



Reptile Survey Report Land at Flemingston (Including Annington Land) St Athan Vale of Glamorgan

Central Grid Reference ST0115969632

For Edenstone Homes

September 2016

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1 Introduction

1.1 Survey Brief

TerrAqua Ecological Services Ltd was commissioned by Edenstone Homes to undertake a survey of a parcel of land at Flemingston, St Athan, Vale of Glamorgan approximate central grid reference ST 0115969632, in order to ascertain the use, if any, being made of the site by reptiles. The survey boundary was taken as that supplied by Mr Richard Kelso acting for Edenstone Homes and included a parcel of additional potential development land referred to as Annington land.

The survey was undertaken in September 2016 following recommendations made in the Extended Phase I Habitat Survey Reports as produced by TerrAqua Ecological Services Ltd (July 2016) including the additional survey of the Annington Land (August 2016), as part of pre planning application works in order to understand any issues relating to reptiles that may arise within the site and allow for any such constraints to be considered during the planning stage.

1.2 Client Details

The survey was undertaken on behalf of Edenstone Homes, Priory House, Priory Street, Usk NP115 1BJ following instructions to proceed by Mr Mark Richards acting for Edenstone Homes.

2 Background

2.1 Rational

An extended Phase I Habitat Survey of a parcel of land located at Flemingston, St Athan, Vale of Glamorgan, including a small adjacent parcel of land referred to as Annington land, was undertaken by TerraAqua Ecological Services Ltd in July and August 2016 on behalf of Edenstone Homes. This Phase I Survey identified habitats within the site boundary suitable for use by reptiles (Appendix II). As part of the overall ecological assessment of the site Edenstone Homes have commissioned a survey of the potential development site in order to ascertain its importance or otherwise to reptile species. This will ensure that reptiles can be given appropriate consideration during any future development of the site.

2.2 Ecology

Six species of reptile can be found in the UK and these can be found in variety of different habitat types including sand dunes, rough grassland, scrub and heathland. The six UK species are the adder (*Vipera beris*), grass snake (*Natrix natrix*), slowworm (*Anguis fragilis*), common lizard (*Lacerta vivipara*), sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*). Smooth snake and sand lizard are absent from South Wales.

Reptiles require a range of habitats within their home range; this allows for differing seasonal requirements such as basking, mating, egg laying or birth areas and hibernation sites. Some species such as the slow worm and common lizard can be found extensively across Britain while others such as the sand lizard require very specific habitat types and are consequently very rare and localised.

2.3 Legal Status

All reptile species found in the UK are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (WCA) as amended by the Countryside and Rights of Way Act 2000 (CROW).

Adder, grass snake, slow worm, and common lizard are afforded a degree of protection under Section 9 (1) and section 9(5). This makes it an offence to:

- Intentionally kill or injure and individual
- Sell, offer for sale, possess or transport for the purpose of sale, or publish advertisements to buy or sell these species

- Sand lizard and smooth snake are afforded full protection under Schedule 5 section 9 of the WCA 1981. These species are also listed on Annex IVa of the EC Habitats and Species Directive and Annex II of the Bern Convention. As such it is an offence to:
 - Deliberately or intentionally kill injure or capture these species
 - Deliberately or recklessly disturb the species
- Take or destroy the eggs of these species
- Damage, destroy or obstruct access to a breeding site or place used for shelter and protection
- Sell, offer for sale, possess or transport for the purpose of sale, or publish advertisements to buy or sell these species

The presence of reptile species is a material consideration during the planning process

3 **Survey Methodologies**

3.1 **General**

The survey was undertaken by Carmen Jones MCIEEM and Dyfrig Jones both highly experienced ecologists with extensive experience in the surveying of reptiles and reptile mitigation.

The reptile survey was carried out using a combination of visual searches of appropriate habitats, and the use of artificial refugia. The surveys were carried out during September 2016.

Temperature and weather can play a significant role in the success or failure in recording reptiles at a given site therefore survey visits were selected in order to take advantage of the most appropriate weather conditions.

Surveys were conducted when air temperatures were between 9° C and 18° C. very hot sunny days and cold wet conditions were avoided.

