wide range of invertebrates, birds, reptiles and mammals.

The tall ruderal on the site is generally low lying.

It is considered that the tall ruderal habitats on the site are of a **low to moderate local (site)** importance due to the young age and species present.

The importance of the habitat is raised due to the species it is capable of supporting.

##### 5.6.4.2 Tall ruderal and semi-improved grassland- - impact characterisation

It is anticipated that the areas of tall ruderal within the red line development boundary will be lost to the development.

##### 5.6.4.3 Tall ruderal and semi-improved grassland- - impact assessment without mitigation

It is considered that, in the absence of mitigation, there would be a **certain moderate** adverse impact at a **local (site) level** on this habitat as a result of the development.

##### 5.6.4.4 Tall ruderal and semi-improved grassland- - mitigation measures

Mitigation is required. Measures will include:

- Tall ruderal should either be allowed to re-grow wherever possible; OR
- Areas should be retained where possible

##### 5.6.4.5 Tall ruderal and semi-improved grassland- - impact assessment with mitigation

It is considered that there will be a **minor short term** adverse impact at a **local (site) level** on this habitat as a result of the development.

##### 5.6.4.6 Tall ruderal and semi-improved grassland- – significance of the impact

###### Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

###### With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

## 5.6.5 Heath

### 5.6.5.1 Heath - evaluation

The heath found on the site is limited in species diversity, youths use the area to form fires and it is interspersed with a lot of bare ground.

Generally it is of a low ecological value. It's value is only really raised by the presence of Devils bit scabious that may possibly support marsh fritillary butterflies.

### 5.6.5.2 Heath- impact characterisation

It is anticipated that the majority of areas of heath within the red line boundary will be lost to the development

### 5.6.5.3 Heath - impact assessment without mitigation

It is considered that, in the absence of mitigation, there would be a **certain moderate** adverse impact at a **local (site) level** on this habitat as a result of the development.

### 5.6.5.4 Heath- mitigation measures

Due to the limited size of the habitat, the amount of bare ground and the fires, mitigation for the habitat itself is not required, however, mitigation for the species it may support will be required.

### 5.6.5.5 Heath - impact assessment with mitigation

It is considered that there will be a **minor short term** adverse impact at a **local (site) level** on this habitat as a result of the development.

### 5.6.5.6 Heath – significance of the impact

#### Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

#### With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

## 5.6.6 Scattered trees

### 5.6.6.1 Scattered trees - evaluation

There are two willow present within the western boundary. There are a group of willow and two hazels present in the north eastern corner of the site.

The trees do not have any bat features and are generally of a low ecological value.

### 5.6.6.2 Scattered trees - impact characterisation

It is anticipated that the trees within the north eastern corner will be retained. It is anticipated that the trees on the western boundary will be lost.

### 5.6.6.3 Scattered trees- impact assessment without mitigation

It is considered that, in the absence of mitigation, there would be a **moderate** adverse impact at a **local (site) level** on this habitat as a result of the development.

### 5.6.6.4 Scattered trees - mitigation measures

Mitigation is required

- New planting within the final design

### 5.6.6.5 Scattered trees- impact assessment with mitigation

It is considered that there will be a **minor short term** adverse impact at a **local (site) level** on this habitat as a result of the development.

### 5.6.6.6 Scattered trees– significance of the impact

#### Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

#### With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

## 6 PROTECTED SPECIES

### 6.1 BATS

#### 6.1.1 Summary

There is no roosting potential for bats present on the site.

Surveys undertaken by BE Ecological Ltd (please see Bat Survey, BE Ecological Ltd 2020) revealed that the site is used by common pipistrelle, soprano pipistrelle, myotis sp (likely whiskered/brandts) and lesser horseshoe bats.

#### 6.1.2 Ecology

British bats are small flying nocturnal mammals that feed exclusively upon insects. There are 17 species resident in Britain, ranging in size from the smallest, soprano pipistrelle (*Pipistrellus pygmaeus*) up to the largest noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*) and greater horseshoe bat (*Rhinolophus ferrumequinum*). Bats are active from April through to October and hibernate when insects are in short supply in the winter months. Bats emerge from hibernation in late March - early April and move into their transition / intermediary roosts. Female bats will move to maternity sites by the beginning of May and will give birth to a single baby between June and early July. The baby is reared solely by the mother and is weaned and independent by end of August. After breeding, bats move to transition / intermediary roosts and females will visit males at mating roosts. During the autumn, bats feed voraciously to gain weight for the hibernation ahead.

Although traditionally trees, caves and rock faces were used by roosting bats and are still used, many different structures are used nowadays by bats, which take advantage of readymade (man made) roosts. Structures used frequently include bridges, ice-houses, pill-boxes, disused railway tunnels, houses and barns etc. Bats have home ranges which vary from species to species; from just 3-4km from the roost for the smaller bats while the larger noctule may fly 20km or more. Threats to bats include habitat destruction and the severance of commuting routes, use of agricultural pesticides, intensification of farming methods and deliberate persecution by man. Bats have few natural predators; however, the domestic cat is probably the most efficient predator.

#### 6.1.3 Legislation

##### 6.1.3.1 Conservation of Habitats & Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations (2017) provides safeguards for European Protected Species (those listed under Annex IV Habitats Directive). With regards to bats, this makes it an offence to:

- Deliberately (or recklessly in Scotland) capture, injure or kill a bat
- Deliberately (or recklessly in Scotland) disturb a bat in a way that would (significantly in Scotland) affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
- Damage or destroy a roost (this is an 'absolute' offence)
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat

It is possible to undertake damaging activities under the auspices of a European Protected Species Licence issued by Natural Resources Wales which provides a derogation from the Regulations, meaning that an otherwise illegal operation carried out under licence is lawful.

#### 6.1.3.2 *Wildlife & Countryside Act 1981*

The Wildlife & Countryside Act 1981 (as amended) is the legislation for England and Wales for nature conservation, making it an offence to:

- Intentionally or recklessly disturb a bat in or at a roost;
- Intentionally or recklessly obstruct access to a roost;
- Intentionally destroy, damage or otherwise disturb a roost (whether bats are present or not); and
- Intentionally or recklessly kill, injure or take (capture) a bat.

#### 6.1.3.3 *The Environment (Wales) Act, 2016*

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

#### 6.1.4 **Methodology**

The assessment consisted of three parts:

- Biological records data search;
- Activity surveys
- Static detector surveys

The assessment was undertaken in accordance with the latest guidance on bat surveys and current best practice.

The survey was undertaken by Beth Evans and Hugh Dixon.

##### 6.1.4.1 *Desk study*

Please refer to **section 4.5.2.1** above.

##### 6.1.4.2 *Results*

Please see the bat survey undertaken by BE Ecological Ltd in 2020 for full results. In summary, common pipistrelle, soprano pipistrelle, myotis sp and lesser horseshoe bats use the site for foraging.

#### 6.1.5 Bats - impact characterisation

It is likely that bat foraging habitat over the development site will be modified by the development.

#### 6.1.6 Bats - impact assessment without mitigation

It is considered that there will be **no adverse** impacts on roosting bats as a result of the development.

There may be impacts on foraging bats as a result of reduction in habitat and increased site lighting.

#### 6.1.7 Bats - mitigation measures

Mitigation will be required

Protection and mitigation measures will include:

- Retention of the flight lines along all boundaries as unlit dark corridors;
- Retention of the stream as a dark corridor if possible
- The northern boundary and north eastern corner will remain in darkness.

Due to the presence of lesser horseshoe bat on the site, it is essential that as many dark areas are retained as possible.

The following will need to be included within the development

- Inclusion of bat boxes within trees
- Provision of pole mounted bat boxes or boxes on houses;
- Inclusion of night flowering plants in the landscaping scheme to increase bat prey availability; and
- Sympathetic landscape planting to provide bats with foraging habitat.

#### 6.1.8 Bats - impact characterisation with mitigation

It is considered that there will be **no adverse** impacts on roosting bats as a result of the development.

#### 6.1.9 Bats - significance of the impact

##### Without mitigation

It is considered that the significance of the impact is **moderate**

##### With mitigation

It is considered that the significance of the impact is **slight**.

## **6.2 BADGER**

### **6.2.1 Summary**

No evidence of badgers was recorded from the development site or immediately adjacent habitat.

There are records of this species within 2km of the development site. It is possible that badgers will use the site for foraging, however, this is less likely due to disturbance.

Specific mitigation will not be required as it is considered unlikely that there will be any adverse impacts on this species as a result of the development.

### **6.2.2 Badger ecology**

Badgers (*Meles meles*) are common and widespread throughout the UK. They are mainly nocturnal mammals living in social groups (clans) in underground homes called setts. They feed mostly on earthworms and other invertebrates but will take almost any other food which might be available according to season, accessibility and luck including small mammals, carrion and plants, particularly bulbs.

The preferred habitat for badger feeding is the short turf of pasture land as food is more readily available in this habitat although being very adaptable, they are found in a wide variety of habitats, ranging from woodland and scrub, to urban settings.

Setts are typically dug into well-drained slopes with cover provided by scrub, hedge banks or woodland areas.

### **6.2.3 Legislation**

Badgers are protected under the Protection of Badgers Act 1992, mainly to prevent cruelty to badgers as a result of badger baiting. (They are also listed on Appendix III of the Bern Convention). It is an offence:

- to wilfully kill, injure, take (capture), possess or cruelly ill-treat a badger;
- to attempt to do so; or
- to intentionally or recklessly interfere with a sett.

(Sett interference includes damaging or destroying a sett, obstructing access to a sett, and disturbing a badger whilst it is occupying a sett).

A development licence is required for works which may disturb or destroy a badger sett. Disturbance may include working near a sett.

### **6.2.4 Methodology**

#### **6.2.4.1 Biological records data search**

Please see **section 4.5.2.5** above.

#### **6.2.4.2 Habitat assessment**

The suitability of the habitat was assessed by comparing the habitat available to the following factors:

- presence of banks to excavate setts into;
- presence of woodland and scrub cover; and
- grass-scrub mosaic (potential foraging areas).

#### 6.2.4.3 Field survey

The survey area was searched for signs of badger activity by walking the site, including the perimeter of any boundaries such as fences, hedges and stone walls. Signs searched for included:

- sett entrance holes;
- badger pathways under fences and through vegetation;
- badger footprints;
- latrines and badger dung;
- badger hairs caught on wire; and
- feeding areas in short turf.

Badger surveys can be carried out at any time of year. While badgers are most active during spring to autumn, evidence of badgers can be most obvious during the winter months when the vegetation is low.

Setts are assessed and categorised according to the following criteria:

- main setts - large, well established, often extensive and in continuous use. It is where the cubs are most likely to be born. There is only one main sett per social group of badgers;
- annexe setts - occur in close association with the main sett, and are linked to the main sett by clear well-used paths. If a second litter of cubs is born, this may be where they are reared;
- subsidiary setts - consist of, usually, up to five holes, and are not in continuous use;
- outlying setts - consist of one to three holes. Usually they have small spoil heaps indicating that underground they are not very extensive.

Setts are also assessed for their level of use:

- well used - entrances are clear of any debris or vegetation, are obviously in regular use, and may or may not have been excavated recently;
- partially used - entrances are not in regular use and have debris such as leaves or twigs in the entrance, or have moss and/or other plants growing in or around the entrance. Partially used holes could be in regular use after a minimal amount of clearance;
- disused - entrances have not been in use for some time, are partially or completely blocked, and cannot be used without a considerable amount of clearance. If the hole has been disused for some time all that may be visible is a depression in the ground where the hole used to be, and the remains of the spoil heap, which may be covered by moss or plants.

The survey was carried out between August and October 2020 by experienced ecologists from BE Ecological Ltd.

#### 6.2.4.4 Results

No evidence of badgers was observed on or immediately adjacent to the proposed development site.

#### 6.2.5 Badger – evaluation

Due to the legislation afforded to them, it is considered that badgers are of **high national** importance.

No evidence of badgers was observed on the site.

It is considered that the site is unlikely to be used frequently by badgers and that the site is therefore of **negligible - low local (site)** importance for this species.

#### 6.2.6 Badger - impact characterisation

It is considered unlikely that there will be any impact on badgers.

#### 6.2.7 Badger - impact assessment without mitigation

It is considered that as there was no evidence of badgers on the site, there will be **no adverse** impacts on this species as a result of the development.

