HITHER GREEN GOLF COURSE, HITHER GREEN LANE, REDDITCH

REPTILE SURVEY

A Report to: Barratt David Wilson Homes Mercia

Report No: RT-MME-153160-05

Date: September 2021



Triumph House, Birmingham Road, Allesley, Coventry CV5 9AZ Tel: 01676 525880 Fax: 01676 521400 E-mail: admin@middlemarch-environmental.com Web: www.middlemarch-environmental.com

REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development".

Report Version	Date	Completed by:	Checked and approved by:		
Final	17/09/2021	Carol Flaxman BSc (Hons) ACIEEM (Senior Ecological Consultant)	Tom Docker CEcol MCIEEM (Managing Director)		

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to assess any changes in the status of reptile species on site, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

Barratt David Wilson Homes Mercia commissioned Middlemarch Environmental Ltd to undertake a reptile survey of the site of a proposed development at Hither Green Lane in Redditch. This assessment is required to inform a planning application associated with the proposed construction of residential dwellings with associated hard and soft landscaping.

As part of the Preliminary Ecological Appraisal (Report RT-MME-152753-03 Rev A) completed by Middlemarch Environmental Ltd, a desk study for records of protected species was completed. The desk study did not return any records of reptiles from within a 1 km search area.

During the reptile surveys completed at the site during June and early July 2020, a low population of grass snake were found with an estimated 0.6 individuals per hectare of suitable habitat on site. The site does not meet any of the criteria to qualify as a Key Reptile Site as defined by Froglife (1999). A small number of common toad were also identified during the surveys and the habitats on site are suitable for common amphibian species.

The proposed development will result in the permanent loss of suitable habitat for grass snake in the form of unmanaged scrub and grassland and woodland edge habitats as well as the proposed removal of four ponds on site. If unmitigated, the proposed works are likely to result in the killing/injury of grass snakes present in these habitats and could adversely affect the favourable conservation status of the resident reptile populations. However, given the low population size, mobility of the species and the suitability of the surrounding habitats, it is considered that adverse impacts can be avoided through the implementation of reasonable avoidance measures which will also be applicable for the protection of common amphibians.

The following recommendations have been made to protect grass snake during site clearance and construction activities and for the long-term protection of the grass snake population at the site:

- **R1 Survey Validity:** If works do not commence within 12 months, then an updated assessment of the site should be completed to assess whether the suitability of the site has changed for grass snake or other reptiles and to consider if the population of grass snake which the site supports may have changed due to a change in management for example.
- **R2 Reasonable Avoidance Method Statement:** The reasonable avoidance method statement included in Chapter 6 of this report must be adhered to during the works to avoid any potential breach of legislation.
- **R3** Habitat Enhancement: Compost heaps are used for hibernation and for egg-laying by grass snake. If possible, a large compost heap could be created in a sunny location, such as on the edge of the open space in the south of the site. Compost heaps should not be disturbed when they may be used by egg-laying grass snake between June and September, inclusive, or during the winter months (between November and February, inclusive).

CONTENTS

1.	INT	RODUCTION	. 4
-	I.1 I.2 I.3	PROJECT DESCRIPTION DEVELOPMENT SITE DESCRIPTION AND CONTEXT DOCUMENTATION PROVIDED	. 4
2.	ME	THODOLOGIES	. 5
	2.1 2.2 2.3 2.4	DESK STUDY SITE SUITABILITY ASSESSMENT PRESENCE/ABSENCE SURVEY ASSESSMENT OF SITE IMPORTANCE FOR REPTILES	. 5 . 5
3.	DES	SK STUDY	. 7
3	3.1	BIOLOGICAL RECORDS	. 7
4.	RES	SULTS	. 8
	4.1 4.2 4.3 4.4 4.5	INTRODUCTION SURVEY CONSTRAINTS SITE SUITABILITY ASSESSMENT PRESENCE / ABSENCE SURVEY ASSESSMENT OF SITE IMPORTANCE FOR REPTILES.	. 8 . 8 . 9
5.	DIS	CUSSION AND CONCLUSIONS	11
Ę	5.1 5.2 5.3 5.4	SUMMARY OF SITE PROPOSALS	11 11
6.	RE/	ASONABLE AVOIDANCE METHOD STATEMENT	12
6	5.1 5.2 5.3 5.4	INTRODUCTION	12 12
7.		COMMENDATIONS	
8. 9.		AWINGS DTOGRAPHS	
RE	FERE	ENCES AND BIBLIOGRAPHY	17

