



**Capel Y Glyn, Glynneath,
Neath**

Reptile Survey

May 2025

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DOCUMENT CONTROL

Capel Y Glyn, Heol Y Glyn, Glynneath, SA11 5BB Reptile Survey				
Revision	Date	Prepared by	Checked by	Approved by
1.0	07 May 2025	Evan Smith Assistant Ecologist E. Smith	Jack Martin Assistant Ecologist J Martin	Paul Hudson MCIEEM Principal Ecologist Paul Hudson

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Executive Summary

Site Location	The report presents the findings of a reptile survey at Capel Y Glyn. The site is situated within Neath Port Talbot County Borough Council.
Survey Methods	The survey consisted of two different techniques: the use of artificial cover objects (ACOs) which are also known as refugia and direct observation. The ACOs were placed throughout the site on 19th of March 2025, in areas considered to be suitable for reptiles. The ACOs were then left for two weeks prior to commencing the survey to allow reptiles to grow familiar with, and then utilise, them. The survey consisted of seven separate visits. During each visit the terrestrial habitat was checked for reptiles, as well as each ACO. The ACOs were first checked from a distance for basking reptiles, before being checked below for sheltering individuals.
Survey Results	The maximum number of adult reptiles recorded across the site on one survey occasion was four slow worms, which falls into the 'low population' category. No other species of reptile were recorded.
Predicted Impacts of Development on Reptiles	<u>Potential Direct Impacts</u> While no reptiles were recorded from directly within the area proposed for development (i.e. within the proposed development footprint) during the survey window, it is possible that reptiles could reside within the proposed development footprint, or adjacent to it/within the zone of influence of any activities required to implement the proposals. <u>Potential Indirect Impacts</u> The development has the potential to result in the following indirect impacts: • Increased on-site disturbance; • Persecution and/or collection by humans; • Predation by cats; and • Potential disturbance to neighbouring populations of reptiles with the increased human presence and noise and vibrations from the works.
Proposed Mitigation	Detailed recommendations are given in Section 6.
Required Actions	Detailed recommendations are given in Section 6.

1. Introduction

1.1. Brief

Acer Ecology Ltd. were commissioned by Arron Booth to conduct a preliminary ecological appraisal and preliminary roost assessment of land Capel Y Glyn, Hoel Y Glyn, Glynneath, SA11 5BB, within the boundary Neath Port Talbot County Borough Council (Ordnance Survey Grid Reference centred at: SN 8842 0675)¹. The location of the site is shown on Plan 1. During these surveys, the site was identified as being suitable to support reptiles.

1.2. Site Description

The site proposed for development measures approximately 0.1ha, and mainly comprises poor semi-improved grassland and a corridor of mixed broadleaf trees and shrubland to the north and east of the site boundary. A two-storey chapel with associated hardstanding is located on the east of the site and links directly onto the A4109 which runs north to south of the site. The site has a central location in Glynneath and is bordered by detached developments with linked back gardens. A large amenity grassland used for recreational purposes lies 11m west of the site and the closest rural landscape is situated 0.1km to the south. The river neath runs 90m south of the site and the Nant Y Gwyddyl flows adjacent to the development site on the northern boundary.

Photo 1: North-eastern Elevation

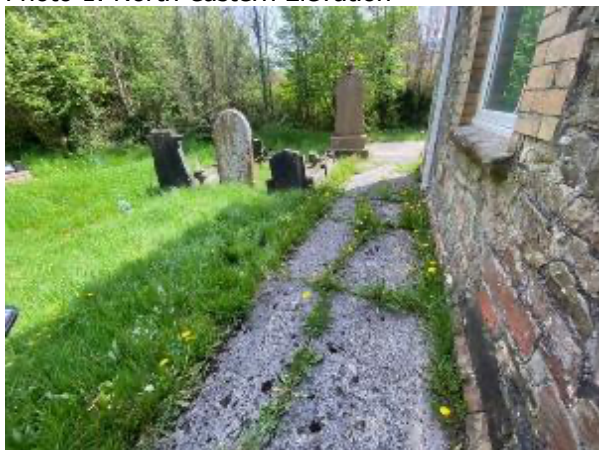
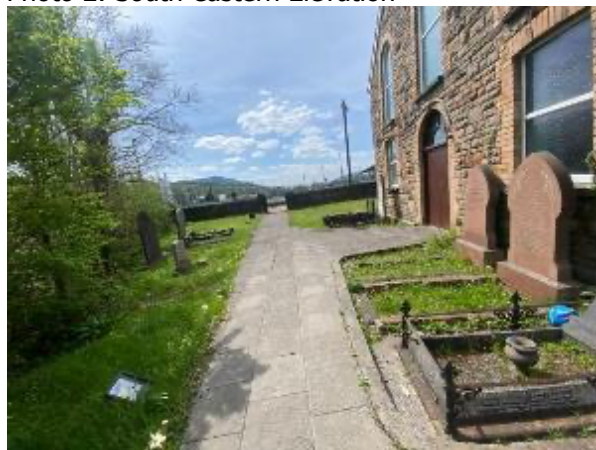