#### 6.2.8 Badger - mitigation measures

Mitigation will not be required unless evidence of badgers is found during the course of the development (design, clearance, construction and operational phases).

#### 6.2.9 Badger - impact characterisation with mitigation

It is considered that there will be **no adverse** impacts on this species.

#### 6.2.10 Badger - significance of the impact

##### Without mitigation

It is considered that the significance of the impact is **neutral**.

##### With mitigation

It is considered that the significance of the impact is **neutral**.

## 6.3 BREEDING BIRDS

### 6.3.1 Summary

A full breeding bird survey was not undertaken as it should be assumed that all the areas of scrub (both cut and retained) are likely to be used by birds for nesting.

It should be assumed that all scrub and tree vegetation on the site is used by birds for breeding purposes during the nesting season.

The areas of grassland and bare ground are not considered to be suitable for ground nesting species for breeding purposes as they are small, overlooked and subject of regular disturbance.

### 6.3.2 Ecology

Most British avian species are found breeding during the spring and summer months, between April and August, although some, such as pigeons, and doves will frequently breed at all times of year, as they are not dependent on small, soft-bodied invertebrates to provide food for their chicks. Some other species, such as barn owl (*Tyto alba*) have also been recorded breeding in the winter months, in years when winters have been mild, and small mammal prey plentiful, although such breeding attempts are unusual, with chicks frequently failing to fledge. The breeding season can be extended for most species if the weather is mild, and food plentiful.

Contrary to common belief, whilst some bird species, such as crows and rooks, nest high in trees, often more than 10m high, the majority of British breeding birds will nest within 2m of the ground (or on the ground) within dense scrub or within holes and other natural and manmade cavities in rocks and walls.

Most bird species take considerably less than 60 days from egg-laying to chick fledging, whilst others, such as barn owl, can take more than 90 days. Many, but not all British species will make multiple breeding attempts if environmental conditions and food availability allow.

### 6.3.3 Legislation

In Britain, all naturally occurring avian species are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). The legislation protects all birds, their nests and eggs, and it is an offence to:

- Intentionally kill, injure or take a wild bird;
- Intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built; and
- Intentionally take or destroy the egg of any wild bird.

In addition, birds listed on Schedule 1 of the Act, such as the Red Kite (*Milvus milvus*), are afforded further protection, and it is an offence to:

- Intentionally or recklessly disturb the bird whilst nest building or while at (or near) a nest with eggs or young; and
- Disturb the dependant young of such a bird.

### 6.3.4 Methodology

#### 6.3.4.1 Habitat assessment

Signs looked for included:

- Availability of nesting habitat;
- Availability of foraging habitat;
- Territorial displays by birds;
- Courtship displays;
- Territory establishment and holding behaviour;
- Nests;
- Food carrying;

### 6.3.5 Constraints

There were no constraints to the assessment.

### 6.3.6 Results

#### 6.3.6.1 Desk study

There were no records of birds from the development site or immediately adjacent land, however, there were multiple records of birds from the data search.

#### 6.3.6.2 Habitat assessment

The trees and scrub are considered suitable for nesting birds.

All habitats on the site were suitable for foraging purposes, providing a variety of food sources. It should be assumed that woodland and scrub habitats are used for nesting purposes during the breeding season.

It is considered that the site does not provide suitable habitat for ground nesting species as the open areas are small, overlooked by numerous trees and buildings, all of which could be used by avian predators and subject of regular disturbance.

Birds heard and seen on and adjacent to the site include gold finch, sparrow, blue tit, black bird, wren, dunnock, pigeon, buzzard (land to the rear of the site) and chaff finch.

### 6.3.7 Breeding birds – evaluation

Birds should be considered to be of **high national** importance as a result of the legislation protecting them.

Within the context of the site, there is abundant suitable habitat for the smaller and more common species to utilise for nesting and foraging. It is therefore considered that birds are of a **medium local (site)** ecological importance.

### 6.3.8 Breeding birds - impact characterisation

It is anticipated that the main body of the site will be cleared in its entirety.

### 6.3.9 Breeding birds - impact assessment without mitigation

In the absence of mitigation, the removal of vegetation during the breeding season would result in the likely disturbance and destruction of nests and the disturbance, killing and injuring of birds (both adults

and juveniles). This would constitute a **certain moderate medium term adverse** impact at a **local (site)** level.

#### 6.3.10 Breeding birds - mitigation measures

Mitigation will be required and should include (but not be limited to) the following measures:

- All vegetation and brash removal should be undertaken outwith the breeding season i.e. between mid-August / September and April inclusive;
- Any clearance close to the start and end of this period should only be undertaken following an assessment by a suitably experienced ecologist as the breeding season is not fixed and is subject to annual variation;
- Where clearance is required during the breeding season, all areas should be subject to an assessment no more than 48 hours in advance to check for the presence of breeding birds;
- Should evidence of breeding birds, in particularly nests, be recorded, no clearance may be undertaken within 15m of any nest site until such time as the nest is vacated naturally; and
- Any post-development landscaping plan should include the provision of scrub &/or shrub habitats that can be utilised by breeding birds.

Consideration should be given to including measures to benefit birds within the housing development e.g. installation of bird boxes on new buildings.

Three bird boxes will be placed in the retained habitat (1x hole size 26mm / 1x hole size 32mm / 1x open fronted). The boxes will be positioned at a height no less than 3m.

#### 6.3.11 Breeding birds - impact characterisation with mitigation

It is considered that there will be a **possible minor short term adverse** impact at a **local (site)** level on breeding birds as a result of the proposed development.

#### 6.3.12 Breeding birds - significance of the impact

##### Without mitigation

It is considered that the significance of the impact is **slight**.

##### With mitigation

It is considered that the significance of the impact is **neutral**.

## 6.4 REPTILES

### 6.4.1 Summary

A reptile survey was undertaken at the site. No reptiles were found throughout the course of the survey.

A full trapping and translocation exercise is not considered necessary as long as clearance of the site is undertaken in strict adherence to a method statement designed to prevent harm to any reptiles.

### 6.4.2 Ecology

Reptiles are ectothermic, meaning they have to rely on external heat sources to warm their blood sufficiently to allow foraging and other activity. During the winter they are in brumation (similar to hibernation), emerging in April (or when the temperatures are consistently warm enough). Males tend to emerge before females, to enable them to prepare for mating. Females emerge a few weeks later and mating takes place. Female reptiles in the UK generally breed every other year to allow them to build up sufficient energy reserves. Grass snakes are the UK's only egg-laying reptile, eggs are laid in summer in warm piles of decomposing vegetation (or similar) and left to develop and hatch on their own. Young reptiles are born/hatch in late summer/early autumn. Brumation (hibernation) starts again as temperatures fall in the autumn.

The four more commonly occurring species of reptile in the UK (adder (*Vipera berus*), grass snake (*Natrix natrix*) slow worm (*Anguis fragilis*) and common lizard (*Lacerta vivipara*) have different preferences for habitat and diet. Adders generally prey on small mammals in drier habitats, grass snakes primarily hunt amphibians in wetter areas and aquatic habitats, slow worms take small, slow-moving invertebrates and inhabit drier areas and common lizards prey on small, faster-moving invertebrates and tolerate both wet and dry habitats.

### 6.4.3 Legislation

The four common species listed above are protected by the Wildlife and Countryside Act 1981 (as amended) against killing, injury and sale.

Smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are not found in this area, having very specific geographical distribution within Britain, and so will not be referred to in this report despite the higher legislative protection afforded to them.

### 6.4.4 Methodology

#### 6.4.4.1 Habitat assessment

The habitat assessment looked for features which would be attractive to reptiles such as:

- south facing banks;
- varied profile ground form;
- basking areas;
- vegetation cover;
- structurally diverse vegetation;
- potential hibernation sites; and
- evidence of suitable prey sources.

## 6.4.5 Results

### 6.4.5.1 Desk study

No records of reptiles were returned for the development site or immediate vicinity. There are no records of reptiles within 2000m of the development site. This is likely to be a result of under recording as this group are common and widespread.

### 6.4.5.2 Habitat assessment

The scrub, grassland and bare ground habitats on the site are considered to be generally optimal for reptiles as they provide a range of foraging, basking, sheltering and hibernation habitats. The interface between these habitats is of particular value.

## 6.5 FIELD SURVEY

Target areas of potential reptile habitat were identified, and squares of approximately 0.5m<sup>2</sup> roofing felt ('tins') were laid down throughout the site (60 mats). This was carried out when the ground vegetation was dry, in order to prevent plant matter under the tins from rotting due to wet conditions, as this would deter reptiles from seeking refuge under them.

Tins were put out on 3<sup>rd</sup> August 2020 in suitable target areas of habitat across the site and allowed to 'bed in' for one week. This time period generally will allow any reptiles in the area to discover and begin to use them as a regular basking site.. All tins were checked seven times under suitable weather conditions and temperatures in order to determine the presence, or otherwise, of reptiles in the area.

The tins were checked on the following dates:

- 14/08/20
- 22/08/20
- 04/09/20
- 14/09/20
- 25/09/20
- 29/09/20
- 09/10/20;- end of survey

## 6.6 REFUGIA SURVEY

No reptiles were recorded throughout the course of the survey. Table 2 below details survey results.

**Table 2** - Results of Reptile Survey

| Visit no. | Date     | Temp (°C)                | Weather conditions | Species (and no. found) |
|-----------|----------|--------------------------|--------------------|-------------------------|
| 1         | 14/08/20 | Start: 18°C<br>End: 19°C | cloud              | N/A                     |
| 2         | 22/08/20 | Start: 17°C<br>End: 17°C | Overcast but dry   | N/A                     |
| 3         | 04/09/20 | Start: 18°C              | Dry                | N/A                     |

| Visit no. | Date     | Temp (°C)                | Weather conditions              | Species (and no. found) |
|-----------|----------|--------------------------|---------------------------------|-------------------------|
|           |          | End:17°C                 |                                 | N/A                     |
| 4         | 14/09/20 | Start: 15°C<br>End:15°C  | Dry                             | Woodmouse (1)           |
| 5         | 25/09/20 | Start: 15°C<br>End:14°C  | Sun/cloud                       | N/A                     |
| 6         | 29/09/20 | Start: 14°C<br>End:14°C  | Sunny                           | Toad (1)                |
| 7         | 09/10/20 | Start: 13.°C<br>End:13°C | Cloudy,<br>some sunny<br>spells | N/A                     |

#### 6.6.1 Reptiles –

##### evaluation

Reptiles are protected by UK legislation and therefore they are of **medium to high national** ecological importance.

No reptiles were found throughout the course of the survey.

Overall the site appears to be generally of **low local (site)** value to reptiles. However, there is so much natural refugia and disturbance present on the site, it may be that reptiles chose not to use the artificial refugia.

#### 6.6.2 Reptiles - impact characterisation

It is anticipated that the site will be largely cleared of vegetation, thereby removing the majority of the suitable habitat for this group. It is still possible that in the absence of mitigation, reptiles are likely to be killed or injured during the clearance for the site.

#### 6.6.3 Reptiles - impact assessment without mitigation

It is considered that in the absence of mitigation there would be a **probable minor short term adverse** impact at a **local (site)** level.

#### 6.6.4 Reptiles - mitigation measures

As long as reptile presence is assumed and site clearance is undertaken in accordance with an appropriate method statement, it is considered that a full trapping and translocation exercise is not required, and that habitat manipulation and denial is an appropriate method of ensuring that reptiles are not harmed during the site clearance.

Therefore, the following mitigation will be adopted:

- Clearance will be conducted in accordance with a Method Statement (**Appendix E**) to ensure that should reptiles be found in the course of site clearance or any other development activity, they will not be harmed and can be adequately cared for;

- Clearance will only be undertaken during the reptile active season (April-October, inclusive) unless it is determined that some areas of the site are not suitable for hibernation, unless the ground is too wet for hibernation or temperatures are consistently above 12 for seven consecutive days;
- Clearance outwith this period is possible, but depends on weather and temperatures being suitable to ensure that reptiles are likely to be active;
- There will be no clearance of hibernation habitat outwith the active season unless temperatures allow;
- Reptiles will be excluded from entering or re-entering the site during clearance/operational phase of works by ensuring that the site is kept as bare ground i.e. clear of any vegetation or other shelter

#### 6.6.5 Reptiles - impact characterisation with mitigation

It is considered that there will be an **unlikely minor short term adverse** impact at a **local (site)** level as a result of the proposed development.