The surveys were all carried out during the morning or late afternoon, between 8.30am-10.30am and/or 4pm and 6.45pm, unless weather conditions suggested that a delay in the morning visit would allow optimal temperatures to be obtained before the survey was conducted. A total of 7 visits were made to the survey site.

Details of timing and prevailing weather conditions for each survey visit are given in table 1 below:

Table 1 Survey Dates and Times

Visit	Date	Time	Conditions
1	11/09/2016	16:00	Sunny Spells 17°C
2	12/09/2016	08:45	Sunny Spells Dry 16°C
3	13/09/2016	16:30	Sunny Warm 17°C
4	14/09/2016	16:00	Warm Sunny 17°C
5	15/09/2016	09:45	Warm Dry 17°C
6	16/09/2016	16:00	Overcast 16°C
7	17/09/2016	17:30	Overcast 15°C
8	18/09/2016	09:00	Dry Sunny Spells 16°C
7	19/09/2016	09:00	Light showers 15°C
10	29/05/2016	09:00	Showers sunny Spells 16°C

3.2 Visual Search

On each survey visit a visual search was made of habitats within the survey boundary that appeared suitable for basking reptiles. These included south facing banks, rubble piles, the base of hedgerows and walls, and areas of rough grassland. The site was walked slowly and above habitats scanned using 10x45 binoculars any reptile observed were recorded and their position noted. In addition any discarded debris that appeared suitable for use by reptiles was hand searched and any species found recorded.

3.3 Artificial Refuges

Reptile will readily use artificial refuges under which to shelter or bask. These artificial refuges can be very effective in surveying for reptiles as the animals are often attracted to the refuges from surrounding habitats thereby increasing the success rate of a reptile survey. Various materials have proved successful for use as artificial refuges including corrugated tin, wood, carpet tiles and roofing felt.

A total of 40 refuga, equating to a density of over 10 per hectare, of 0.5m x 1m square heavy duty roofing felt were positioned around the site at locations where the habitat was considered suitable for reptiles. These were left in situ for one week prior to the survey commencing.

Each of the artificial refuges was checked on Ten (10) separate visits to the survey site. The location, species, sex and age of each animal found was recorded.

3.4 Data Search

A data search was undertaken as part of the extended Phase 1 Survey as previously referenced.

3.5 Other Species-Amphibian

In addition to recording all reptiles found any other species particularly amphibian species were also recorded.

4 Results

4.1 Survey Results

The total numbers of individuals of each species recorded on each survey visit are given in table 2. These results include species recorded using the selectively placed artificial refuges and those visually observed across the whole site.

Table 2 Total number of individual species recorded at each survey visit

Visit	Adder	Grass Snake	Common Lizard	Slow Worm	Common Toad	Common Frog
1	0	0	0	1♂ 2♀	1	0
2	0	0	0	3♂ 1♀	0	0
3	0	0	0	4♂ 1♀ 1Juv	1	0
4	0	0	0	4♂ 1♀	0	0
5	0	0	0	1♂ 1♀	0	1
6	0	0	0	4♂ 2♀	1	0
7	0	0	0	1♀ 1Juv	0	0
8	0	0	0	3♂ 2Juv	0	0
9	0	0	0	2♂ 2♀	0	0
10	0	0	0	3♀ 1Juv	0	0

**Sand lizard and Smooth Snake are not present in South Wales and have not been included in the above table*

4.2 Data Search

No records relating directly to survey area or immediately adjacent habitats were found. Records for reptile species including grass snake, slow worm, adder and common lizard were found for locations within a 1.5km radius of the survey boundary.

5 Evaluation

5.1 Conservation Status of Species Recorded

A single reptile species was recorded over the ten survey visits namely slow worm. The species is widely distributed across Wales and the UK including the Vale of Glamorgan area.

Slow Worm are listed on the Welsh Assembly Governments Section 42 List of Species of Principle Importance for the Conservation of Biological Diversity in Wales, 2007. The species is also UK Biodiversity Action Plan Priority Species.

5.2 Population Estimates

The maximum number of slow worm recorded on any site visit was six (6). Based on a survey assessment for the evaluation of key reptile sites a score of six (6) individuals constitutes a Good population (Froglife, 2009).