1. INTRODUCTION

1.1 **PROJECT DESCRIPTION**

In May 2021 Barratt David Wilson Homes Mercia commissioned Middlemarch Environmental Ltd to undertake a reptile survey of the site of a proposed development at Hither Green Lane in Redditch. This assessment is required to inform a planning application associated with the proposed construction of residential dwellings with associated hard and soft landscaping.

Middlemarch Environmental Ltd has previously carried out the following surveys for Barratt Homes at this site:

- Preliminary Arboricultural Assessment (Report RT-MME-152753-01);
- Arboricultural Impact Assessment (Report RT-MME-152753-02); and,
- Preliminary Ecological Appraisal (Report RT-MME-152753-03 Rev A).

In addition, Middlemarch Environmental Ltd has been commissioned to undertake the following assessments:

- Preliminary Bat Roost Assessment (Report RT-MME-153160-01);
- Badger Survey (Report RT-MME-153160-02);
- Great Crested Newt Habitat Suitability Index Assessment and eDNA Survey (Report RT-MME-153160-03); and
- Breeding Bird Survey (Report RT-MME-153160-04).

All native reptile species receive protection under UK law and are capable of being material considerations in the planning process. Further information about the legislation that protects reptile species is provided in Appendix 1.

1.2 DEVELOPMENT SITE DESCRIPTION AND CONTEXT

The site under consideration is an irregularly shaped parcel of land that measures approximately 10 ha in size and is located at Hither Green Golf Course in Redditch, Worcestershire. The site is centred at National Grid Reference SP 0437 6937.

At the time of the survey, the eastern half of the site comprised part of a golf course with areas of plantation woodland. The western section of the site mainly consisted of open unmanaged grassland with hedges, scattered trees and scrub. A large pond was situated towards the northern site boundary and there were four smaller ponds which formed part of the golf course.

The site is bordered to the north by Dagnell End Road and to the west by Hither Green Lane. Residential houses and a continuation of the golf course border the site to the east and fields of grassland, residential dwellings and a public house are present to the north and west. The River Arrow corridor is present to the south of the site with fields of grassland, a cemetery and residential dwellings beyond. The wider landscape to the north, east and west is dominated by agricultural fields and small residential areas. Redditch town centre dominates the landscape to the south.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author					
Land off Hither Green Lane Redditch, Proposed Site Layout Rev Q	Urban Design					
able 4.4. De sourcentation Descride dive Olivert						

Table 1.1: Documentation Provided by Client

2. METHODOLOGIES

2.1 DESK STUDY

As part of the Preliminary Ecological Appraisal (Report RT-MME-152753-03 Rev A) an ecological desk study was undertaken within a 1 km radius of the site. The consultee for the desk study was Worcestershire Biological Records Centre.

Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations. Relevant reptile data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

2.2 SITE SUITABILITY ASSESSMENT

An assessment of the suitability of the site to support reptile species was undertaken, based on a review of habitat characteristics and other parameters known to influence reptile distribution. The following parameters were considered:

- Location of site in relation to species range of native reptiles;
- Site management and disturbance;
- Topography and aspect of site;
- Vegetation type and structure;
- Likely prey abundance;
- Presence of refugia and potential hibernation habitat;
- Egg-laying site potential (grass snake and sand lizard only); and,
- Connectivity to surrounding habitat of potential value to reptiles.

The suitability assessment was used to design the route of survey transects for the presence/absence survey (see Section 2.3).