Photo 2: South-eastern Elevation



¹ Latitude and Longitude: 51.748315 , -3.6174159 / what3words: petted.whiplash.mankind

Photo 3: South-western elevation



Photo 4: North-western elevation



1.3. Proposed Works

The preliminary development works proposed comprise the conversion of the two-storey chapel with full internal renovations into a residential property and associated car parking/jard standing in the south-eastern corner of the site. No works are currently proposed for the two outbuildings. External works to connect the development to services will also be undertaken. Trees to the north and east of the site boundary are proposed to be trimmed back to ensure safety of the site. At the time of writing a planning application has yet to be submitted and proposed development plans have not been finalised at present.

1.4. Legislation

There are four widespread species of British reptile - grass snake (*Natrix helvetica*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*). These species are protected under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. They are given so called 'partial protection', which prohibits the intentional or reckless killing or injuring of individuals of any of the above species. Notes on the habitat preferences of the four common reptile species are contained within Appendix 1.

In addition, these species of reptiles are also listed in Part 1 Section 7 of the Environment (Wales) Act 2016 which is a list of the living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in Wales.

To ensure compliance with Planning Policy Wales edition 12 (2024) developments should ideally result in no net loss to the local conservation status of reptiles.

1.5. Survey Scope

The survey comprised a presence/likely absence reptile survey utilising a combination of artificial cover objects (ACOs) which are also known as refugia and direct observation whilst walking across the site.

1.6. Review of Historic Site Data

Acer Ecology undertook a Preliminary Ecological Appraisal (PEA) and Bat Survey of the site on the 4th of October 2023, which identified the site as being suitable to support reptiles.

1.7. Reporting

The aims of the report are to:

- Outline the methodology used during the survey;
- Determine the presence or likely absence of reptiles at the site;
- Determine the population size class of reptiles if confirmed to be present;
- Provide an interpretation of the findings, in relation to the potential impacts of the development;
- Specify the legal and policy constraints relevant to reptile populations and individual reptiles which may affect the development; and
- Provide an indication of mitigation, compensation and enhancement measures that may be required.

2. Methods

2.1. Field Study

Surveys were undertaken in accordance with the guidance outlined in the Herpetofauna Workers' Manual (Gent and Gibson 2003), Advice Sheet 10 – Reptile Survey² (Froglife, 1999), the Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring (Hill et al., 2005), Reptiles: surveys and mitigation for development projects (Natural England and DEFRA 2015), the Reptile Mitigation Guidelines (Natural England 2011) and Survey Protocols for the British Herpetofauna (Sewell et al., 2013). This involved seven return visits in suitable weather conditions on non-consecutive days during April.

The surveys were undertaken by Sonia Lemon³ and Evan Smith⁴, both of whom are experienced in undertaking reptile surveys.

Reptile Survey (1999) recommends that around 10 ACOs per hectare are used during reptile surveys⁵. The site is 0.07ha in size and 40 ACOs were placed across the site, which equates to 485 ACOs per hectare. This considerably exceeds the density of artificial cover objects recommended by Froglife. The ACOs (comprising sections of bituminised roofing felt and corrugated bitumen-based roofing felt), measuring approximately 1m x 0.5m (0.5m²) were placed on the site on the 19th March 2025, in areas considered to have habitat suitable for supporting reptiles (i.e. sunny location, against cover and in likely reptile micro-habitat) and in areas deemed least likely to be tampered or interfered with by people.

The location of the ACOs is shown on Plan 2. The ACOs were then left undisturbed on the site for two weeks prior to commencement of the survey, to allow the reptiles on the site sufficient time to find and start utilising them. Each ACO was then first checked for basking individuals from a distance before being slowly approached and searched for sheltering reptiles. Terrestrial habitat between artificial cover objects was also searched for reptile species on each visit. The location of each reptile sighting was then recorded to allow for analysis of population distributions across the site (see Plan 2).