#### 6.6.6 Reptiles - significance of the impact

##### Without mitigation

It is considered that the significance of the impact is **slight**.

##### With mitigation

It is considered that the significance of the impact is **neutral**.

## **6.7 INVERTEBRATES**

### **6.7.1 Summary**

There are numerous records of invertebrate species within the records data search, due to the disturbance and habitats present on the site, it is considered that there will be a small number of common and widespread invertebrates present.

There are foodplants available for a range of butterfly species, including some section 7 species e/g) grayling, marbled white, gatekeeper, meadow brown, small heath, wall, Glanville fritillary, common blue, dingy, skipper, small skipper, marbled white, small skipper and speckled wood.

### **6.7.2 Ecology**

Invertebrates are animals without spines or an internal skeleton, relying on their bodies to give them structure. There are over 40000 species of invertebrate in the United Kingdom, distributed across all terrestrial, aquatic and marine ecosystems. Their lifestyles are superficially at least similar; however, each genus has distinguishing characteristics, with each species within each genus having subtle differences resulting in each species occupying its own ecological niche.

Adults lay eggs which then hatch into larvae. The larvae then develop into adults. The processes involved in these three life stages are different from genus to genus and species to species and can be incredibly intricate, with sometimes very specific requirements, any interruption to which can cause any of the life stages can fail.

Adult animals generally have very specific food requirements, favouring single plant species or food source. Larvae and adults can be either plant eating or carnivorous dependent on species. The food source is a good indicator of how widespread a species may be: the more specific a food source, the more prone to range restrictions it may be.

Animals will generally be active during the spring, summer and autumn months and overwinter as eggs or larvae; some adults do go into hibernation over winter.

### **6.7.3 Legislation**

No invertebrates are in receipt of international legal protection with the exception of the large blue (*Phengaris arion*) butterfly, protected by the Conservation of Habitats and Species Regulations 2017 (as amended) ; a number of other species are fully and partially protected by the Wildlife and Countryside Act 1981 (as amended). A number of species are listed on Section 42 of Species of Principal Importance to Wales and may, with others, be included within local planning authorities Biodiversity Action Plans (LBAPs).

### **6.7.4 Methodology**

#### **6.7.4.1 Habitat assessment**

The proposed development site was subject of a walkover to assess its potential to provide suitable habitat for invertebrates. The features looked for included:

- Presence of a mosaic of multiple habitats;
- Presence of structural diversity in the habitats present;
- Presence of bare ground;

- Presence of common and likely food plants;
- Site aspect; and
- Previous and current land use.

#### 6.7.5 Constraints

There were no constraints to the walkover.

#### 6.7.6 Results

##### 6.7.6.1 Habitat assessment

There is a record of Grayling and wall butterfly from the Blaenmorlais SINC. The habitat and site are unlikely to be suitable for this species.

There is a varied mosaic of habitats on the site including bare ground, grassland and scrub. There is abundant invertebrate habitat within the surrounding areas.

There is Devils Bit Scabious present on the site, a food source for the rare marsh fritillary butterfly. The plants were checked at the end of August and beginning of September 2020 for webs. No evidence of marsh fritillary was found on the site. There are no records from within 2000m.

There are food plants present on site for numerous invertebrates including section 7 species.

#### 6.7.7 Invertebrates – evaluation

There are food plants on site suitable for a range of invertebrate species. Species present are likely to be common and widespread only due to the sites habitats and the amount of disturbance and arson at the site.

#### 6.7.8 Invertebrates - impact characterisation

It is considered that there will be a loss of scrub and grassland that may support common and widespread species and possibly some species mentioned on section 7 of the environment wales act due to the suitable food plants present.

#### 6.7.9 Invertebrates - impact assessment without mitigation

It is considered that there will be a **possible minor short term** adverse impact.

#### 6.7.10 Invertebrates - mitigation measures

It is suggested the following measures are implemented as far as possible.

- Vegetation clearance to be minimised through design in all landscape areas wherever possible
- Clearance is to be preferentially undertaken during the autumn and winter months
- Topsoil will be stripped, screened and stored ready for reuse in the landscaping areas
- Storage bunds will be no more than 1.8 high and firmed down well

#### 6.7.11 Invertebrates - compensation measures

- The creation of new vegetated habitats

- Landscape areas 2 and 3 will be topsoiled with stored soil and re-seeded with a seedmix which will contain, red fescue, bent spp., ribwort plantain, birdsfoot trefoil, meadow foxtail and Yorkshire fog
- Landscape area 1 will be seeded with devils bit scabious
- Appropriate conservation management will be implemented on landscape areas 1, 2 and 3.

#### 6.7.12 Invertebrates - impact characterisation with mitigation

It is considered that there will be a ***short term minor adverse impact***.

#### 6.7.13 Invertebrates - significance of the impact

##### Without mitigation

It is considered that the significance will be ***slight***.

##### With mitigation

It is considered that the significance of the impact will be ***neutral***.

## 7 CONCLUSION AND RECOMMENDATIONS

Overall the site is of a moderate ecological value at a local level due to the habitats present, and the species that may reside on the site.

Breeding birds should be assumed to be present on the site. Mitigation for these groups is therefore required. All site clearance should be undertaken under ecological supervision.

Site clearance in respect of reptiles will be undertaken in line with a method statement and ecological supervision as a precautionary approach. This will also benefit other species (e.g. amphibians) which may otherwise be affected by site clearance.

Japanese knotweed and monbretia will need to be treated by an appropriately qualified contractor.

13cm x13cm gaps will be created at the bases of fences at the site boundaries to allow passage of hedgehogs across the site. Cautious working will be undertaken when clearing the site to prevent killing or injury to this species.

It is considered that no other ecological surveys are required.

It is recommended that the mitigation measures, outlined in the various sections above are incorporated as far as is possible into the design process for this development. and construction methodologies.

Bird boxes will be erected on the houses on completion of the builds. Vivara pro sparrow terraces will be integrated into 25% of the builds on the north/eastern elevations of the houses.

Bat boxes will be erected on 25% of the builds. The following bat box will be integrated into the builds against the buffer zone for bats [https://www.nhbs.com/ib-vl-05-vivara-pro-build-in-woodstone-batbox?bkfno=252213&ca\\_id=1495&adlocale=uk&gclid=CjwKCAjw4ayUBhA4EiwATWyBrvhTqbiGV60GEkmFD7ujMbg47rGonqEXJF-2BkLSPIbrVe-lidoAlRoCDHwQAvD\\_BwE](https://www.nhbs.com/ib-vl-05-vivara-pro-build-in-woodstone-batbox?bkfno=252213&ca_id=1495&adlocale=uk&gclid=CjwKCAjw4ayUBhA4EiwATWyBrvhTqbiGV60GEkmFD7ujMbg47rGonqEXJF-2BkLSPIbrVe-lidoAlRoCDHwQAvD_BwE)

There will be no lighting of retained habitats , dark corridors will need to be implemented throughout the development to allow light intolerant species to continue using the site should they wish.

It is recommended that consideration be given to the inclusion of enhancement features to benefit wildlife are included within the design of the housing units and post-development landscaping scheme on the site.

This report will need to be updated once the final development layout has been agreed.

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## APPENDIX A - PHOTOS

### PHASE 1 HABITAT SURVEY PHOTOS





















## APPENDIX B- SEWBRc DATA SEARCH SUMMARY

### PRIORITY AND PROTECTED SPECIES STATUS LISTS

| actual_nam                 | common_nam             | sup_group | cat               |
|----------------------------|------------------------|-----------|-------------------|
| Chara vulgaris             | Common Stonewort       | Algae     | Other Species     |
| Chara                      | Chara                  | Algae     | Other Species     |
| Acanthis flammea           | Common (Mealy) Redpoll | Birds     | Other Species     |
| Accipiter gentilis         | Goshawk                | Birds     | Priority Species  |
|                            |                        |           | Locally Important |
| Accipiter nisus            | Sparrowhawk            | Birds     | Species           |
|                            |                        |           | Locally Important |
| Acrocephalus schoenobaenus | Sedge Warbler          | Birds     | Species           |
|                            |                        |           | Locally Important |
| Acrocephalus scirpaceus    | Reed Warbler           | Birds     | Species           |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Actitis hypoleucos         | Common Sandpiper       | Birds     | Concern           |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Aegithalos caudatus        | Long-tailed Tit        | Birds     | Concern           |
| Alauda arvensis            | Skylark                | Birds     | Priority Species  |
| Alcedo atthis              | Kingfisher             | Birds     | Priority Species  |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Anas crecca                | Teal                   | Birds     | Concern           |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Anas penelope              | Wigeon                 | Birds     | Concern           |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Anas platyrhynchos         | Mallard                | Birds     | Concern           |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Anas strepera              | Gadwall                | Birds     | Concern           |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Anthus pratensis           | Meadow Pipit           | Birds     | Concern           |
| Anthus trivialis           | Tree Pipit             | Birds     | Priority Species  |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Apus apus                  | Swift                  | Birds     | Concern           |
| Ardea cinerea              | Grey Heron             | Birds     | Other Species     |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Asio flammeus              | Short-eared Owl        | Birds     | Concern           |
|                            |                        |           | Species of        |
|                            |                        |           | Conservation      |
| Aythya fuligula            | Tufted Duck            | Birds     | Concern           |

|                                 |                      |       |                   |
|---------------------------------|----------------------|-------|-------------------|
| Branta canadensis               | Canada Goose         | Birds | Other Species     |
| Bucephala clangula              | Goldeneye            | Birds | Priority Species  |
|                                 |                      |       | Locally Important |
| Buteo buteo                     | Buzzard              | Birds | Species           |
|                                 |                      |       | Locally Important |
| Carduelis carduelis             | Goldfinch            | Birds | Species           |
|                                 |                      |       | Locally Important |
| Certhia familiaris              | Treecreeper          | Birds | Species           |
| Charadrius dubius               | Little Ringed Plover | Birds | Priority Species  |
| Charadrius hiaticula            | Ringed Plover        | Birds | Priority Species  |
|                                 |                      |       | Locally Important |
| Chloris chloris                 | Greenfinch           | Birds | Species           |
| Chroicocephalus ridibundus      | Black-headed Gull    | Birds | Priority Species  |
|                                 |                      |       | Species of        |
|                                 |                      |       | Conservation      |
| Cinclus cinclus                 | Dipper               | Birds | Concern           |
| Circus cyaneus                  | Hen Harrier          | Birds | Priority Species  |
| Columba oenas                   | Stock Dove           | Birds | Other Species     |
|                                 |                      |       | Locally Important |
| Corvus corax                    | Raven                | Birds | Species           |
| Crex crex                       | Corncrake            | Birds | Priority Species  |
| Cuculus canorus                 | Cuckoo               | Birds | Priority Species  |
|                                 |                      |       | Locally Important |
| Cyanistes caeruleus             | Blue Tit             | Birds | Species           |
| Cygnus cygnus                   | Whooper Swan         | Birds | Priority Species  |
|                                 |                      |       | Species of        |
|                                 |                      |       | Conservation      |
| Cygnus olor                     | Mute Swan            | Birds | Concern           |
|                                 |                      |       | Species of        |
|                                 |                      |       | Conservation      |
| Delichon urbicum                | House Martin         | Birds | Concern           |
|                                 | Great Spotted        |       | Locally Important |
| Dendrocopos major               | Woodpecker           | Birds | Species           |
| Emberiza schoeniclus            | Reed Bunting         | Birds | Priority Species  |
| Falco columbarius               | Merlin               | Birds | Priority Species  |
| Falco peregrinus                | Peregrine            | Birds | Priority Species  |
| Falco subbuteo                  | Hobby                | Birds | Priority Species  |
| Falco tinnunculus               | Kestrel              | Birds | Priority Species  |
| Ficedula hypoleuca              | Pied Flycatcher      | Birds | Priority Species  |
| Fulica atra                     | Coot                 | Birds | Other Species     |
|                                 |                      |       | Species of        |
|                                 |                      |       | Conservation      |
| Gallinago gallinago             | Snipe                | Birds | Concern           |
|                                 |                      |       | Species of        |
|                                 |                      |       | Conservation      |
| Hirundo rustica                 | Swallow              | Birds | Concern           |
| Lagopus lagopus                 | Red Grouse           | Birds | Priority Species  |
| Larus argentatus                | Herring Gull         | Birds | Priority Species  |
| Larus fuscus subsp. intermedius | Black-Backed Gull    | Birds | Other Species     |