2.3 PRESENCE/ABSENCE SURVEY

A presence/absence survey for reptiles was undertaken in accordance with the best practice methodology detailed in the Herpetofauna Workers Manual (Gent and Gibson, 2003). This consisted of the following works:

- An initial assessment of the potential reptile habitat characteristics was undertaken, in order to identify features and habitats of potential value to reptile species.
- Transects through the site were identified to ensure all suitable habitats were covered by the survey.
- Checks of any natural refugia present within the survey area, such as log piles or rubble piles, were undertaken.
- A series of artificial refugia were installed within the site to facilitate detection of reptiles (further detailed below).
- Seven survey visits to the site were undertaken to inspect natural and artificial refugia in suitable weather conditions.

A total of 150 artificial survey refugia were installed within the site during the first survey visit. These refugia consisted of squares of roofing felt approximately 500 mm x 500 mm.

Reptiles are ectotherms, deriving their body heat from the external environment. Therefore, the timing of the survey visits was dictated by the time of year and weather conditions. Where possible, surveys were undertaken on warm sunny days with little cloud cover and wind to maximise the probability of recording reptiles within the site. Suitable weather conditions for undertaking refugia checks are outlined in the Herpetofauna Workers Manual and are summarised in Table 2.1.

Parameter	Value
Temperature	9 - 17° C
Sunshine	Preferable
Cloud	Little or None
Wind	Low/None

 Table 2.1: Suitable Weather Conditions for Reptile Surveys

2.4 ASSESSMENT OF SITE IMPORTANCE FOR REPTILES

Current best practice guidance recognises that undertaking detailed population assessments for reptile species is difficult, as the number of survey visits required to give an accurate assessment is prohibitive for the majority of projects.

It is desirable, however, to attempt to judge the overall importance of the survey site for reptiles. In order to provide a basic assessment of site importance, the results of the survey were analysed in the context of Froglife Advice Sheet 10 - Survey Assessment: Key Reptile Sites (Froglife, 1999). This provides a simple methodology for assessing the value of a site to reptile species, based upon the number of species recorded on site and the peak adult count for each species per hectare, when refugia are installed at a density of up to 10 per hectare.

The guidelines for assessing the value of the site to reptile species are summarised in Table 2.2.

Reptile Species	Low Population Score 1	Good Population Score 2	Exceptional Population Score 3
Adder	<5 individuals/ha	5-10 individuals/ha	>10 individuals/ha
Grass snake	<5 individuals/ha	5-10 individuals/ha	>10 individuals/ha
Common lizard	<5 individuals/ha	5-20 individuals/ha	>20 individuals/ha
Slow worm	<5 individuals/ha	5-20 individuals/ha	>20 individuals/ha

Table 2.2: Key Reptile Site Population Class Assessment and Scoring Criteria

Froglife define a Key Reptile Site as one that meets any of the following criteria:

- 1. Site supports at least three reptile species;
- 2. Site supports two snake species;
- 3. Site supports an 'exceptional population' of one species (see Table 2.2);
- 4. Site supports an assemblage of species scoring at least 4 (see Table 2.2); or,
- 5. Site does not satisfy Points 1-4 but is of particular regional importance due to local rarity.

Sites that support populations of either smooth snake or sand lizard are also considered to be Key Reptile Sites.

3. DESK STUDY

3.1 BIOLOGICAL RECORDS

As part of the Preliminary Ecological Appraisal (Report RT-MME-152753-03 Rev A) completed by Middlemarch Environmental Ltd in July 2020, a desk study for records of protected species was completed.

The desk study did not return any records of reptiles from within a 1 km search area.

4. RESULTS

4.1 INTRODUCTION

The reptile habitat assessment and presence/absence survey were undertaken between 8th June 2021 and 7th July 2021 by the following members of staff:

- Carol Flaxman BSc (Hons) ACIEEM (Senior Ecological Consultant);
- Liam Kelly MSc BSc (Hons) (Ecological Project Officer);
- Evangeline Bevans BSc (Hons) (Ecological Project Officer);
- Laura Grove (Ecological Field Manager); and
- Dorothy Dunne (Ecological Project Officer).