Natural England's guidelines (2011)⁶ state that the timing of the survey visits should be undertaken between 9:00 and 11:00 and 16:00 and 18:00 during late spring, and when the air temperature is between 9°C and 20°C⁷, which is considered the optimal time to survey for reptiles (Froglife, 1999). Heavy rain and wind are deemed unsuitable conditions for reptile surveys (Froglife, 1999). As reptile activity is heavily dependent on weather conditions the following parameters were recorded during each survey visit: air temperature⁸,

² The Froglife Guidance is primarily aimed conservation volunteers and not professional survey work.

³ Sonia has a Bachelor of Science (Honours) degree in Natural Sciences, with specialisation in Environmental Science. She has written multiple scientific reports on vulnerable/endangered species, whilst studying at university. Sonia is currently working as an Assistant Ecologist with Acer Ecology.

⁴ Evan graduated with a degree in Conservation Biology and Ecology from the University of Exeter. Evan is currently working as an Assistant Ecologist and receiving training from Acer Ecology. Further details of his qualifications and experience can be found at <https://www.linkedin.com/in/evan-smith-9b73a719a>

⁵ This guidance is primarily aimed at monitoring schemes rather than presence/likely absence surveys.

⁶ Natural England's guidance was used as no equivalent guidance has been produced by NRW.

⁷ Natural England's Reptile Mitigation Guidelines recommend that the temperature is between 10-20°C.

⁸ Minimum and maximum temperature in the shade was measured during the survey using an ETI digital thermometer.

wind levels, rain levels, and the cloud cover. As recommended in the guidance (Froglife, 1999) surveys were not undertaken on consecutive days.

Species and life stage and were also recorded, where animals were present, as well as environmental data. Non-target species, such as amphibians and small mammals, utilising the artificial cover objects was also recorded during the surveys.

Estimation of Population Size

Determining the size of a population of reptiles can be difficult without substantial survey effort. Froglife's guidance (1999) recommends that around 20 visits⁹ may be required to assess population size. However, a method of obtaining a broad assessment of population size can be useful for informing impact assessments and mitigation planning.

The reptile population size on site was classified into three classes, based on the maximum number of adult reptiles seen on any one survey visit, as shown in the table below (Froglife 1999 and Natural England (TN102¹⁰)).

Table 1: Reptile Population Size Classes

Reptile Species	Natural England Guidance (TN102)			Froglife Guidance (1999)		
	Small population	Medium population	Large population	Low population	Good population	Exceptional population
Adder	<5	5-10	>10	<5	5-10	>10
Grass snake	<5	5-10	>10	<5	5-10	>10
Common lizard	<5	5-20	>20	<5	5-20	>20
Slow-worm	<10	10-40	>40	<5	5-20	>20

2.2 Constraints

Desk Study

As the results of a data search for reptiles is considered unlikely to impact on the decision-making process at this stage, a data search request to the South East Wales Biological Records Centre (SEWBRc), has not been undertaken as part of the desk-based assessment. It should be noted that it is considered best practice to undertake such a search, and it is recommended within BS 42020:2013¹¹, CIEEM's reporting standards, the Welsh Governments Technical Advice Note 5: Nature Conservation and Planning and in the local authority supplementary planning guidance on biodiversity for The Neath Port Talbot County Borough Council Planning portal¹². As such, the results of such a search may be required to fully inform the report before the planning application can be determined by the Planning Authority.

⁹ It should be noted that the requirement to undertake 20 surveys on the HGBI guidance to provide a population class is aimed at conservation volunteers and not professional survey work.

¹⁰ It should be noted that these guidelines have been withdrawn in October 2011.

¹¹ Biodiversity. Code of practice for planning and development

¹² <https://planningonline.npt.gov.uk/online-applications/>

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Interference with Artificial Cover Objects

During the survey there was a small amount of interference with the artificial cover objects. This interference was due to routine mowing of the grass. However, due to the large number of artificial cover objects used and relatively small number involved in any disturbance, it is not considered to have had any effect on results.

3. Results

3.1. Field Study

3.1.1 Survey Results

The survey results and weather conditions of each survey are summarised below:

Table 2: Survey Weather Conditions

Survey	Date	Start Time	Air Temperature (°C)	Rain	Wind Speed (Beaufort)	Cloud Cover (Oktas)
1	02/04/25	10:00am	12	0 %	4	0/8
2	08/04/25	11:30am ¹³	10	0%	2	6/8
3	10/04/25	10:40am	10	0%	2	0/8
4	17/04/25	1:20pm ¹⁴	11	0%	2	6/8
5	23/04/25	5:20pm	15	0%	2	7/8
6	28/04/25	4:00pm	20	0%	2	0/8
7	30/04/25	8:30am	17	0%	1	0/8

Table 3: Survey Results

Survey	Date	Records			Additional Notes
		Species	Adults	Juveniles	
1	02/04/25	Slow worm	-	1	
2	08/04/25	Slow worm	3	2	
3	10/04/25	-	-	-	
4	17/04/25	Slow worm	4	0	
5	23/04/25	Slow worm	2	4	
6	28/04/25	Slow worm	4	1	
7	30/04/25	Slow worm	-	1	

Plan 2 shows the areas of the site where reptiles were recorded. Slow worm were recorded throughout the whole of the site.