|                                 |                          |       |                                 |
|---------------------------------|--------------------------|-------|---------------------------------|
| Larus fuscus                    | Lesser Black-backed Gull | Birds | Species of Conservation Concern |
| Larus glaucoides                | Iceland Gull             | Birds | Locally Important Species       |
| Larus hyperboreus               | Glaucous Gull            | Birds | Locally Important Species       |
| Larus marinus                   | Great Black-backed Gull  | Birds | Species of Conservation Concern |
| Larus michahellis               | Yellow-legged Gull       | Birds | Locally Important Species       |
| Linaria cannabina               | Linnet                   | Birds | Priority Species                |
| Loxia curvirostra               | Common Crossbill         | Birds | Priority Species                |
| Lullula arborea                 | Woodlark                 | Birds | Priority Species                |
| Melanitta nigra                 | Common Scoter            | Birds | Priority Species                |
| Mergus merganser                | Goosander                | Birds | Locally Important Species       |
| Milvus milvus                   | Red Kite                 | Birds | Priority Species                |
| Motacilla alba subsp. yarrellii | Pied Wagtail             | Birds | Locally Important Species       |
| Motacilla alba                  | Pied Wagtail             | Birds | Locally Important Species       |
| Motacilla cinerea               | Grey Wagtail             | Birds | Locally Important Species       |
| Motacilla                       | Motacilla                | Birds | Other Species                   |
| Muscicapa striata               | Spotted Flycatcher       | Birds | Priority Species                |
| Numenius arquata                | Curlew                   | Birds | Priority Species                |
| Oenanthe oenanthe               | Wheatear                 | Birds | Species of Conservation Concern |
| Pandion haliaetus               | Osprey                   | Birds | Concern                         |
| Parus major                     | Great Tit                | Birds | Priority Species                |
| Passer domesticus               | House Sparrow            | Birds | Locally Important Species       |
| Perdix perdix                   | Grey Partridge           | Birds | Priority Species                |
| Periparus ater                  | Coal Tit                 | Birds | Priority Species                |
| Phalacrocorax carbo             | Cormorant                | Birds | Species of Conservation Concern |
| Phoenicurus phoenicurus         | Redstart                 | Birds | Species of Conservation Concern |
| Phylloscopus collybita          | Chiffchaff               | Birds | Locally Important Species       |
| Phylloscopus sibilatrix         | Wood Warbler             | Birds | Priority Species                |
| Phylloscopus trochilus          | Willow Warbler           | Birds | Species of Conservation Concern |

|                        |                     |       |                                 |
|------------------------|---------------------|-------|---------------------------------|
| Picus viridis          | Green Woodpecker    | Birds | Species of Conservation Concern |
| Plectrophenax nivalis  | Snow Bunting        | Birds | Priority Species                |
| Pluvialis apricaria    | Golden Plover       | Birds | Priority Species                |
| Podiceps cristatus     | Great Crested Grebe | Birds | Other Species                   |
| Poecile montana        | Willow Tit          | Birds | Priority Species                |
| Poecile palustris      | Marsh Tit           | Birds | Priority Species                |
| Prunella modularis     | Dunnock             | Birds | Priority Species                |
| Pyrrhula pyrrhula      | Bullfinch           | Birds | Priority Species                |
| Recurvirostra avosetta | Avocet              | Birds | Priority Species                |
| Regulus regulus        | Goldcrest           | Birds | Species of Conservation Concern |
| Riparia riparia        | Sand Martin         | Birds | Species of Conservation Concern |
| Saxicola rubetra       | Whinchat            | Birds | Locally Important Species       |
| Saxicola rubicola      | Stonechat           | Birds | Locally Important Species       |
| Scolopax rusticola     | Woodcock            | Birds | Species of Conservation Concern |
| Sitta europaea         | Nuthatch            | Birds | Locally Important Species       |
| Spinus spinus          | Siskin              | Birds | Locally Important Species       |
| Strix aluco            | Tawny Owl           | Birds | Locally Important Species       |
| Sturnus vulgaris       | Starling            | Birds | Priority Species                |
| Sylvia atricapilla     | Blackcap            | Birds | Locally Important Species       |
| Sylvia borin           | Garden Warbler      | Birds | Species of Conservation Concern |
| Sylvia communis        | Whitethroat         | Birds | Species of Conservation Concern |
| Sylvia curruca         | Lesser Whitethroat  | Birds | Locally Important Species       |
| Sylvia undata          | Dartford Warbler    | Birds | Priority Species                |
| Tringa ochropus        | Green Sandpiper     | Birds | Priority Species                |
| Turdus iliacus         | Redwing             | Birds | Priority Species                |
| Turdus merula          | Blackbird           | Birds | Other Species                   |
| Turdus philomelos      | Song Thrush         | Birds | Priority Species                |
| Turdus pilaris         | Fieldfare           | Birds | Priority Species                |
| Turdus torquatus       | Ring Ouzel          | Birds | Priority Species                |
| Turdus viscivorus      | Mistle Thrush       | Birds | Locally Important Species       |

|                                |                            |            |                   |
|--------------------------------|----------------------------|------------|-------------------|
| Tyto alba                      | Barn Owl                   | Birds      | Priority Species  |
| Upupa epops                    | Hoopoe                     | Birds      | Priority Species  |
| Vanellus vanellus              | Lapwing                    | Birds      | Priority Species  |
|                                |                            |            | Locally Important |
| Amphidium mougeotii            | Mougeot's Yoke-moss        | Bryophytes | Species           |
|                                | Andreaea rothii subsp.     |            | Locally Important |
| Andreaea rothii subsp. falcata | falcata                    | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Anomodon viticulosus           | Rambling Tail-moss         | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Bartramia pomiformis           | Common Apple-moss          | Bryophytes | Species           |
| Brachythecium glareosum        | Streaky Feather-moss       | Bryophytes | Other Species     |
|                                |                            |            | Species of        |
|                                |                            |            | Conservation      |
| Brachythecium salebrosum       | Smooth-stalk Feather-moss  | Bryophytes | Concern           |
| Bryoerythrophyllum             |                            |            | Locally Important |
| ferruginascens                 | Rufous Beard-moss          | Bryophytes | Species           |
| Bryum argenteum                | Silver-moss                | Bryophytes | Other Species     |
|                                | Small-mouthed Thread-moss  |            | Locally Important |
| Bryum imbricatum               |                            | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Bryum pallens                  | Pale Thread-moss           | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Calliergonella lindbergii      | Lindberg's Plait-moss      | Bryophytes | Species           |
| Campyliadelphus chrysophyllus  | Golden Feather-moss        | Bryophytes | Other Species     |
|                                | Yellow Starry Feather-moss |            | Locally Important |
| Campylium stellatum            |                            | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Cephaloziella divaricata       | Common Threadwort          | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Cephaloziella hampeana         | Hampe's Threadwort         | Bryophytes | Species           |
| Climacium dendroides           | Tree-moss                  | Bryophytes | Other Species     |
|                                |                            |            | Locally Important |
| Cololejeunea calcarea          | Rock Pouncewort            | Bryophytes | Species           |
|                                | Conocephalum               |            | Locally Important |
| Conocephalum salebrosum        | salebrosum                 | Bryophytes | Species           |
| Ctenidium molluscum            | Chalk Comb-moss            | Bryophytes | Other Species     |
|                                |                            |            | Locally Important |
| Dichodontium palustre          | Marsh Forklet-moss         | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Dichodontium pellucidum        | Transparent Fork-moss      | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Dicranum fuscescens agg.       | Dicranum fuscescens agg.   | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Dicranum majus                 | Greater Fork-moss          | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Distichium inclinatum          | Inclined Distichium        | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Ditrichum flexicaule agg.      | Ditrichum flexicaule agg.  | Bryophytes | Species           |
|                                |                            |            | Locally Important |
| Ditrichum gracile              | Slender Ditrichum          | Bryophytes | Species           |

|                                         |                                         |            |                           |
|-----------------------------------------|-----------------------------------------|------------|---------------------------|
| Drepanocladus revolvens agg.            | Drepanocladus revolvens agg.            | Bryophytes | Locally Important Species |
| Encalypta vulgaris                      | Common Extinguisher-moss                | Bryophytes | Locally Important Species |
| Eucladium verticillatum                 | Whorled Tufa-moss                       | Bryophytes | Locally Important Species |
| Fissidens osmundoides                   | Purple-stalked Pocket-moss              | Bryophytes | Other Species             |
| Gymnostomum aeruginosum                 | Verdigris Tufa-moss                     | Bryophytes | Locally Important Species |
| Gymnostomum calcareum                   | Blunt-leaf Tufa-moss                    | Bryophytes | Locally Important Species |
| Habrodon perpusillus                    | Lesser Squirrel-tail Moss               | Bryophytes | Priority Species          |
| Hennediella heimii                      | Heim's Pottia                           | Bryophytes | Locally Important Species |
| Homalothecium lutescens                 | Yellow Feather-moss                     | Bryophytes | Locally Important Species |
| Hygroamblystegium fluviatile            | Brook-side Feather-moss                 | Bryophytes | Locally Important Species |
| Hygroamblystegium tenax                 | Fountain Feather-moss                   | Bryophytes | Locally Important Species |
| Hygrohypnum luridum var. luridum        | Hygrohypnum luridum var. luridum        | Bryophytes | Locally Important Species |
| Hygrohypnum ochraceum                   | Claw Brook-moss                         | Bryophytes | Locally Important Species |
| Hypnum cupressiforme var. lacunosum     | Roof Plait-moss                         | Bryophytes | Locally Important Species |
| Jungermannia atrovirens                 | Dark-green Flapwort                     | Bryophytes | Locally Important Species |
| Kindbergia praelonga                    | Common Feather-moss                     | Bryophytes | Locally Important Species |
| Leiocolea badensis                      | Scarce Notchwort                        | Bryophytes | Other Species             |
| Leiocolea turbinata                     | Top Notchwort                           | Bryophytes | Locally Important Species |
| Lejeunea cavifolia                      | Micheli's Least                         | Bryophytes | Locally Important Species |
| Marchantia polymorpha subsp. polymorpha | Pouncewort                              | Bryophytes | Locally Important Species |
| Marchantia polymorpha subsp. polymorpha | Marchantia polymorpha subsp. polymorpha | Bryophytes | Locally Important Species |
| Microbryum davallianum                  | Smallest Pottia                         | Bryophytes | Locally Important Species |
| Mnium stellare                          | Starry Thyme-moss                       | Bryophytes | Other Species             |
| Neckera crispa                          | Crisped Neckera                         | Bryophytes | Locally Important Species |
| Nowellia curvifolia                     | Wood-rust                               | Bryophytes | Locally Important Species |
| Orthothecium intricatum                 | Fine-leaved Leskea                      | Bryophytes | Locally Important Species |
| Orthotrichum cupulatum                  | Hooded Bristle-moss                     | Bryophytes | Locally Important Species |
| Orthotrichum pulchellum                 | Elegant Bristle-moss                    | Bryophytes | Other Species             |