4.2 SURVEY CONSTRAINTS

The surveys were completed at an optimal time of year and all suitable habitats were accessible during the survey. No survey or access constraints were experienced.

4.3 SITE SUITABILITY ASSESSMENT

The habitat characteristics of the site with regard to suitability to support reptile species are summarised in Table 4.1. Photographs of the habitats present on site are provided in Chapter 9.

Reptile Habitat Characteristic	Description
Location of site in relation to species range of native reptiles	The site falls within the known distribution of four native species: slow worm, grass snake, adder and common lizard.
Site management and disturbance	The east of the site is regularly maintained as an active golf course with short mown amenity grassland and areas of plantation woodland. The north and west of the site comprises unmanaged semi-improved grassland with unmanaged pockets of dense scrub (Plate 3).
Topography and aspect of site	The site is largely flat with a number of small bunds in the north of the site.
Vegetation type and structure	The large area of amenity grassland in the east of the site with blocks of plantation woodland support little structural diversity with the exception of some areas of scrub and unmanaged grassland on the plantation edge towards the eastern boundary. The ponds within the golf course do provide some habitat diversity within the otherwise managed habitats. The habitats in the north and west of the site support greater structural diversity with area of dense scrub and some mounds present with boundary hedgerows.
Likely prey abundance	The vegetation communities present on site are likely to support a range of small mammal and invertebrate species that could provide a foraging resource for reptile species. The ponds with the site have the potential to support amphibians which provide a food source for grass snake.
Presence of refugia and potential hibernation habitat	Some areas of undisturbed vegetation may provide opportunities for refuge and hibernation. Piles of debris in the north of the site, including cut logs, aggregate and woodchip also provide hibernation opportunities (Plates 1 and 4).
Egg-laying site potential (grass snake and sand lizard only)	No obvious egg-laying habitat such as large compost piles or grass cuttings were present on site. However, some small piles of grass cuttings were at the edge of the plantation woodland and some small piles of wood chippings were present in the north east of the site although these are limited in extent.
Connectivity to surrounding habitat of potential value to reptiles	Residential gardens immediately adjacent to the site's eastern boundary provide suitable habitat for species such as grass snake, if compost heaps are present, and potentially slow worm. The wider golf course to the east of the site supports similar habitats to the golf course on site with additional ponds present. The habitats associated with the River Arrow to the south of the site also provide structural habitat diversity and connectivity to the wider area. Grassland fields are present in the wider area to the north and west with field boundary hedgerows which may provide some limited connectivity and commuting opportunity through the wider area.

 Table 4.1: Summary of Reptile Habitat Characteristics

It should be noted that the presence of good quality reptile habitat (e.g., habitat providing features of value to reptiles) does not confirm that reptiles will be present at the site, just as the presence of low-quality habitat does not confirm that reptiles will be absent.

4.4 **PRESENCE / ABSENCE SURVEY**

Weather conditions at the time of each of the survey visits are presented in Table 4.2.

Date/Time	Parameter	Cloud cover (%)	Air temperature (°C)	Precipitation	Wind speed (F)		
08/06/2021*	Preceding survey	Warm and dry					
09:00	During survey	10	19	Nil	F0		
23/06/2021	Preceding survey	Dry, bright, calm					
10:00am	During survey	10	17	Nil	F0-1		
24/06/2021	Preceding survey Overcast, damp and humid (rain during preceding night)						
08:30	During survey	40	18	Nil	F1-2		
28/06/2021	Preceding survey Overcast, damp and slightly humid						
08:30	During survey	60	14	Light drizzle towards end of survey	F1-3		
30/06/2021	Preceding survey	Bright and warm					
9:00	During survey	30	17	Nil	F1		
02/07/2021	Preceding survey	Overcast and war	m				
15:00	During survey	10	18	Nil	F1		
05/07/2021	Preceding survey	Dry, bright and calm (rain day before)					
11:00	During survey	40	17	Nil	F1		
07/07/2021	Preceding survey	Dry, warm and bre	ezy				
10:00	During survey	50	16	Occasional light showers	F3		

Artificial refugia set out on site

Table 4.2: Weather Conditions During Survey Visits

The findings of the presence/absence survey are detailed in Table 4.3. The location of any reptiles recorded on site are plotted on Drawing C153160-05-01 in Chapter 8.