¹³ Although this time lies outside of Natural England's Guidelines for reptile surveys, this is not considered to be a massive constraint to the results of the survey.

¹⁴ Although this time lies outside of Natural England's Guidelines for reptile surveys, this survey took place during a hot spell after a day of cold, rainy weather and mide afternoon was the most suitable temperature that day.

4. Evaluation

4.1. Population Class Assessment

The results of the surveys indicate that the site supports a small/low population of slow worm. However, it should be noted that the number of artificial cover objects used greatly exceeds the number recommended per hectare by Froglife's guidance (5-10 per hectare) for surveying reptiles.

As a greater number of ACO's were installed across the site and a low/small population was detected, there is a high level of confidence that only a low/small population is present on site.

Table 4: Reptile Population Size Classes Recorded During Survey

Reptile Species	Peak Count ¹⁵ Adults	Peak Count Juveniles	Population Class (NE Guidance)	Population Class (Froglife Guidance)
Slow worm	4	4	Small	Low

4.2. Distribution of Reptiles Across Site

Slow worms were mostly recorded in the north-western corner of the site, where there is a mixed grass sward with variable heights. One slow worm was recorded in the south-eastern part of the site.

¹⁵ Peak count is the maximum number of reptiles recorded on an individual survey.

5. Assessment of Potential Impacts on Reptiles

The potential impacts on reptiles are based on the development proposals at the time of writing. This impact assessment may need to be reviewed and amended as necessary in light of any alterations to the development proposals.

5.1. Potential Impacts of the Development on Reptiles

Potential Direct Impacts

While no reptiles were recorded from directly within the area proposed for development (i.e. within the proposed development footprint) during the survey window, it is possible that reptiles could reside within the proposed development footprint, or adjacent to it/within the zone of influence of any activities required to implement the proposals.

Potential Indirect Impacts

The development has the potential to result in the following indirect impacts:

- Increased on-site disturbance;
- Persecution and/or collection by humans;
- Predation by cats; and
- Potential disturbance to neighbouring populations of reptiles with the increased human presence and noise and vibrations from the works.

Broad Level Impact of Proposed Development

The proposed works would have negligible negative impacts on the population without mitigation, according to the NE TIN102 guidance shown below:

Table 5: Broad Impact Level of Proposed Development (Without Mitigation) on Reptiles

Severity	Impacts
Negative: negligible	• Minor disturbance to individual reptiles • Minor loss or damage to broad habitat
Negative: low	• Killing of small proportion of population • Fragmentation minimally affecting dispersal • Moderate damage of broad habitat • Introduction of minimal decline factors
Negative: medium	• Killing of a moderate proportion of population

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	• Fragmentation moderately affecting dispersal • Minor damage to key habitat feature • Moderate loss of broad habitat • Introduction of moderate decline factor
Negative: high	• Killing of high proportion of population • Fragmentation seriously affecting dispersal • Loss of key habitat feature • Major loss of broad habitat • Introduction of serious decline factor

To avoid adverse impacts to the reptile population on site, full details of recommendations have been suggested in Section 6.

6. Recommendations/ Method Statement

6.1. Justification for Approach

It is confirmed that only a small population of reptiles is present on the site, and the surrounding retained habitat will be suitable to support them and so this approach is considered proportionate¹⁶ and appropriate. Subsequent management of the retained part of the field within the applicant's ownership for reptiles will be undertaken as compensation.

6.2. Retention of Reptile Habitat

The habitat in the north-western corner of the site, outside of the proposed development works, will be retained for use by reptiles. To ensure that inadvertent adverse impacts do not occur during site clearance and construction, the retained reptile habitat will be protected and securely fenced-off with appropriate temporary fencing (e.g. 'Heras' fencing) (see Plan 6). The fence will be erected prior to the start of construction work. The temporary fence will be left in place and maintained until development of the site has been completed.

6.3. Site Induction/Toolbox Talk and Site Supervision

Clearance and construction personnel will be briefed as to the confirmed presence of reptiles on the site and the necessary course of action if any reptile is encountered i.e. stopping clearance works and allow the reptile to migrate voluntarily away in to the retained habitat. An ecologist from Acer Ecology will be on call at all points during the works.