|                            |                                  |            |                           |
|----------------------------|----------------------------------|------------|---------------------------|
| Orthotrichum tenellum      | Slender Bristle-moss             | Bryophytes | Locally Important Species |
| Palustriella commutata     | Curled Hook-moss                 | Bryophytes | Locally Important Species |
| Palustriella falcata       | Palustriella falcata             | Bryophytes | Locally Important Species |
| Philonotis calcarea        | Thick-nerved Apple-moss          | Bryophytes | Locally Important Species |
| Plagiomnium cuspidatum     | Woodsy Thyme-moss                | Bryophytes | Locally Important Species |
| Plagiomnium elatum         | Tall Thyme-moss                  | Bryophytes | Locally Important Species |
| Pohlia wahlenbergii        | Pale Glaucous Thread-moss        | Bryophytes | Other Species             |
| Polytrichastrum alpinum    | Alpine Haircap                   | Bryophytes | Locally Important Species |
| Polytrichum strictum       | Strict Haircap                   | Bryophytes | Locally Important Species |
| Porella platyphylla        | Wall Scalewort                   | Bryophytes | Locally Important Species |
| Preissia quadrata          | Narrow Mushroom-headed Liverwort | Bryophytes | Locally Important Species |
| Ptilidium ciliare          | Ciliated Fringewort              | Bryophytes | Locally Important Species |
| Racomitrium canescens agg. | Racomitrium canescens agg.       | Bryophytes | Locally Important Species |
| Racomitrium ericoides      | Dense Fringe-moss                | Bryophytes | Locally Important Species |
| Racomitrium fasciculare    | Green Mountain Fringe-moss       | Bryophytes | Locally Important Species |
| Reboulia hemisphaerica     | Hemisphaeric Liverwort           | Bryophytes | Locally Important Species |
| Rhynchostegium murale      | Wall Feather-moss                | Bryophytes | Locally Important Species |
| Riccardia multifida        | Delicate Germanderwort           | Bryophytes | Locally Important Species |
| Sanionia uncinata          | Sickle-leaved Hook-moss          | Bryophytes | Other Species             |
| Sarmentypnum exannulatum   | Ringless Hook-moss               | Bryophytes | Locally Important Species |
| Scapania aspera            | Rough Earwort                    | Bryophytes | Locally Important Species |
| Scapania nemorea           | Grove Earwort                    | Bryophytes | Locally Important Species |
| Sciuro-hypnum populeum     | Matted Feather-moss              | Bryophytes | Other Species             |
| Scorpidium cossonii        | Intermediate Hook-moss           | Bryophytes | Locally Important Species |
| Seligeria acutifolia       | Sharp Rock-bristle               | Bryophytes | Locally Important Species |
| Solenostoma paroicum       | Shining Flapwort                 | Bryophytes | Locally Important Species |

|                                              |                                   |                        |                           |
|----------------------------------------------|-----------------------------------|------------------------|---------------------------|
| Sphagnum cuspidatum                          | Feathery Bog-moss                 | Bryophytes             | Locally Important Species |
| Taxiphyllum wissgrillii                      | Depressed Feather-moss            | Bryophytes             | Other Species             |
| Thamnobryum alopecurum                       | Fox-tail Feather-moss             | Bryophytes             | Other Species             |
| Thuidium assimile                            | Philibert's Tamarisk-moss         | Bryophytes             | Locally Important Species |
| Tortella tortuosa                            | Frizzled Crisp-moss               | Bryophytes             | Locally Important Species |
| Tortula subulata                             | Awl-leaved Screw-moss             | Bryophytes             | Locally Important Species |
| Weissia controversa var. crispata            | Weissia controversa var. crispata | Bryophytes             | Other Species             |
| Zygodon conoideus                            | Lesser Yoke-moss                  | Bryophytes             | Other Species             |
| Cottus gobio                                 | Bullhead                          | Fish                   | Locally Important Species |
| Salmo salar                                  | Atlantic Salmon                   | Fish                   | Priority Species          |
| Salmo trutta                                 | Brown/Sea Trout                   | Fish                   | Priority Species          |
| Clavulinopsis laeticolor                     | Handsome Club                     | Fungi and Slime Moulds | Locally Important Species |
| Gliophorus laetus                            | Heath Waxcap                      | Fungi and Slime Moulds | Locally Important Species |
| Gliophorus psittacinus                       | Parrot Wax-Cap                    | Fungi and Slime Moulds | Locally Important Species |
| Hygrocybe calciphila                         | Limestone Waxcap                  | Fungi and Slime Moulds | Other Species             |
| Hygrocybe calyptriformis var. calyptriformis | Pink meadow cap                   | Fungi and Slime Moulds | Locally Important Species |
| Hygrocybe ceracea                            | Butter Waxcap                     | Fungi and Slime Moulds | Other Species             |
| Hygrocybe chlorophana                        | Golden Waxcap                     | Fungi and Slime Moulds | Other Species             |
| Hygrocybe coccinea                           | Scarlet Hood                      | Fungi and Slime Moulds | Other Species             |
| Hygrocybe colemanniana                       | Toasted Waxcap                    | Fungi and Slime Moulds | Other Species             |
| Hygrocybe conica                             | Blackening Wax-Cap                | Fungi and Slime Moulds | Other Species             |
| Hygrocybe fornicata                          | Hygrocybe fornicata               | Fungi and Slime Moulds | Other Species             |
| Hygrocybe helobia                            | Garlic Waxcap                     | Fungi and Slime Moulds | Other Species             |
| Hygrocybe insipida                           | Spangle Waxcap                    | Fungi and Slime Moulds | Other Species             |
| Hygrocybe intermedia                         | Fibrous Waxcap                    | Fungi and Slime Moulds | Other Species             |
| Hygrocybe miniata                            | Vermilion Waxcap                  | Fungi and Slime Moulds | Other Species             |
| Hygrocybe mucronella                         | Bitter Waxcap                     | Fungi and Slime Moulds | Other Species             |
| Hygrocybe pratensis var. pallida             | Pale Waxcap                       | Fungi and Slime Moulds | Other Species             |

|                                    |                                    |                           |                              |
|------------------------------------|------------------------------------|---------------------------|------------------------------|
| Hygrocybe pratensis var. pratensis | Meadow Wax-Cap                     | Fungi and<br>Slime Moulds | Other Species                |
| Hygrocybe reidii                   | Honey Waxcap                       | Fungi and<br>Slime Moulds | Other Species                |
| Hygrocybe russocoriacea            | Cedarwood Waxcap                   | Fungi and<br>Slime Moulds | Other Species                |
| Hygrocybe virginea var. virginea   | Snowy Wax-Cap                      | Fungi and<br>Slime Moulds | Other Species                |
| Microglossum olivaceum             | Earth Tongue                       | Fungi and<br>Slime Moulds | Priority Species             |
| Abraxas sylvata                    | Clouded Magpie                     | Invertebrates<br>(insect) | Locally Important<br>Species |
| Abrostola tripartita               | Spectacle                          | Invertebrates<br>(insect) | Locally Important<br>Species |
| Abrostola triplasia                | Dark Spectacle                     | Invertebrates<br>(insect) | Locally Important<br>Species |
| Acasis viretata                    | Yellow-barred Brindle              | Invertebrates<br>(insect) | Locally Important<br>Species |
| Acronicta menyanthidis             | Light Knot Grass                   | Invertebrates<br>(insect) | Other Species                |
| Acronicta rumicis                  | Knot Grass                         | Invertebrates<br>(insect) | Priority Species             |
| Aeshna cyanea                      | Southern Hawker                    | Invertebrates<br>(insect) | Locally Important<br>Species |
| Aeshna juncea                      | Common Hawker                      | Invertebrates<br>(insect) | Locally Important<br>Species |
| Agriphila latistria                | White-streak Grass-<br>veneer      | Invertebrates<br>(insect) | Other Species                |
| Agrochola helvola                  | Flounced Chestnut                  | Invertebrates<br>(insect) | Priority Species             |
| Agrotis cinerea                    | Light Feathered Rustic             | Invertebrates<br>(insect) | Locally Important<br>Species |
| Allophyes oxyacanthae              | Green-brindled Crescent            | Invertebrates<br>(insect) | Priority Species             |
| Amphipoea lucens                   | Large Ear                          | Invertebrates<br>(insect) | Other Species                |
| Anax imperator                     | Emperor Dragonfly                  | Invertebrates<br>(insect) | Locally Important<br>Species |
| Apamea furva                       | Confused                           | Invertebrates<br>(insect) | Other Species                |
| Apamea remissa                     | Dusky Brocade                      | Invertebrates<br>(insect) | Priority Species             |
| Argynnis paphia                    | Silver-washed Fritillary           | Invertebrates<br>(insect) | Locally Important<br>Species |
| Autographa bractea                 | Gold Spangle                       | Invertebrates<br>(insect) | Locally Important<br>Species |
| Boloria euphrosyne                 | Pearl-bordered Fritillary          | Invertebrates<br>(insect) | Priority Species             |
| Boloria selene                     | Small Pearl-bordered<br>Fritillary | Invertebrates<br>(insect) | Priority Species             |

|                        |                                |                        |                                 |
|------------------------|--------------------------------|------------------------|---------------------------------|
| Bombus hortorum        | Small Garden Bumblebee         | Invertebrates (insect) | Locally Important Species       |
| Bombus lapidarius      | Large Red Tailed Bumblebee     | Invertebrates (insect) | Locally Important Species       |
| Bombus lucorum         | White-Tailed Bumblebee         | Invertebrates (insect) | Locally Important Species       |
| Bombus monticola       | Bilberry (Blaeberry) Bumblebee | Invertebrates (insect) | Locally Important Species       |
| Bombus pascuorum       | Common Carder Bee              | Invertebrates (insect) | Locally Important Species       |
| Bombus pratorum        | Early Bumblebee                | Invertebrates (insect) | Locally Important Species       |
| Bombus terrestris      | Buff-Tailed Bumblebee          | Invertebrates (insect) | Locally Important Species       |
| Catoptria margaritella | Silver-stripe Grass-veneer     | Invertebrates (insect) | Locally Important Species       |
| Catoptria pinella      | Pearl Grass-veneer             | Invertebrates (insect) | Locally Important Species       |
| Ceramica pisi          | Broom Moth                     | Invertebrates (insect) | Priority Species                |
| Charissa obscurata     | Annulet                        | Invertebrates (insect) | Locally Important Species       |
| Coenagrion puella      | Azure Damselfly                | Invertebrates (insect) | Locally Important Species       |
| Coenonympha pamphilus  | Small Heath                    | Invertebrates (insect) | Priority Species                |
| Cordulegaster boltonii | Golden-ringed Dragonfly        | Invertebrates (insect) | Locally Important Species       |
| Craniophora ligustri   | Coronet                        | Invertebrates (insect) | Locally Important Species       |
| Crossocerus binotatus  | Crossocerus binotatus          | Invertebrates (insect) | Species of Conservation Concern |
| Cyaniris semiargus     | Mazarine Blue                  | Invertebrates (insect) | Species of Conservation Concern |
| Deileptenia ribeata    | Satin Beauty                   | Invertebrates (insect) | Locally Important Species       |
| Diarsia rubi           | Small Square-spot              | Invertebrates (insect) | Priority Species                |
| Ecliptopera silaceata  | Small Phoenix                  | Invertebrates (insect) | Priority Species                |
| Enallagma cyathigerum  | Common Blue Damselfly          | Invertebrates (insect) | Locally Important Species       |
| Entephria caesiata     | Grey Mountain Carpet           | Invertebrates (insect) | Priority Species                |
| Epirrhoe galiata       | Galium Carpet                  | Invertebrates (insect) | Priority Species                |
| Erynnis tages tages    | Dingy Skipper                  | Invertebrates (insect) | Locally Important Species       |

|                                                |                                 |                           |                              |
|------------------------------------------------|---------------------------------|---------------------------|------------------------------|
| Erynnis tages                                  | Dingy Skipper                   | Invertebrates<br>(insect) | Priority Species             |
| Euchoeca nebulata                              | Dingy Shell                     | Invertebrates<br>(insect) | Locally Important<br>Species |
| Eugnorisma glareosa                            | Autumnal Rustic                 | Invertebrates<br>(insect) | Priority Species             |
| Eupithecia distinctaria subsp.<br>constrictata | Thyme Pug                       | Invertebrates<br>(insect) | Locally Important<br>Species |
| Eupithecia innotata form fraxinata             | Ash Pug                         | Invertebrates<br>(insect) | Locally Important<br>Species |
| Eupithecia inturbata                           | Maple Pug                       | Invertebrates<br>(insect) | Locally Important<br>Species |
| Eupithecia virgaureata                         | Golden-rod Pug                  | Invertebrates<br>(insect) | Locally Important<br>Species |
| Harmonia axyridis                              | Harlequin Ladybird              | Invertebrates<br>(insect) | Other Species                |
| Hipparchia semele                              | Grayling                        | Invertebrates<br>(insect) | Priority Species             |
| Hoplodrina blanda                              | Rustic                          | Invertebrates<br>(insect) | Priority Species             |
| Hydria undulata                                | Scallop Shell                   | Invertebrates<br>(insect) | Locally Important<br>Species |
| Hypenodes humidalis                            | Marsh Oblique-barred            | Invertebrates<br>(insect) | Locally Important<br>Species |
| Ischnura elegans                               | Blue-tailed Damselfly           | Invertebrates<br>(insect) | Locally Important<br>Species |
| Ischnura pumilio                               | Scarce Blue-tailed<br>Damselfly | Invertebrates<br>(insect) | Locally Important<br>Species |
| Lasiommata megera                              | Wall                            | Invertebrates<br>(insect) | Priority Species             |
| Lestes sponsa                                  | Emerald Damselfly               | Invertebrates<br>(insect) | Locally Important<br>Species |
| Leucania comma                                 | Shoulder-striped<br>Wainscot    | Invertebrates<br>(insect) | Priority Species             |
| Libellula depressa                             | Broad-bodied Chaser             | Invertebrates<br>(insect) | Locally Important<br>Species |
| Libellula quadrimaculata                       | Four-spotted Chaser             | Invertebrates<br>(insect) | Locally Important<br>Species |
| Lipsothrix errans                              | Northern Yellow Splinter        | Invertebrates<br>(insect) | Priority Species             |
| Lipsothrix nervosa                             | Southern Yellow Splinter        | Invertebrates<br>(insect) | Priority Species             |
| Lithophane ornitopus lactipennis               | Grey Shoulder-knot              | Invertebrates<br>(insect) | Locally Important<br>Species |
| Lithophane socia                               | Pale Pinion                     | Invertebrates<br>(insect) | Locally Important<br>Species |
| Litoligia literosa                             | Rosy Minor                      | Invertebrates<br>(insect) | Priority Species             |
| Lycia hirtaria                                 | Brindled Beauty                 | Invertebrates<br>(insect) | Priority Species             |