The above population evaluation is based upon the greatest number of individuals of each species recorded on a single visit, by a single surveyor using refuga at a density of 10 per hectare.

Population estimates are difficult to calculate due to the cryptic nature of reptile species and the considerable influence on survey success by prevailing weather conditions. In general a rough estimate of population size can be made by assuming that the peak count over the survey period represents between five and ten per cent of the actual population. Using this rough guide an estimation of the population size of each species can be made. Estimates for the survey site are given in table 3 below.

Table 3 population Estimates for reptile species within survey site

Species	Number Recorded	Population Estimate
Slow worm	6	60-120 individuals

The animals recorded were notably concentrated along the peripheral areas of the site particularly along the area bordering the stream corridor, within the scrub area of the Annington land and along the boundary between the Annington land and the main site. The main areas within which reptiles were recorded is shown in aerial view Appendix III.

6 Conclusions and Recommendations

The presence of reptiles has been confirmed by the results of the survey. Three separate areas have been found to support reptiles. These include the area bordering the Nant y Stepsau stream corridor, along the boundary hedge between Annington land and the main site and within the scrub areas of the Annington land.

As reptiles were found at the proposed development site appropriate avoidance and mitigation measures will be required in order to ensure that no reptiles are injured or killed during the proposed works.

- Reptiles should be removed and excluded from the development footprint prior to any clearance works commencing. If possible the animals should be relocated within the site boundary or as close as possible to the site, to an area with suitable habitat and which is guaranteed free from any potential damage or disturbance. If relocation within the site is not possible an alternative safe site with appropriate habitat should be selected on advice from an approved ecologist.
- The retention of a buffer zone along the stream corridor may allow enough suitable habitat to be retained to allow the translocation of reptiles to this area thereby retaining reptiles within the site boundary.
- The collection of animals should take place using recognised methods, at an appropriate time of year and over a timescale of sufficient duration to ensure the maximum number of animals have been rescued before works commence. This may involve the use of artificial refuges, hand searching of lying debris and selective habitat destruction but may also involve exclusion techniques such as directional strimming which will aid the natural movement of reptiles to adjacent suitable habitat. A detailed plan of the proposed methodology for relocation and or exclusion should be drawn up prior to any works commencing.
- The collection and relocation of any animals should be carried out by or supervised by the ecologist present on site.
- If a receiver site cannot be found within the existing boundary the selection of alternative site should be made with advice from an ecologist and all necessary habitat improvements completed before any ground clearance works are started at the development site.
- The vegetation manipulation should take be undertaken by hand and take place over a number of days allowing time for animals to move away from the manipulated areas.
- The habitat manipulation should be undertaken under the supervision of an appropriate ecologist who will move any animals observed to safe locations.
- The perimeter of the construction zone should be fenced with reptile exclusion fencing to prevent animals returning to the working area. The specification for such fencing is shown in appendix I. This fencing should remain intact and well maintained throughout the construction period.
- No other ground clearance works should commence until the ecologist is satisfied that the site is clear of reptiles and no other ecological issues remain.

References

Clements, D.K& Pryce, R.D. (2000). Criteria for the selection of wildlife sites in Gwent, Glamorgan and Carmarthenshire. Gwent Wildlife Trust.

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

Gent, T. & Gibson, S. (1999). Herpetofauna workers manual. Joint Nature Conservation Committee

TerrAqua Ecological Services Ltd (2016) Extended Phase I Habitat Survey Land at Flemingston, St Athan, Vale of Glamorgan