6.4. Timing of Works

Habitats which could potentially support common reptiles will not be subject to ground disturbance during the reptile hibernation period (approximately from October to February inclusive), so as to reduce the risk of encountering (and potentially injuring or killing) any hibernating individuals. Clearance works on site will be undertaken within the active period for reptiles (March to September inclusive). If the season is mild (i.e. overnight temperatures remain relatively warm) it may be possible for clearance works to continue into October, but such works would have to be undertaken in agreement with the Local Authority ecologist.

6.5. Vegetation Clearance Within the Development Footprint

Clearance of vegetation will involve species deterrence and displacement measures (also known as habitat manipulation) ahead of other site work. This will be undertaken to encourage and compel individual reptiles that may be present in the works area to migrate away voluntarily from the works area and into the retained area. Appropriate measures will include the following:

¹⁶ The need for proportionality is enshrined within the Welsh Planning Policy which requires that assessments should be proportionate to the nature and scale of the development proposed and the likely impacts on biodiversity.

- Clearance of the site will be undertaken in a piecemeal fashion, the main clearance of site will commence from the south-east and proceed towards the long-grassland to the north-west, outside of the works area. Clearance will be spread over several hours to allow reptiles time to disperse out of the immediate works area into safe habitats at the site periphery;
- Taller vegetation in the areas to be cleared will initially be strimmed or brush cut to a height of no less than 15cm, and raked away so as to reduce its attractiveness for reptiles, small mammals, hedgehogs and terrestrial amphibians. The cut will be made in a direction which allows any species present to move to the area of the site which is being retained in order to find refuge.
- Strimmed vegetation will be raked to the edge of the works areas i.e in retained habitat that will not be affected by the works, as the vegetation piles may act for refuge by displaced fauna;
- Immediately prior to the commencement of other site works (i.e. 24-48 hours ahead), the area to be cleared will be strimmed a second time, cutting the vegetation to 5cm with the cut vegetation again being raked away. A suitably qualified ecologist will supervise the second cut before works can commence; During the second cut, the arisings from the cut vegetation will be dealt with in the same way as during the first cut;
- The services of an appropriately qualified reptile consultant will be available on an 'on-call' basis at all stages of the works.

6.6. Management of Development Footprint

If the land within the construction footprint is allowed to become rank and overgrown there is a high probability of reptiles re-colonising the area. Therefore, this area will continue to be maintained and managed to keep the sward short (no more than 5cm tall) and unsuitable for reptiles for the duration of the proposed works. This will be achieved by regular mowing.

6.7. Building Compounds and Storage Areas

Building compounds and storage areas will be sited at the south-eastern area on the stone path or on the soil once the ground has already been disturbed. They will not be located on areas of habitat which are to be retained. Similarly, no equipment, machinery or materials will be brought into the areas of retained habitat.

6.8. Retention of Reptile Habitat and Measures to Increase its Carrying Capacity

The retained area or receptor site will also be enhanced for reptiles to increase its carrying capacity by the creation of a hibernaculum and management of the retained habitat (see sections 6.8.1 and 6.8.2 below). When works have finished, the reptiles will be allowed to migrate back into the gardens of the properties. This will involve the following measures:

6.8.1 Hibernaculum Creation

A single artificial bank or 'hibernaculum' should be created within the area of rank semi-improved grassland at the north-western corner of the site.

The hibernaculum will measure approximately 2m in length, 1m in width and 1m in height. It will comprise of bricks, stone and/or timber. The banks will be orientated so it runs from east to west and are spaced at least 2m from each other. The southern side of the bank will be finished with topsoil and could be seeded with a neutral wildflower mix. Alternatively, the features could be left to re-seed naturally. If a grading bucket is used to remove the topsoil from the area of cleared land within the proposed development works, this soil can be relocated to the hibernaculum. The northern side will be left with the rubble exposed to allow reptiles to enter cavities within the bank. The bank will also encourage invertebrates, providing prey items for reptiles. In particular, leaving portions of the south-facing bank bare will encourage thermophilic (warmth-loving) invertebrates. Appendix 2 provides an illustration of the hibernaculum to be constructed.

This hibernaculum will provide an optimal feature for the reptiles encouraged into the retained habitat during the species deterrence measures. It will be retained in-situ following completion of the construction works. Any new occupiers will be made aware of its function and will ensure that it is kept in perpetuity.