Visit	Date	Common Lizard	Slow- worm	Grass Snake	Adder	Amphibians
Set up	08/06/2021	0	0	0	0	0
1	23/06/2021	0	0	0	0	1 common toad
2	24/06/2021	0	0	2 adult (near east site boundary)	0	1 common toad
3	28/06/2021	0	0	1 ೆ (near pond P3 in north of site)	0	1 common toad
4	30/06/2021	0	0	1 sub-adult (near east site boundary)	0	1 common toad
5	02/07/2021	0	0	2 sub-adult (one near pond P3 and one near north site boundary)	0	2 common toad
6	05/07/2021	0	0	1 sub-adult (near east site boundary) 2 adult (one near east site boundary and one near north site boundary)	0	0
7	07/07/2021	0	0	1 ් (near north site boundary)	0	0

ິງ: Male, ⊈*:*Female, Juv – Juvenile

Sub-adult - smaller in size and considered to be 2020 juveniles as the surveys were not completed at the time of year were 2021 juveniles would likely be hatched and active on site

Table 4.3: Presence/Absence Survey Results

4.5 ASSESSMENT OF SITE IMPORTANCE FOR REPTILES

The results of the presence/absence survey were assessed using Froglife's site valuation methodology, outlined in Section 2.3. The results of this assessment are detailed in Table 4.4. This assessment is based on the area of suitable reptile habitat within the site which totals approximately 5.3 ha of the 10 ha site and includes the grassland and scrub habitats in the north and west of the site and the areas of scrub and rough grassland on the woodland edge near the eastern boundary of the site.

Species	Maximum Count of Individuals*	Number of Individuals / ha	Estimate of Population Level During Survey	Key Reptile Site Score
Common lizard	-	-	-	-
Slow-worm	-	-	-	-
Grass snake	3 (2 adult and 1 sub- adult)	0.6	Low	1
Adder	-	-	-	-
* Maximum coun	t of adults recorded by sur	Total Score	1	

Table 4.4: Reptile Population Estimate

It is noted that the Froglife guidelines for population estimates only take adults into consideration, however the current legislation protecting reptiles does not differentiate between adults and juveniles. The current surveys found both sub-adult and adult grass snake at the site, however, to avoid breach of legislation it is concluded that this area supports a low population of grass snake.

The site does not meet any of the criteria listed in Section 2.4 to qualify as a Key Reptile Site as defined by Froglife (1999).

5. DISCUSSION AND CONCLUSIONS

5.1 SUMMARY OF SITE PROPOSALS

The proposals for the site involve the construction of residential dwellings with associated hard and soft landscaping. The majority of the site will be cleared to facilitate the development. Pond P3 will be retained in accordance with the proposals and ponds P1, P2, P4 and P5 will be removed to facilitate the development.

5.2 HABITAT ASSESSMENT

The semi-improved grassland, dense scrub and woodland edge habitats as well as the ponds within the site provide a diverse vegetation structure suitable for reptiles. A range of amphibian, invertebrate and small mammal species, which provide suitable prey for reptile species, are likely to be supported by the habitats on site, particularly those areas that are less frequently managed. The aquatic habitats on site and in the wider area are favourable for foraging grass snake and common toad are known to be present on site.

The habitats present within the wider golf course are also suitable for use by grass snake and other reptile species. Large areas of the wider golf course are frequently mown and intensively managed, however, there are some areas of unmanaged grassland and dense scrub habitats present contributing to the structural diversity. The unmanaged vegetation associated with the River Arrow corridor also provides connectivity to other suitable habitats in the wider area.

5.3 FINDINGS OF REPTILE SURVEY AND KEY REPTILE SITE ASSESSMENT

The desk study did not report any records of reptiles within a 1 km radius of the site.