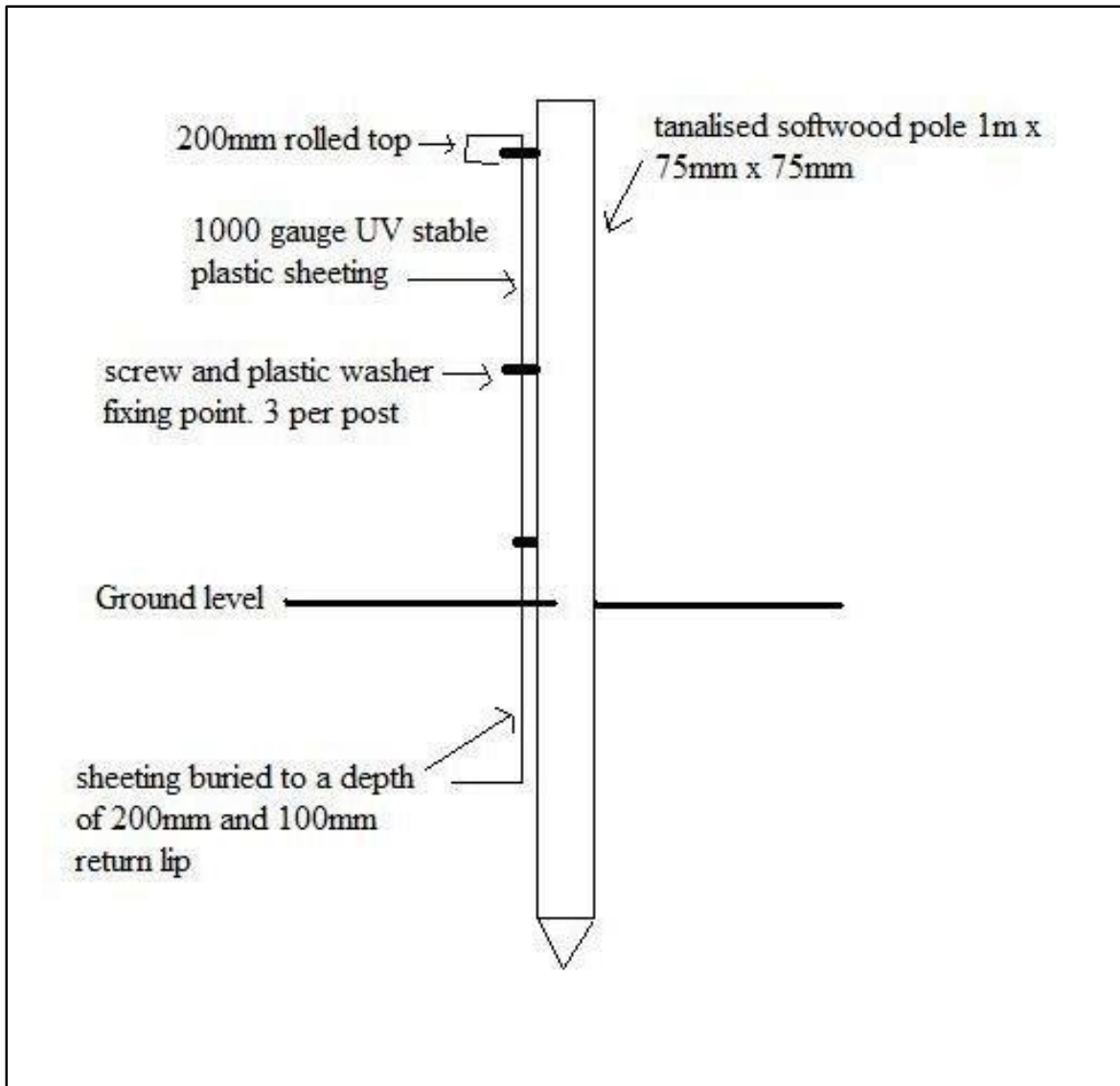
TerrAqua Ecological Services Ltd (2016) Extended Phase I Habitat Survey Annington Land St Athan, Vale of Glamorgan

JNCC, (1998). Species Action Plans. UK BAP, English Nature, JNCC

National Biodiversity Online Gateway Data Search accessed September 2016

South East Wales Biodiversity Records Centre (SEWBReC) Data search February 2016 ST Athan