|                                   |                          |                           |                                                                       |
|-----------------------------------|--------------------------|---------------------------|-----------------------------------------------------------------------|
| Lymantria monacha                 | Black Arches             | Invertebrates<br>(insect) | Other Species                                                         |
| Melanchra persicariae             | Dot Moth                 | Invertebrates<br>(insect) | Priority Species                                                      |
| Mesoleuca albicillata             | Beautiful Carpet         | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Mniotype adusta                   | Dark Brocade             | Invertebrates<br>(insect) | Priority Species                                                      |
| Mythimna turca                    | Double Line              | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Nebula salicata subsp. latentaria | Striped Twin-spot Carpet | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Olindia schumacherana             | White-barred Twist       | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Orthetrum coerulescens            | Keeled Skimmer           | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Orthosia gracilis                 | Powdered Quaker          | Invertebrates<br>(insect) | Priority Species<br>Species of<br>Conservation<br>Concern             |
| Oxycera pygmaea                   | Pygmy Soldier            | Invertebrates<br>(insect) | Other Species                                                         |
| Panemeria tenebrata               | Small Yellow Underwing   | Invertebrates<br>(insect) | Other Species                                                         |
| Papestra biren                    | Glaucous Shears          | Invertebrates<br>(insect) | Other Species<br>Species of<br>Conservation<br>Concern                |
| Plectrocnemia brevis              | Plectrocnemia brevis     | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Pyrausta purpuralis               | Common Purple & Gold     | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Pyrrhosoma nymphula               | Large Red Damselfly      | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Rhagium mordax                    | Rhagium mordax           | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Scopula ternata                   | Smoky Wave               | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Scotopteryx chenopodiata          | Shaded Broad-bar         | Invertebrates<br>(insect) | Priority Species                                                      |
| Selenia lunularia                 | Lunar Thorn              | Invertebrates<br>(insect) | Locally Important<br>Species<br>Species of<br>Conservation<br>Concern |
| Spania nigra                      | Liverwort Snipefly       | Invertebrates<br>(insect) | Priority Species                                                      |
| Spilosoma lubricipeda             | White Ermine             | Invertebrates<br>(insect) | Priority Species                                                      |
| Spilosoma lutea                   | Buff Ermine              | Invertebrates<br>(insect) | Priority Species                                                      |
| Standfussiana lucernea            | Northern Rustic          | Invertebrates<br>(insect) | Locally Important<br>Species                                          |
| Stenurella melanura               | Stenurella melanura      | Invertebrates<br>(insect) | Other Species                                                         |

|                              |                                 |                           |                                       |
|------------------------------|---------------------------------|---------------------------|---------------------------------------|
| Stilbia anomala              | Anomalous                       | Invertebrates<br>(insect) | Priority Species                      |
| Sympetrum danae              | Black Darter                    | Invertebrates<br>(insect) | Locally Important<br>Species          |
| Sympetrum striolatum         | Common Darter                   | Invertebrates<br>(insect) | Locally Important<br>Species          |
| Syngrapha interrogationis    | Scarce Silver Y                 | Invertebrates<br>(insect) | Locally Important<br>Species          |
| Tetheella fluctuosa          | Satin Lutestring                | Invertebrates<br>(insect) | Locally Important<br>Species          |
| Thaumastoptera calceata      | Thaumastoptera calceata         | Invertebrates<br>(insect) | Species of<br>Conservation<br>Concern |
| Tiliacea aurago              | Barred Sallow                   | Invertebrates<br>(insect) | Locally Important<br>Species          |
| Triphosa dubitata            | Tissue                          | Invertebrates<br>(insect) | Other Species                         |
| Tyria jacobaeae              | Cinnabar                        | Invertebrates<br>(insect) | Priority Species                      |
| Venusia blomeri              | Blomer's Rivulet                | Invertebrates<br>(insect) | Locally Important<br>Species          |
| Xanthorhoe ferrugata         | Dark-barred Twin-spot<br>Carpet | Invertebrates<br>(insect) | Priority Species                      |
| Xestia castanea              | Neglected Rustic                | Invertebrates<br>(insect) | Priority Species                      |
| Cladonia bellidiflora        | Cladonia bellidiflora           | Lichens                   | Locally Important<br>Species          |
| Cladonia ciliata var. tenuis | Cladonia ciliata var. tenuis    | Lichens                   | Locally Important<br>Species          |
| Dermatocarpon miniatum       | Dermatocarpon miniatum          | Lichens                   | Locally Important<br>Species          |
| Melanohalea laciniatula      | Melanohalea laciniatula         | Lichens                   | Locally Important<br>Species          |
| Peltigera leucophlebia       | Peltigera leucophlebia          | Lichens                   | Locally Important<br>Species          |
| Solorina saccata             | Solorina saccata                | Lichens                   | Locally Important<br>Species          |
| Verrucaria caerulea          | Verrucaria caerulea             | Lichens                   | Locally Important<br>Species          |
| Chiroptera                   | Unknown Bat                     | Mammals<br>(terrestrial)  | Priority Species                      |
| Eptesicus serotinus          | Serotine                        | Mammals<br>(terrestrial)  | Priority Species                      |
| Erinaceus europaeus          | Hedgehog                        | Mammals<br>(terrestrial)  | Priority Species                      |
| Lutra lutra                  | Otter                           | Mammals<br>(terrestrial)  | Priority Species                      |
| Meles meles                  | Badger                          | Mammals<br>(terrestrial)  | Priority Species                      |
| Mustela nivalis              | Weasel                          | Mammals<br>(terrestrial)  | Priority Species                      |

|                                |                          |                            |                              |
|--------------------------------|--------------------------|----------------------------|------------------------------|
| Myotis daubentonii             | Daubenton's Bat          | Mammals<br>(terrestrial)   | Priority Species             |
| Myotis nattereri               | Natterer's Bat           | Mammals<br>(terrestrial)   | Priority Species             |
| Myotis                         | Myotis Bat Species       | Mammals<br>(terrestrial)   | Priority Species             |
| Neovison vison                 | American Mink            | Mammals<br>(terrestrial)   | Other Species                |
| Nyctalus noctula               | Noctule Bat              | Mammals<br>(terrestrial)   | Priority Species             |
| Pipistrellus pipistrellus agg. | Pipistrelle agg.         | Mammals<br>(terrestrial)   | Priority Species             |
| Pipistrellus pipistrellus      | Common Pipistrelle       | Mammals<br>(terrestrial)   | Priority Species             |
| Pipistrellus pygmaeus          | Soprano Pipistrelle      | Mammals<br>(terrestrial)   | Priority Species             |
| Pipistrellus                   | Pipistrellus Bat Species | Mammals<br>(terrestrial)   | Priority Species             |
| Plecotus auritus               | Brown Long-eared Bat     | Mammals<br>(terrestrial)   | Priority Species             |
| Plecotus                       | Long-eared Bat Species   | Mammals<br>(terrestrial)   | Priority Species             |
| Rhinolophus hipposideros       | Lesser Horseshoe Bat     | Mammals<br>(terrestrial)   | Priority Species             |
| Sciurus carolinensis           | Grey Squirrel            | Mammals<br>(terrestrial)   | Other Species                |
| Sorex araneus                  | Common Shrew             | Mammals<br>(terrestrial)   | Locally Important<br>Species |
| Anguis fragilis                | Slow-worm                | Reptiles and<br>Amphibians | Priority Species             |
| Bufo bufo                      | Common Toad              | Reptiles and<br>Amphibians | Priority Species             |
| Lissotriton helveticus         | Palmate Newt             | Reptiles and<br>Amphibians | Priority Species             |
| Rana temporaria                | Common Frog              | Reptiles and<br>Amphibians | Priority Species             |
| Triturus cristatus             | Great Crested Newt       | Reptiles and<br>Amphibians | Priority Species             |
| Zootoca vivipara               | Common Lizard            | Reptiles and<br>Amphibians | Priority Species             |
| Acer campestre                 | Field Maple              | Vascular<br>Plants         | Locally Important<br>Species |
| Aconitum napellus              | Monk's-hood              | Vascular<br>Plants         | Locally Important<br>Species |
| Adoxa moschatellina            | Moschatel                | Vascular<br>Plants         | Locally Important<br>Species |
| Agrimonia eupatoria            | Agrimony                 | Vascular<br>Plants         | Locally Important<br>Species |
| Agrostis vinealis              | Brown Bent               | Vascular<br>Plants         | Locally Important<br>Species |

|                                           |                             |                 |                           |
|-------------------------------------------|-----------------------------|-----------------|---------------------------|
| Aira caryophyllea                         | Silver Hair-grass           | Vascular Plants | Locally Important Species |
| Alchemilla filicaulis subsp. vestita      | Lady's-Mantle               | Vascular Plants | Locally Important Species |
| Alchemilla glabra                         | Smooth Lady's-mantle        | Vascular Plants | Locally Important Species |
| Alchemilla vulgaris agg.                  | Lady's-Mantle agg.          | Vascular Plants | Locally Important Species |
| Alchemilla xanthochlora                   | Intermediate Lady's-mantle  | Vascular Plants | Locally Important Species |
| Allium ursinum                            | Ramsons                     | Vascular Plants | Locally Important Species |
| Anagallis tenella                         | Bog Pimpernel               | Vascular Plants | Locally Important Species |
| Anemone nemorosa                          | Wood Anemone                | Vascular Plants | Locally Important Species |
| Antennaria dioica                         | Mountain Everlasting        | Vascular Plants | Locally Important Species |
| Anthyllis vulneraria                      | Kidney Vetch                | Vascular Plants | Locally Important Species |
| Aphanes arvensis                          | Parsley-piert               | Vascular Plants | Locally Important Species |
| Arabis hirsuta                            | Hairy Rock-cress            | Vascular Plants | Locally Important Species |
| Arenaria serpyllifolia agg.               | Thyme-Leaved Sandwort agg.  | Vascular Plants | Locally Important Species |
| Arenaria serpyllifolia subsp. leptoclados | Slender Sandwort            | Vascular Plants | Locally Important Species |
| Arenaria serpyllifolia                    | Thyme-Leaved Sandwort       | Vascular Plants | Locally Important Species |
| Asplenium viride                          | Green Spleenwort            | Vascular Plants | Locally Important Species |
| Botrychium lunaria                        | Moonwort                    | Vascular Plants | Locally Important Species |
| Briza media                               | Quaking-grass               | Vascular Plants | Locally Important Species |
| Bromopsis erecta                          | Upright Brome               | Vascular Plants | Locally Important Species |
| Bromopsis ramosa                          | Hairy-brome                 | Vascular Plants | Locally Important Species |
| Buxus sempervirens                        | Box                         | Vascular Plants | Locally Important Species |
| Callitriche hamulata                      | Intermediate Water-starwort | Vascular Plants | Locally Important Species |
| Calystegia pulchra                        | Hairy Bindweed              | Vascular Plants | Other Species             |
| Carduus nutans                            | Musk Thistle                | Vascular Plants | Locally Important Species |
| Carex caryophyllea                        | Spring-sedge                | Vascular Plants | Locally Important Species |