A low population of grass snake were found on site with an estimated 0.6 individuals per hectare of suitable habitat on site, based on the findings of the surveys which were completed at the optimal time of year and in suitable weather conditions. The site does not qualify as a Key Reptile Site. A small number of common toad were also identified during the surveys and the habitats on site are suitable for common amphibian species.

5.4 CONCLUSIONS AND SUMMARY OF POTENTIAL IMPACTS

The proposed development will result in the permanent loss of suitable habitat for grass snake in the form of unmanaged scrub and grassland and woodland edge habitats as well as the proposed removal of four ponds on site. If unmitigated, the proposed works are likely to result in the killing/injury of grass snakes present in these habitats and could adversely affect the favourable conservation status of the resident reptile populations. They could also result in a breach of Section 9(5) of the Wildlife and Countryside Act 1981 (as amended), which protects reptiles against intentional killing, injury and taking. However, given the low population size, mobility of the species and the suitability of the surrounding habitats, it is considered that adverse impacts can be avoided through the implementation of reasonable avoidance measures which will also be applicable for the protection of common amphibians. A Reasonable Avoidance Measures Method Statement to be adhered to for the protection of grass snake and common amphibians is provided in Chapter 6.

The works will result in the permanent loss of suitable reptile habitat, including ponds, which provide suitable foraging habitat for grass snake. Of the grass snake identified on site, none were noted around the ponds to be removed; there were all recorded around the larger pond in the north of the site which is to be retained. The proposals show that the retained pond will be surrounded by residential dwellings, however, there are at least eight other ponds within the wider golf course which will remain accessible and suitable for use by grass snake. It is considered that development of the site will not fragment favrouable grass snake habitat.

To compensate for the loss of suitable habitat within the site, areas of open space and landscape planting will be incorporated into the proposed site layout including trees and scrub planting and wildflower grassland. The creation of these habitats will provide suitable habitat for foraging and sheltering grass snake and additional habitats can be created within the areas of open space to provide additional opportunities for egg-laying grass snake as recommended in Chapter 7.

6. REASONABLE AVOIDANCE METHOD STATEMENT

6.1 INTRODUCTION

The purpose of the reasonable avoidance statement detailed in this chapter is to ensure that individual grass snake are not harmed by the proposed works, and that their favourable conservation status is maintained prior to, during and after the works have been completed. This method statement is also applicable for the protection of common amphibians which are known to be present on site.

6.2 SITE MANAGEMENT AND PRE-COMMENCEMENT

The current management regime of the site should continue up until the commencement of works to ensure the habitats do not become more favourable for common amphibians and grass snake.

Prior to the commencement of site clearance works, a toolbox talk will be provided to all contractors by an ecologist to make them aware of the potential presence of grass snake on site.

Prior to the commencement of works, the grassland should be mown or strimmed and the sward should be kept short (less than 0.1 m in height) for at least two weeks prior to the commencement of site clearance. If any longer, tussocky areas of grassland are present, these should be gradually strimmed to a height of 0.3 m, then 0.2 m and finally to a height of less than 0.1 m to encourage any grass snake and amphibians to naturally disperse. The grassland should be mown east to west during the herpetofauna active season. This is weather dependent but generally extends between March and October inclusive.

The mowing of the grassland habitats does not need to be completed under ecological supervision. However, the contractors completing the works should be made aware of the potential presence of grass snake and amphibians on site. Any piles of debris should not be disturbed, and grass cuttings are to be removed from the site to ensure that suitable egg-laying habitats are not created prior to the commencement of works.

6.3 DIRECT SEARCH AND HABITAT DESTRUCTION

A walkover by a suitably experienced ecologist will be completed of all working areas immediately prior to the commencement of topsoil strip and removal of any potential hibernacula. The removal of any potential hibernacula, including debris piles, aggregate piles, woodchip and any piles of grass cuttings, will include careful dismantling under the supervision of a suitable experienced ecologist. Any hedgerow, dense scrub and tree clearance should similarly be conducted under ecological supervision.