Appendix I
Reptile Fence Specification



Appendix II









**Maps Showing Habitats Present within Main Site and Annington Land
Including Targeted Ecological Features**

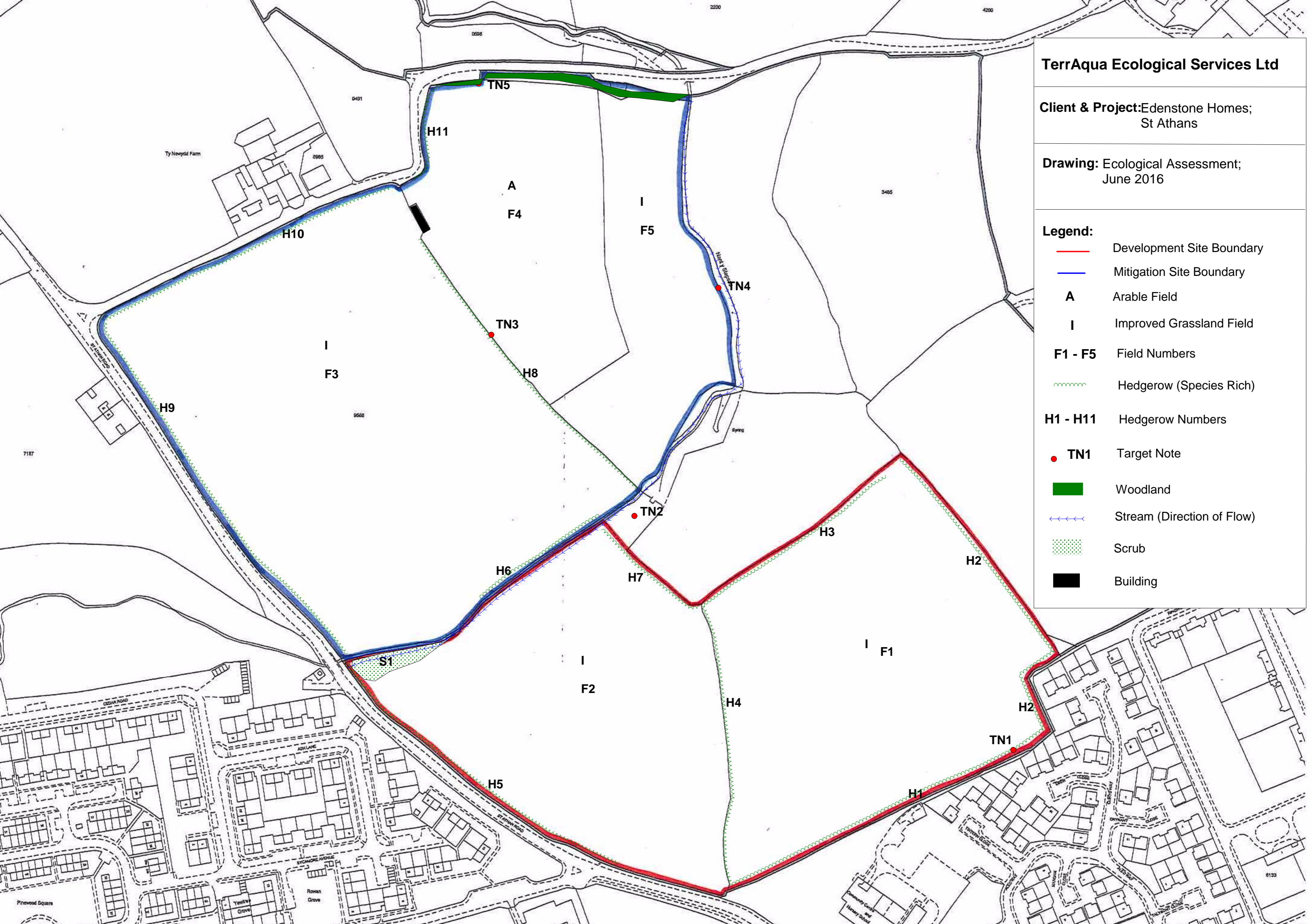
TerrAqua Ecological Services Ltd

Client & Project: Edenstone Homes;
St Athans

Drawing: Ecological Assessment;
June 2016

Legend:

-  Development Site Boundary
-  Mitigation Site Boundary
- A** Arable Field
- I** Improved Grassland Field
- F1 - F5** Field Numbers
-  Hedgerow (Species Rich)
- H1 - H11** Hedgerow Numbers
-  **TN1** Target Note
-  Woodland
-  Stream (Direction of Flow)
-  Scrub
-  Building