6.8.2. Management of Retained Habitat

A degree of long-term site management within the retained habitat in the north-western will be required. This will ensuring that the vegetation within the retained grassland does not become too overgrown and congested, which would make it unsuitable for use by reptiles. Any shrubs or saplings that are establishing will be cut down to ground level and removed from the area. If required, the sward will be cut to a height of about 8 to 10cm with clearance being undertaken using hand tools. The use of herbicides, pesticides and artificial fertilizers on site will generally be avoided, although pernicious weeds may need to be spot treated with herbicide.

6.9. Longevity of Report

In accordance with CIEEM's guidance (CIEEM, 2019), if development works do not begin within twelve to eighteen months of the date of this report, an updated survey may be required to determine if conditions has changed since described in the current report.

7. References and Bibliography

Amphibian and Reptile Groups of the United Kingdom (2018) *Reptile Survey and Mitigation Guidance for Peatland Habitats*. Available online at <https://bit.ly/2rpSIub><http://bit.ly/2awuogU>

Design Manual for Roads and Bridges (2005) *Nature Conservation Advice in Relation to Reptiles and Roads Part 7*. Highways Agency 116/05. Available online at <http://bit.ly/2awuogU>

Natural England and Department for Environment, Food & Rural Affairs (2015) Reptiles: surveys and mitigation for development projects. Last updated on 28 March 2015. Accessed online on 1st June 2021 at <https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences>.

Edgar, P, Foster, J and Baker, J (2011) *Reptile Habitat Management Handbook*. Amphibian Reptile Conservation and Natural England. Peterborough. Available online at <https://www.arc-trust.org/Handlers/Download.ashx?IDMF=ca8c7414-fb47-4a9a-8883-8ae97268d261>

Environmental Wales *List of Species & Habitats of Principal Importance for the Purpose of Maintaining and Enhancing Biodiversity in Relation to Wales*. Available online at <https://www.biodiversitywales.org.uk/File/56/en-GB>

Froglife (1999) *Advice Sheet 10: Reptile Survey*. Available online at <http://bit.ly/1Svp39T>

Gent, T. & Gibson, S. (2003) *Herpetofauna Workers Manual*. Joint Nature Conservation Committee, Peterborough. Available online at <http://jncc.defra.gov.uk/page-3325>

Gov.uk (2021) *Reptiles: Surveys and Mitigation for Development Projects*. Accessed online August 2021. Available online at <https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences>.

Hill, D.A., Fasham, M., Tucker, G., Shewry, M. & Shaw, P. (2005) *Handbook of Survey Methods: Survey, Evaluation and Monitoring*. Cambridge University Press, UK. Available online at <http://bit.ly/2b5M7LT>

Natural England (2011) *Reptile Mitigation Guidelines* (Draft Issue, Subsequently Withdrawn). Peterborough. <http://bit.ly/2aFXs8>

Sewell, D, Griffiths, R, A, Beebee, T, J, C, Foster, J and Wilkinson, J, W (2013) *Survey Protocols for the British Herpetofauna*. Amphibian and Reptile Conservation, Durrell Institute of Conservation Ecology and the University of Sussex.

South Wales Wildlife Sites Partnership (2004) *Guidelines for the Selection of Wildlife Sites in South Wales*. Gwent Wildlife Trust. Available online at <http://bit.ly/2aycYSf>.

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Welsh Government (2023) Planning Policy Wales (edition 12). Available online at <https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf>