On completion of the direct search of the works area the contractor will scrape the top 150 mm of soil and all vegetation from the site. A suitably experienced ecologist will supervise these works to ensure that any reptiles remaining within the site are protected and safety translocated.

Habitat destruction and clearance of the site must be completed in the herpetofauna active season which generally extends between March and October inclusive. Any grass snake or amphibian identified will be carefully moved to an area of undisturbed suitable habitat within the retained wider golf course away from the construction site.

6.4 CONSTRUCTION PHASE AND SYMPATHETIC WORKING PRACTICES

Where possible all excavations should be infilled on the same day as excavation. However, if this is not possible, they should be covered overnight, or ramps should be left within them to allow fauna to easily exit. Any excavations left overnight should be checked the following morning by an appropriate individual before works recommence.

Grass snake and amphibian like to hide under refuges such as stacked materials including wood, stone, boards or metal sheets. Staff should simply demonstrate awareness when working and moving materials. Should and animal be found it should be gently moved, for example in a clean bucket, to a suitable location within the habitat well away from the working area. The site should also be kept tidy and materials should be stored off the ground, such as on pallets where possible.

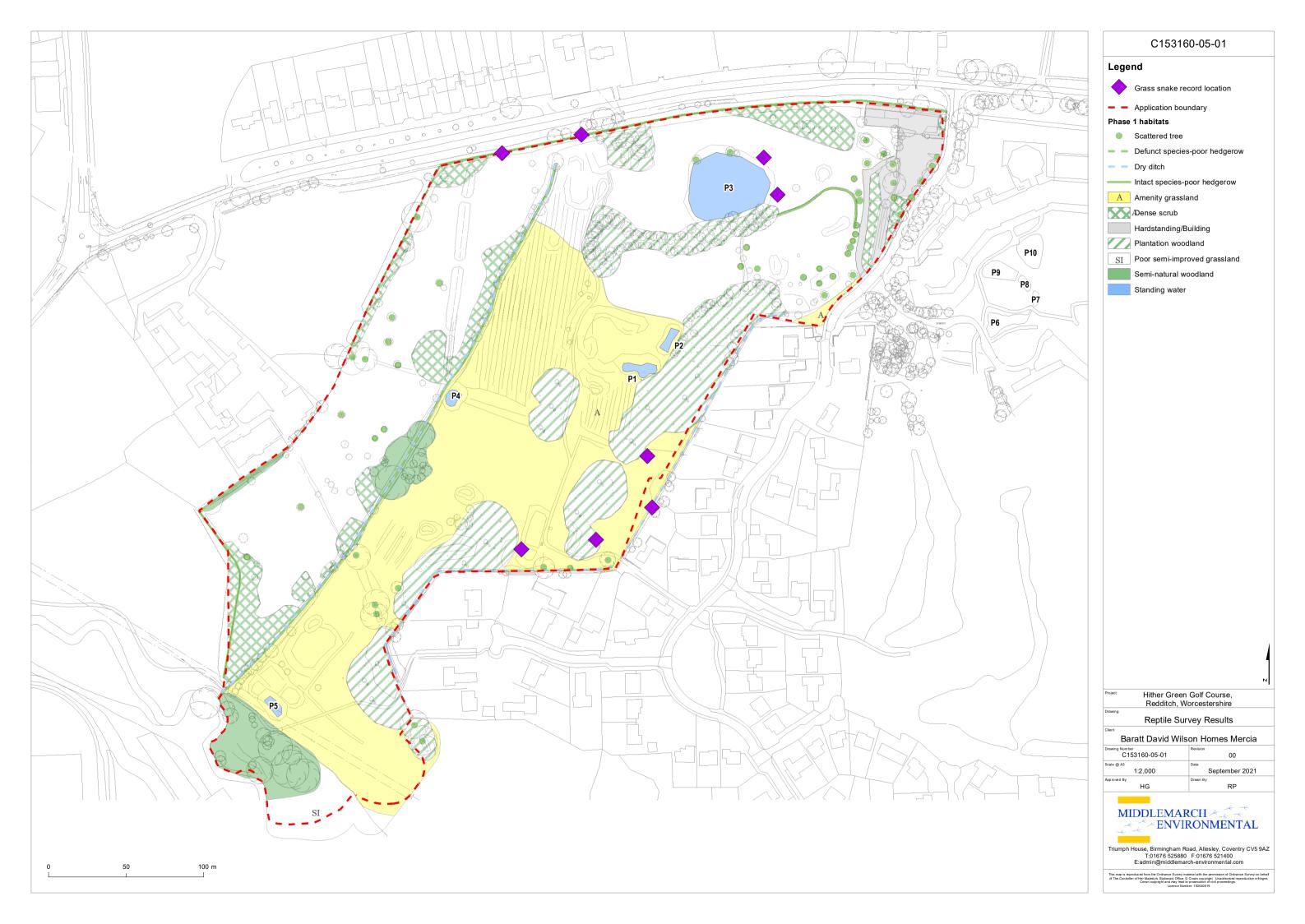
7. **RECOMMENDATIONS**

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

- **R1 Survey Validity:** If works do not commence within 12 months, then an updated assessment of the site should be completed to assess whether the suitability of the site has changed for grass snake or other reptiles and to consider if the population of grass snake which the site supports may have changed due to a change in management for example.
- **R2 Reasonable Avoidance Method Statement:** The reasonable avoidance method statement included in Chapter 6 of this report must be adhered to during the works to avoid any potential breach of legislation.
- **R3 Habitat Enhancement:** Compost heaps are used for hibernation and for egg-laying by grass snake. If possible, a large compost heap could be created in a sunny location, such as on the edge of the open space in the south of the site. Compost heaps should not be disturbed when they may be used by egg-laying grass snake between June and September, inclusive, or during the winter months (between November and February, inclusive).