|                                                 |                               |                 |                                 |
|-------------------------------------------------|-------------------------------|-----------------|---------------------------------|
| Carex flacca                                    | Glaucous Sedge                | Vascular Plants | Locally Important Species       |
| Carex hostiana                                  | Tawny Sedge                   | Vascular Plants | Locally Important Species       |
| Carex laevigata                                 | Smooth-stalked Sedge          | Vascular Plants | Locally Important Species       |
| Carex montana                                   | Soft-leaved Sedge             | Vascular Plants | Species of Conservation Concern |
| Carex otrubae                                   | False Fox-sedge               | Vascular Plants | Locally Important Species       |
| Carex panicea                                   | Carnation Sedge               | Vascular Plants | Locally Important Species       |
| Carex pilulifera                                | Pill Sedge                    | Vascular Plants | Locally Important Species       |
| Carex rostrata                                  | Bottle Sedge                  | Vascular Plants | Locally Important Species       |
| Carex spicata                                   | Spiked Sedge                  | Vascular Plants | Locally Important Species       |
| Carex sylvatica                                 | Wood-sedge                    | Vascular Plants | Locally Important Species       |
| Carex viridula subsp. brachyrrhyncha            | Long-stalked Yellow-sedge     | Vascular Plants | Locally Important Species       |
| Carex viridula subsp. oedocarpa                 | Common Yellow-sedge           | Vascular Plants | Other Species                   |
| Catapodium rigidum                              | Fern-grass                    | Vascular Plants | Locally Important Species       |
| Ceratocapnos claviculata                        | Climbing Corydalis            | Vascular Plants | Locally Important Species       |
| Ceratophyllum demersum                          | Rigid Hornwort                | Vascular Plants | Locally Important Species       |
| Ceterach officinarum                            | Rustyback                     | Vascular Plants | Locally Important Species       |
| Chaenorhinum minus                              | Small Toadflax                | Vascular Plants | Other Species                   |
| Chenopodium rubrum                              | Red Goosefoot                 | Vascular Plants | Other Species                   |
| Circaea lutetiana x alpina = C. x intermedia    | Upland Enchanter's-nightshade | Vascular Plants | Locally Important Species       |
| Cirsium acaule                                  | Dwarf Thistle                 | Vascular Plants | Locally Important Species       |
| Conopodium majus                                | Pignut                        | Vascular Plants | Locally Important Species       |
| Cornus sanguinea                                | Dogwood                       | Vascular Plants | Locally Important Species       |
| Cotoneaster horizontalis                        | Wall Cotoneaster              | Vascular Plants | Other Species                   |
| Crassula helmsii                                | New Zealand Pigmyweed         | Vascular Plants | Other Species                   |
| Crocasmia pottsii x aurea = C. x crocosmiiflora | Montbretia                    | Vascular Plants | Other Species                   |

|                           |                          |                    |                                       |
|---------------------------|--------------------------|--------------------|---------------------------------------|
| Cruciata laevipes         | Crosswort                | Vascular<br>Plants | Other Species                         |
| Cystopteris fragilis      | Brittle Bladder-fern     | Vascular<br>Plants | Locally Important<br>Species          |
| Dactylorhiza fuchsii      | Common Spotted-orchid    | Vascular<br>Plants | Locally Important<br>Species          |
| Dactylorhiza maculata     | Heath Spotted-orchid     | Vascular<br>Plants | Locally Important<br>Species          |
| Dactylorhiza praetermissa | Southern Marsh-orchid    | Vascular<br>Plants | Locally Important<br>Species          |
| Dactylorhiza              | Marsh-Orchid             | Vascular<br>Plants | Other Species                         |
| Danthonia decumbens       | Heath-grass              | Vascular<br>Plants | Locally Important<br>Species          |
| Dipsacus fullonum         | Wild Teasel              | Vascular<br>Plants | Locally Important<br>Species          |
| Drosera rotundifolia      | Round-leaved Sundew      | Vascular<br>Plants | Other Species                         |
| Dryopteris carthusiana    | Narrow Buckler-fern      | Vascular<br>Plants | Other Species                         |
| Eleocharis quinqueflora   | Few-flowered Spike-rush  | Vascular<br>Plants | Locally Important<br>Species          |
| Elymus caninus            | Bearded Couch            | Vascular<br>Plants | Locally Important<br>Species          |
| Empetrum nigrum           | Crowberry agg.           | Vascular<br>Plants | Locally Important<br>Species          |
| Epilobium brunnescens     | New Zealand Willowherb   | Vascular<br>Plants | Other Species                         |
| Epipactis helleborine     | Broad-leaved Helleborine | Vascular<br>Plants | Other Species                         |
| Equisetum telmateia       | Great Horsetail          | Vascular<br>Plants | Locally Important<br>Species          |
| Equisetum variegatum      | Variegated Horsetail     | Vascular<br>Plants | Species of<br>Conservation<br>Concern |
| Erica cinerea             | Bell Heather             | Vascular<br>Plants | Locally Important<br>Species          |
| Erica tetralix            | Cross-leaved Heath       | Vascular<br>Plants | Locally Important<br>Species          |
| Erigeron acris            | Blue Fleabane            | Vascular<br>Plants | Locally Important<br>Species          |
| Eriophorum angustifolium  | Common Cottongrass       | Vascular<br>Plants | Locally Important<br>Species          |
| Eriophorum latifolium     | Broad-leaved Cottongrass | Vascular<br>Plants | Locally Important<br>Species          |
| Eriophorum vaginatum      | Hare's-tail Cottongrass  | Vascular<br>Plants | Locally Important<br>Species          |
| Erodium cicutarium        | Common Stork's-bill      | Vascular<br>Plants | Locally Important<br>Species          |
| Euphorbia amygdaloides    | Wood Spurge              | Vascular<br>Plants | Locally Important<br>Species          |

|                                        |                        |                 |                                 |
|----------------------------------------|------------------------|-----------------|---------------------------------|
| Euphrasia micrantha                    | Eyebright              | Vascular Plants | Locally Important Species       |
| Euphrasia nemorosa x confusa           | Eyebright              | Vascular Plants | Locally Important Species       |
| Euphrasia nemorosa                     | Eyebright              | Vascular Plants | Locally Important Species       |
| Euphrasia officinalis agg.             | Eyebright agg.         | Vascular Plants | Locally Important Species       |
| Euphrasia officinalis subsp. pratensis | Eyebright              | Vascular Plants | Priority Species                |
| Fallopia japonica                      | Japanese Knotweed      | Vascular Plants | Other Species                   |
| Filago minima                          | Small Cudweed          | Vascular Plants | Locally Important Species       |
| Filago vulgaris                        | Common Cudweed         | Vascular Plants | Other Species                   |
| Galium odoratum                        | Woodruff               | Vascular Plants | Locally Important Species       |
| Galium sternerii                       | Limestone Bedstraw     | Vascular Plants | Locally Important Species       |
| Galium verum                           | Lady's Bedstraw        | Vascular Plants | Locally Important Species       |
| Geum rivale                            | Water Avens            | Vascular Plants | Locally Important Species       |
| Gymnadenia conopsea subsp. conopsea    | Fragrant Orchid        | Vascular Plants | Priority Species                |
| Gymnadenia conopsea                    | Fragrant Orchid        | Vascular Plants | Priority Species                |
| Gymnocarpium robertianum               | Limestone Fern         | Vascular Plants | Species of Conservation Concern |
| Helianthemum nummularium               | Common Rock-rose       | Vascular Plants | Locally Important Species       |
| Helictotrichon pubescens               | Downy Oat-grass        | Vascular Plants | Locally Important Species       |
| Hippophae rhamnoides                   | Sea-buckthorn          | Vascular Plants | Species of Conservation Concern |
| Huperzia selago                        | Fir Clubmoss           | Vascular Plants | Other Species                   |
| Hyacinthoides non-scripta              | Bluebell               | Vascular Plants | Priority Species                |
| Hydrocotyle vulgaris                   | Marsh Pennywort        | Vascular Plants | Locally Important Species       |
| Hypericum pulchrum                     | Slender St John's-wort | Vascular Plants | Locally Important Species       |
| Inula conyzae                          | Ploughman's-spikenard  | Vascular Plants | Other Species                   |
| Jasione montana                        | Sheep's-bit            | Vascular Plants | Locally Important Species       |

|                                                |                       |                 |                                 |
|------------------------------------------------|-----------------------|-----------------|---------------------------------|
| Juncus inflexus                                | Hard Rush             | Vascular Plants | Locally Important Species       |
| Knautia arvensis                               | Field Scabious        | Vascular Plants | Locally Important Species       |
| Lagarosiphon major                             | Curly Waterweed       | Vascular Plants | Other Species                   |
| Lamiastrum galeobdolon subsp. montanum         | Yellow Archangel      | Vascular Plants | Locally Important Species       |
| Lathraea squamaria                             | Toothwort             | Vascular Plants | Locally Important Species       |
| Lemna trisulca                                 | Ivy-leaved Duckweed   | Vascular Plants | Locally Important Species       |
| Leontodon hispidus                             | Rough Hawkbit         | Vascular Plants | Locally Important Species       |
| Leontodon saxatilis                            | Lesser Hawkbit        | Vascular Plants | Locally Important Species       |
| Linum catharticum                              | Fairy Flax            | Vascular Plants | Locally Important Species       |
| Luzula multiflora                              | Heath Wood-rush       | Vascular Plants | Locally Important Species       |
| Luzula pilosa                                  | Hairy Wood-rush       | Vascular Plants | Locally Important Species       |
| Luzula sylvatica                               | Great Wood-rush       | Vascular Plants | Locally Important Species       |
| Lysimachia nemorum                             | Yellow Pimpernel      | Vascular Plants | Locally Important Species       |
| Lysimachia nummularia                          | Creeping-Jenny        | Vascular Plants | Other Species                   |
| Lythrum portula                                | Water-purslane        | Vascular Plants | Locally Important Species       |
| Meconopsis cambrica                            | Welsh Poppy           | Vascular Plants | Species of Conservation Concern |
| Melica nutans                                  | Mountain Melick       | Vascular Plants | Other Species                   |
| Melica uniflora                                | Wood Melick           | Vascular Plants | Locally Important Species       |
| Mentha aquatica                                | Water Mint            | Vascular Plants | Other Species                   |
| Mentha arvensis x aquatica = M. x verticillata | Whorled Mint          | Vascular Plants | Locally Important Species       |
| Mimulus guttatus                               | Monkeyflower          | Vascular Plants | Other Species                   |
| Moehringia trinervia                           | Three-nerved Sandwort | Vascular Plants | Locally Important Species       |
| Montia fontana subsp. amporitana               | Blinks                | Vascular Plants | Locally Important Species       |
| Mycelis muralis                                | Wall Lettuce          | Vascular Plants | Locally Important Species       |
| Myosotis laxa                                  | Tufted Forget-me-not  | Vascular Plants | Locally Important Species       |