Drawing 1: Existing Landscape Plan



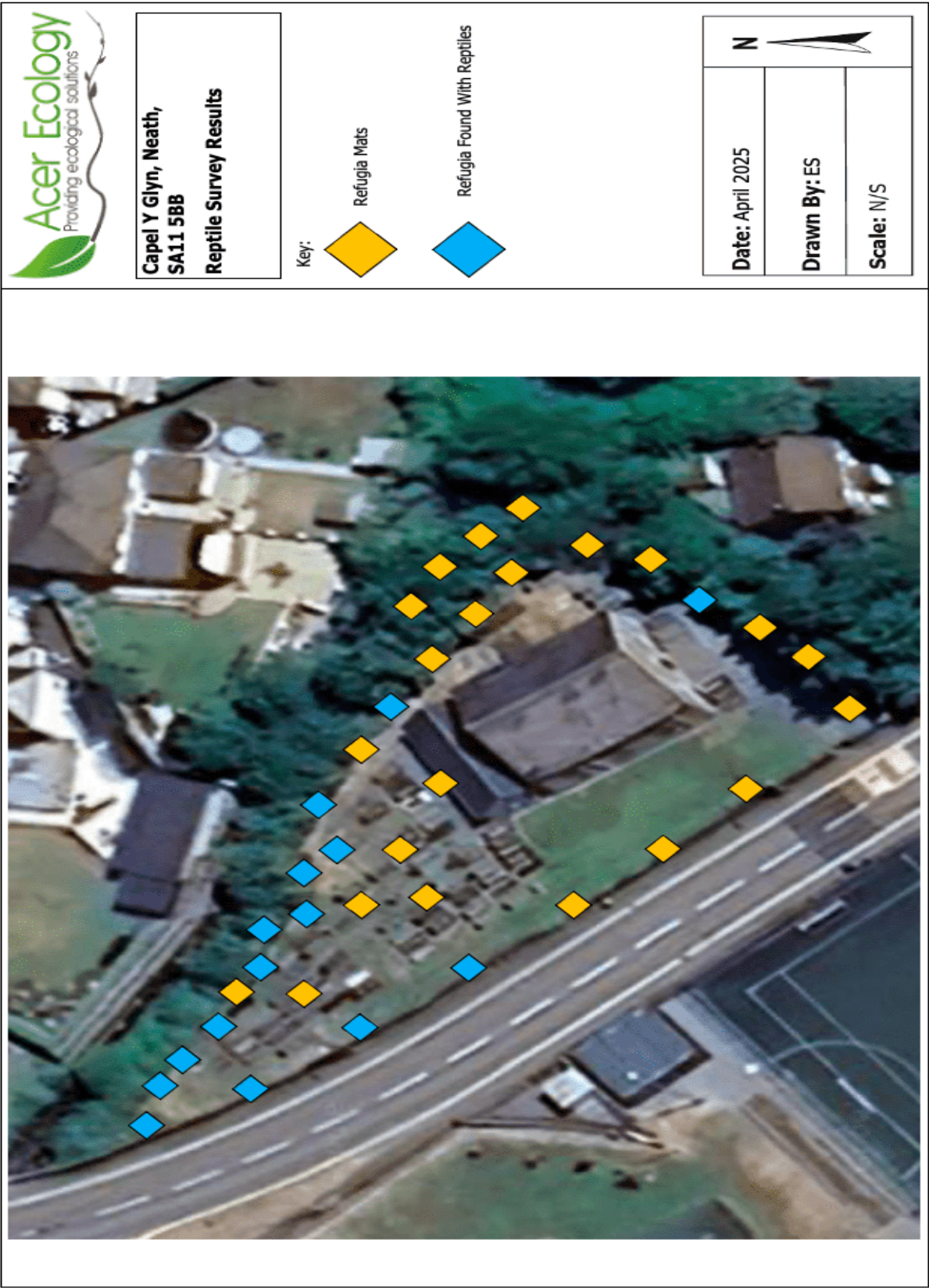
Drawing 2: Proposed Landscape Plan



Plan 1: Location Plan



Plan 2: Location of Reptile Artificial Cover Objects and Reptiles Found



Appendix 1: Species Requirements of the Common Reptile Species

Notes on the habitat requirements of the four common reptile species is given below:

Slow-worms are widespread throughout England and Wales and occur in a variety of habitats including rough grassland, hedgerows, heathland, woodland edges, downs and moorland. They also occur in a wide variety of man-made habitats including railway and road embankments, gardens, churchyards, parks and allotments. Marshy and very arid habitats are usually avoided. Dense vegetation cover combined with sunny areas allowing thermoregulation is ideal. Habitats which allow the animals to burrow such as compost heaps or loose soils encourage their presence and they are often associated with piles of stones, rubble or pieces of tin or plastic (Beebee and Griffiths 2000). They are often found associated with anthills and these structures may also provide a convenient network of underground tunnels.