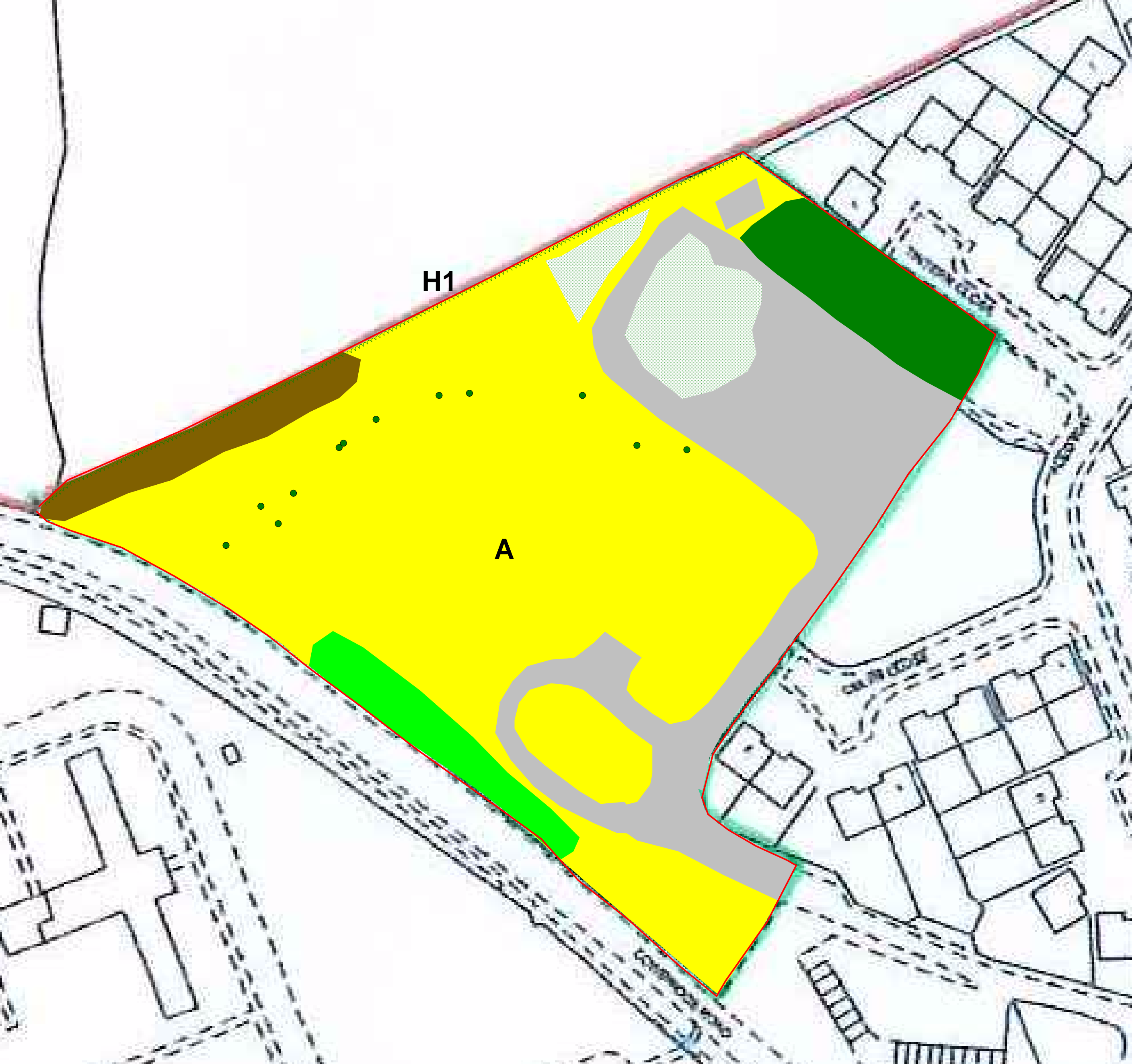
TerrAqua Ecological Services Ltd

Client & Project: Edenstone Homes;
St Athans

Drawing: Annington Phase 1;
August 2016

Legend:

-  Survey Boundary
-  Amenity Grassland
-  Hard Standing
-  Broadleaved Trees (Planted)
-  Scrub
-  Bracken
-  Non-native Trees (Planted)
-  Individual Broadleaved Trees
-  Hedgerow



Appendix III

Aerial View Showing Main Reptile Areas



Aerial View 1 Showing Location Showing Main Reptile Areas (Image Google Earth 2016)