|                                                  |                        |                 |                                 |
|--------------------------------------------------|------------------------|-----------------|---------------------------------|
| Myosotis secunda                                 | Creeping Forget-me-not | Vascular Plants | Locally Important Species       |
| Narcissus pseudonarcissus subsp. major           | Spanish Daffodil       | Vascular Plants | Locally Important Species       |
| Narcissus pseudonarcissus subsp. pseudonarcissus | Daffodil               | Vascular Plants | Locally Important Species       |
| Narthecium ossifragum                            | Bog Asphodel           | Vascular Plants | Locally Important Species       |
| Neottia ovata                                    | Common Twayblade       | Vascular Plants | Other Species                   |
| Odontites vernus                                 | Red Bartsia            | Vascular Plants | Locally Important Species       |
| Ononis repens                                    | Common Restharrow      | Vascular Plants | Locally Important Species       |
| Ophrys apifera                                   | Bee Orchid             | Vascular Plants | Locally Important Species       |
| Oreopteris limbosperma                           | Lemon-scented Fern     | Vascular Plants | Locally Important Species       |
| Orobanche minor                                  | Common Broomrape       | Vascular Plants | Locally Important Species       |
| Osmunda regalis                                  | Royal Fern             | Vascular Plants | Locally Important Species       |
| Oxalis acetosella                                | Wood-sorrel            | Vascular Plants | Locally Important Species       |
| Paris quadrifolia                                | Herb-paris             | Vascular Plants | Locally Important Species       |
| Pedicularis sylvatica                            | Lousewort              | Vascular Plants | Locally Important Species       |
| Persicaria bistorta                              | Common Bistort         | Vascular Plants | Other Species                   |
| Persicaria lapathifolia                          | Pale Persicaria        | Vascular Plants | Locally Important Species       |
| Persicaria minor                                 | Small Water-pepper     | Vascular Plants | Species of Conservation Concern |
| Petasites hybridus                               | Butterbur              | Vascular Plants | Locally Important Species       |
| Phegopteris connectilis                          | Beech Fern             | Vascular Plants | Locally Important Species       |
| Phragmites australis                             | Common Reed            | Vascular Plants | Locally Important Species       |
| Picris hieracioides                              | Hawkweed Oxtongue      | Vascular Plants | Locally Important Species       |
| Pimpinella saxifraga                             | Burnet-saxifrage       | Vascular Plants | Locally Important Species       |
| Pinguicula vulgaris                              | Common Butterwort      | Vascular Plants | Locally Important Species       |
| Plantago media                                   | Hoary Plantain         | Vascular Plants | Locally Important Species       |
| Poa compressa                                    | Flattened Meadow-grass | Vascular Plants | Other Species                   |

|                                                            |                       |                 |                           |
|------------------------------------------------------------|-----------------------|-----------------|---------------------------|
| Polygala serpyllifolia                                     | Heath Milkwort        | Vascular Plants | Locally Important Species |
| Polygala vulgaris                                          | Common Milkwort       | Vascular Plants | Locally Important Species |
| Polypodium interjectum                                     | Intermediate Polypody | Vascular Plants | Locally Important Species |
| Polystichum aculeatum                                      | Hard Shield-fern      | Vascular Plants | Locally Important Species |
| Polystichum setiferum                                      | Soft Shield-fern      | Vascular Plants | Locally Important Species |
| Populus tremula                                            | Aspen                 | Vascular Plants | Locally Important Species |
| Potamogeton polygonifolius                                 | Bog Pondweed          | Vascular Plants | Locally Important Species |
| Poterium sanguisorba subsp. sanguisorba                    | Salad Burnet          | Vascular Plants | Locally Important Species |
| Primula veris x vulgaris = P. x polyantha                  | False Oxlip           | Vascular Plants | Other Species             |
| Primula veris                                              | Cowslip               | Vascular Plants | Locally Important Species |
| Prunus laurocerasus                                        | Cherry Laurel         | Vascular Plants | Other Species             |
| Prunus padus                                               | Bird Cherry           | Vascular Plants | Locally Important Species |
| Pseudorchis albida                                         | Small-white Orchid    | Vascular Plants | Priority Species          |
| Pulicaria dysenterica                                      | Common Fleabane       | Vascular Plants | Locally Important Species |
| Ranunculus omiophyllus                                     | Round-leaved Crowfoot | Vascular Plants | Locally Important Species |
| Reseda luteola                                             | Weld                  | Vascular Plants | Locally Important Species |
| Rhamnus cathartica                                         | Buckthorn             | Vascular Plants | Locally Important Species |
| Rhinanthus minor                                           | Yellow-rattle         | Vascular Plants | Locally Important Species |
| Rhododendron ponticum                                      | Rhododendron ponticum | Vascular Plants | Other Species             |
| Rorippa nasturtium-aquaticum x microphylla = R. x sterilis | Hybrid Water-cress    | Vascular Plants | Locally Important Species |
| Rosa caesia subsp. vosagiaca                               | Glaucous Dog-rose     | Vascular Plants | Locally Important Species |
| Rosa rugosa                                                | Japanese Rose         | Vascular Plants | Other Species             |
| Rubus saxatilis                                            | Stone Bramble         | Vascular Plants | Other Species             |
| Sagina nodosa                                              | Knotted Pearlwort     | Vascular Plants | Locally Important Species |
| Salix alba                                                 | White Willow          | Vascular Plants | Locally Important Species |

|                          |                       |                 |                                 |
|--------------------------|-----------------------|-----------------|---------------------------------|
| Salix purpurea           | Purple Willow         | Vascular Plants | Locally Important Species       |
| Salix repens             | Creeping Willow       | Vascular Plants | Locally Important Species       |
| Sanguisorba officinalis  | Great Burnet          | Vascular Plants | Locally Important Species       |
| Sanicula europaea        | Sanicle               | Vascular Plants | Locally Important Species       |
| Saxifraga granulata      | Meadow Saxifrage      | Vascular Plants | Locally Important Species       |
| Saxifraga hypnoides      | Mossy Saxifrage       | Vascular Plants | Species of Conservation Concern |
| Saxifraga tridactylites  | Rue-leaved Saxifrage  | Vascular Plants | Locally Important Species       |
| Scrophularia auriculata  | Water Figwort         | Vascular Plants | Locally Important Species       |
| Scutellaria minor        | Lesser Skullcap       | Vascular Plants | Locally Important Species       |
| Sedum forsterianum       | Rock Stonecrop        | Vascular Plants | Species of Conservation Concern |
| Senecio erucifolius      | Hoary Ragwort         | Vascular Plants | Other Species                   |
| Serratula tinctoria      | Saw-wort              | Vascular Plants | Other Species                   |
| Sherardia arvensis       | Field Madder          | Vascular Plants | Locally Important Species       |
| Silene flos-cuculi       | Ragged-Robin          | Vascular Plants | Locally Important Species       |
| Solidago virgaurea       | Goldenrod             | Vascular Plants | Locally Important Species       |
| Sorbus aria              | Common Whitebeam      | Vascular Plants | Locally Important Species       |
| Sparganium angustifolium | Floating Bur-reed     | Vascular Plants | Locally Important Species       |
| Spergularia rubra        | Sand Spurrey          | Vascular Plants | Locally Important Species       |
| Stachys officinalis      | Betony                | Vascular Plants | Locally Important Species       |
| Stachys palustris        | Marsh Woundwort       | Vascular Plants | Locally Important Species       |
| Succisa pratensis        | Devil's-bit Scabious  | Vascular Plants | Locally Important Species       |
| Tilia cordata            | Small-leaved Lime     | Vascular Plants | Locally Important Species       |
| Torilis nodosa           | Knotted Hedge-parsley | Vascular Plants | Locally Important Species       |
| Tragopogon pratensis     | Goat's-beard          | Vascular Plants | Locally Important Species       |

|                                  |                       |                 |                           |
|----------------------------------|-----------------------|-----------------|---------------------------|
| Trichophorum caespitosum         | Deergrass             | Vascular Plants | Locally Important Species |
| Trichophorum germanicum          | Deergrass             | Vascular Plants | Locally Important Species |
| Trifolium campestre              | Hop Trefoil           | Vascular Plants | Locally Important Species |
| Trifolium medium                 | Zigzag Clover         | Vascular Plants | Locally Important Species |
| Trifolium micranthum             | Slender Trefoil       | Vascular Plants | Locally Important Species |
| Triglochin palustre              | Marsh Arrowgrass      | Vascular Plants | Locally Important Species |
| Tripleurospermum inodorum        | Scentless Mayweed     | Vascular Plants | Locally Important Species |
| Trisetum flavescens              | Yellow Oat-grass      | Vascular Plants | Locally Important Species |
| Trollius europaeus               | Globeflower           | Vascular Plants | Priority Species          |
| Ulex gallii                      | Western Gorse         | Vascular Plants | Locally Important Species |
| Umbilicus rupestris              | Navelwort             | Vascular Plants | Locally Important Species |
| Vaccinium myrtillus              | Bilberry              | Vascular Plants | Locally Important Species |
| Valeriana dioica                 | Marsh Valerian        | Vascular Plants | Locally Important Species |
| Veronica catenata                | Pink Water-Speedwell  | Vascular Plants | Locally Important Species |
| Veronica montana                 | Wood Speedwell        | Vascular Plants | Locally Important Species |
| Veronica officinalis             | Heath Speedwell       | Vascular Plants | Locally Important Species |
| Veronica polita                  | Grey Field-speedwell  | Vascular Plants | Locally Important Species |
| Veronica scutellata              | Marsh Speedwell       | Vascular Plants | Locally Important Species |
| Viburnum opulus                  | Guelder-rose          | Vascular Plants | Locally Important Species |
| Vicia tetrasperma                | Smooth Tare           | Vascular Plants | Other Species             |
| Viola palustris subsp. palustris | Marsh Violet          | Vascular Plants | Locally Important Species |
| Viola palustris                  | Marsh Violet          | Vascular Plants | Locally Important Species |
| Viola reichenbachiana            | Early Dog-violet      | Vascular Plants | Locally Important Species |
| Vulpia myuros                    | Rat's-tail Fescue     | Vascular Plants | Other Species             |
| Wahlenbergia hederacea           | Ivy-leaved Bellflower | Vascular Plants | Other Species             |

## APPENDIX C - TARGET NOTES

| Target note number | Description              |
|--------------------|--------------------------|
| TN 1               | Japanese knotweed        |
| TN 2               | willow                   |
| TN 3               | Tributary                |
| TN 4               | Culvert with metal grill |
| TN 5               | rubble                   |
| TN 6               | Garden waste             |
| TN 7               | fires                    |

## APPENDIX D- SITE CLEARANCE METHOD STATEMENT (REPTILES)

1. Following a reptile habitat assessment, it was considered that the site has the potential to support a population of slow worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*) and possibly grass snake (*Natrix natrix*). The presence of reptiles should therefore be assumed, hence the need for a Method Statement to ensure that works are carried out in such a way as to avoid harm to reptiles.
2. Vegetation will be cleared from directly affected areas only e.g. areas to be built on, used for storage, be part of the construction site or forming part of any landscaping scheme. Clearance will be carried out in the following direction:



3. Once cleared, the vegetation will be maintained as close to bare ground as possible by ongoing repeated cutting using brush cutters with knife blades to ensure that there is no potential for reptiles to utilise the site after the initial clearance. This is the preferred method as it reduces the potential for killing and injuring of reptiles and other animals when using tractor towed flails and mowers. Reptile fencing will not be required as long as the bare ground / short vegetation habitat is maintained.
4. All arisings will be raked off and spread (creating habitat piles) on unaffected land or removed from site for disposal. The orientation of the cutting will be designed to push reptiles into unaffected areas once the areas for clearance have been identified without having to undertake a full translocation exercise.
5. Trees and scrub will be cleared to ground level using a chainsaw with the stem material saved to be used for the creation of a hibernaculum on unaffected land. Stumps and roots will only be removed by machine (under ecological supervision) once the clearance is complete.
6. Vegetation will be cut in three phases. The first phase will reduce the vegetation height to 75mm; the second will reduce it to ≈30mm; the third phase will reduce the height to as close to ground level as possible. There will be a time delay of 48 hours between the first and second cuts.

7. After clearance, should the vegetation be allowed to regrow above 150mm high, it will be cut and raked as short as possible,  $\leq 30$  mm wherever possible.
8. Clearance may only take place during the reptile active season.
9. Potential hibernacula will only be cleared while day time temperatures are consistently over 12°C for a period of at least seven days prior as otherwise reptiles may be killed or injured as a result of inconsistent (low) temperatures (during the day and night) and/or low prey availability. Potential hibernacula will only be dismantled by hand unless the supervising ecologist gives the approval for machine dismantling.
10. If reptiles are observed within the clearance area during the works, a decision on how to deal with them will be made on site in light of the conditions on site at the time and the state of the animals themselves. There are three options for dealing with them:
  - It may be possible to leave the animals alone to find their own way into cover, depending on where they are seen, what they are doing and their apparent activity levels; or
  - Capture, remove from site and take into temporary captivity until such time as they can be released adjacent to the cleared area (a vivarium has been prepared in case it is required); or
  - Should conditions allow, capture and translocate the animals to a safe area immediately adjacent to the site.
11. Habitat (e.g. hibernation sites for other species especially amphibians) can be identified and avoided by following this method statement.
12. All vegetation and site clearance will be supervised by a suitably experienced ecologist.