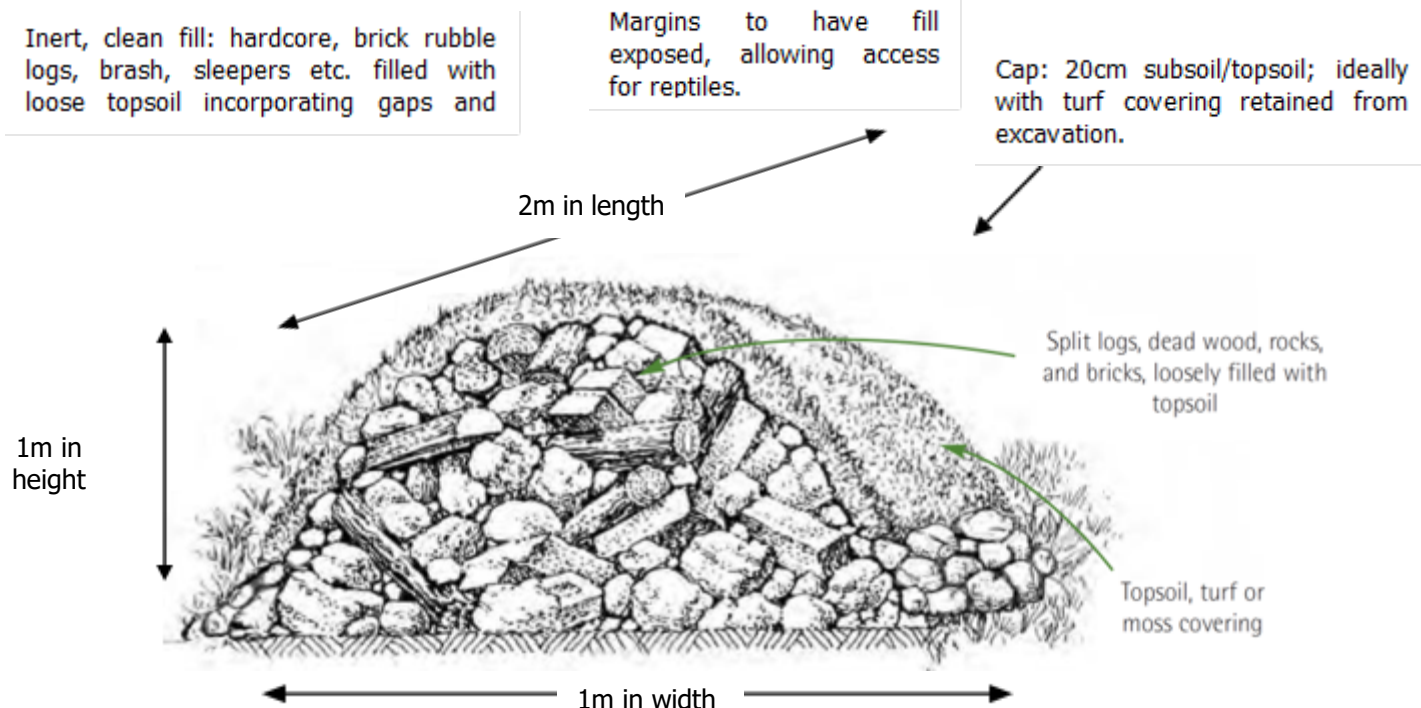
Common lizards occur in a wide range of habitats including roadside verges, uncultivated field edges, forest rides and glades, cliff edges and scree slopes, artificial embankments along railways and rivers, upland moors, heathlands and coastal sand dunes. Suitable habitat consists of undisturbed ground that is topographically diverse with fairly dense but short vegetation less than 0.5m high, open to the sun and with a few exposed areas that can be used for basking. The soil should be well drained and have adequate artificial cover objects for use in both summer and winter. South-facing slopes are preferred and humid sites often have the highest population densities.

Grass snakes are highly aquatic and are usually associated with ponds, lakes, marshes, streams or ditches. They feed almost entirely on amphibians. They also occur in open woodlands, hedgerows and rough grassland. Drier habitats including heaths and moorlands are sometimes used. They require terrestrial habitat with an abundance of hiding places and access to sunshine. Open patches close to thick cover are frequently used for basking.

Adders occur in a variety of habitats including heathlands, moors, chalk downlands, woodland rides, coastal dunes, rough commons, overgrown quarries, along field edges and railway embankments. The main requirement is undisturbed sunny glades or slopes, usually in the vicinity of some thick cover. South-facing slopes are preferred in upland areas.

Appendix 2: Artificial Hibernacula Creation

Above Ground Hibernaculum for Impermeable Soils



Notes:

- Ideally, the hibernaculum should be constructed on a gentle slope to prevent flooding;
- Turfs should be removed from the footprint of the hibernacula before construction. These should be retained and relocated on the southern side of the completed hibernaculum. A grading bucket rather than a toothed bucket will be required for this so that the topsoil remains as intact as possible;
- Once the topsoil has been removed (with a grading bucket) the first few centimetres of soil beneath will be checked for reptiles with a spade/fork under supervision of the ecologist;
- The topsoil turfs should be stored on tarpaulin or equivalent to prevent soil damaging surrounding vegetation;
- Materials which will decompose (e.g. plant matter) should not be placed under more enduring matter such as rocks, however, to avoid risk of collapse;
- Coia (biodegradable hessian) should be used between inert material and soil layer to ensure gaps retained;
- The hibernaculum will have gently sloping (approximately 70°) edges;
- The hibernaculum should be located in a sunny position;
- The hibernaculum should run from east to west (i.e. with a long southern aspect)
- The minimum size is 2m long by 1m wide by 1m high; and
- The area around the hibernaculum should be managed as rough grassland.