8. DRAWINGS

Drawing C153160-05-01 – Reptile Survey Findings



9. PHOTOGRAPHS



Plate 1: Scrubby Areas of Semi-improved Grassland with Log Piles



Plate 2: Large Pond in the Northern Area of the Site



Plate 3: Dense Scrub with Dumped Debris



Plate 4: Access Track with Aggregate Piles

REFERENCES AND BIBLIOGRAPHY

Betts, C. (2008). Checklist of Protected British Species. 3rd edition. Environmental Biology, Worcester.

Blomberg, S. and Shine, R. (1996), 'Reptiles'. IN: Sutherland, W. J. (ed). Ecological Census Techniques: a handbook. Cambridge University Press, Cambridge.

English Nature. (2004). Reptiles: guidelines for developers. English Nature, Peterborough.

- Gent, T. and Gibson, S. (2003). Herpetofauna Worker's Manual Second Edition, Joint Nature Conservation Committee, Peterborough.
- Inns, H. 2011. Britain's Reptiles and Amphibians (Vol. 23). Princeton University Press, Hampshire.
- The Highways Agency, Scottish Executive, Welsh Assembly Government and The Department For Regional Development. (2005). 'Design Manual For Roads And Bridges: Nature Conservation Advice in Relation to Reptiles and Roads'.
- National Amphibian and Reptile Recording Scheme. Reptile Methods and Protocols. Available: <u>http://www.narrs.org.uk</u>
- Wildlife & Countryside Act (1981) As Amended.

APPENDIX 1

LEGISLATION

All of the UK's native reptiles are protected by law. The two rarest species – sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) – benefit from the greatest protection.

Common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix natrix*) are protected under the Wildlife and Countryside Act 1981 (as amended) from intentional killing or injuring.

Sand lizard and smooth snake are protected under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended) which together make it illegal to kill, injure, capture, handle or disturb these animals. Places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed. It is also illegal to obstruct these animals from using such areas.

All native reptile species are listed as Species of Principal Importance on the UK Post-2010 Biodiversity Framework (2012), and as such are material considerations in the planning process.

This is a simplified description of the legislation. In particular, the offences mentioned here may be absolute, intentional, deliberate or reckless. Note that where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.

The reader should refer to the original legislation for the definitive interpretation.