APPENDIX 11.8

EAST HILL, HEMPSTEAD, MEDWAY

Reptile Survey Report

Date of report	27th February 2019
Date of surveys	March – November 2018
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1.0 INTRODUCTION

1.1 Corylus Ecology has undertaken reptile presence/likely absence surveys to inform a large scale planning application at East Hill, Hempstead hereinafter referred to as 'the Site'. This document reports the results of the reptile surveys undertaken in 2018.

Overview

1.2 Habitat suitable for common reptile species was identified during the initial Extended Phase 1 Habitat survey in May 2017. These area are outlined below:

Field 1

1.3 Field 1 contains a mix of suitable habitats for common species of reptile, however these are all restricted to the narrow field margins around the arable field. However some of these are isolated, heavily shaded, disturbed or contain poor quality habitat. The habitats within Field 1 have been summarised below for their suitability to support reptiles:

Optimal reptile habitat

- Field margin on southern boundary TN7
- Tall ruderal and field margins on eastern boundary TN5

Sub-optimal reptile habitat

- All remaining field margins TN4, TN6, TN8
- Ancient Woodland edge TN2 and TN3

Negligible reptile habitat

- Arable field TN1

Field 2

1.4 Field 2 contains a mix of suitable habitats for common species of reptile, however these are all restricted to the narrow field margins around the arable field, except a single area of grassland and scrub located on the western boundary. However some of these margins are isolated, heavily shaded, disturbed or contain poor quality habitat. The habitats within Field 2 have been summarised below for their suitability to support reptiles:

Optimal reptile habitat

- Grassland and scrub area on western boundary TN5
- Field margin and scrub area on western boundary TN7
- Field margin and scrub edge on north-east boundary TN2
- Tall ruderal and field margins on western boundary TN8
- Field margin at northern boundary TN3

Sub-optimal reptile habitat

- All remaining field margins TN4, TN6 and TN9

Negligible reptile habitat

- Arable field TN1

Field 3

1.5 Field 3 contains the largest areas of optimal habitats for common species of reptile, however again these are generally restricted to the narrow field margins around the arable field, except for the large area of scrub and trees to the west and the vehicle track that extends through the centre. The habitats within Field 3 have been summarised below for their suitability to support reptiles:

Optimal reptile habitat

- Dense scrub and trees on western boundary TN2
- Vehicle track to west TN3
- Northern field margins TN4
- Eastern field margin TN5

Sub-optimal reptile habitat

- Southern Field margins TN5

Negligible reptile habitat

- Arable field TN1

1.6 The aims of the surveys were to:

- determine the presence/likely absence of reptiles; and
- assess the population size if any reptiles are present.

2.0 METHODOLOGY

2.1 Desk Study

2.1.1 Full desk study records of reptiles were sought from the Kent and Medway Biological Records Centre (KMBRC), encompassing a 3km search area.

Survey Methodology

2.1.2 For a presence/likely absence reptile survey, Froglife recommend that a minimum of seven survey visits are undertaken in favourable weather conditions. To achieve a satisfactory degree of confidence in a negative result, the survey should be spread over a minimum of 30 days (Froglife, 1999).

2.1.3 Reptile surveys can be undertaken between the months of March and October and the most profitable months for surveying tend to be April, May and September (Froglife, 1999). The Herpetofauna Groups of Britain and Ireland (HGBI) guidance suggests that optimum conditions are temperatures between 9°C and 18°C, with an absence of wind and rain and the best time of day are between 8.30am and 11.00am and between 4.00pm and 6.30pm, depending on the conditions. Peak counts of reptiles can often occur outside those times mentioned above, in particular immediately after rain. The surveys were therefore timed to utilise the best available weather conditions.

2.1.4 The standard survey guidance for reptiles recommends ten heat traps per hectare (Froglife, 1999). For this survey, a total of 175 heat traps were placed throughout the Site in areas considered suitable for reptiles, these being the narrow field margins at the boundaries of all the arable fields (Fields 1 – 3),larger areas of grassland at the western boundary of Field 2 and track between Field 2 and Field 3.

2.1.5 A total of 70 heat traps in Field 1, 53 heat traps in Field 2 and 52 heat traps were set in Field 3.

2.1.6 The total area of each field is: Field 1 20ha, Field 2 23ha and Field 3 5ha. However, the majority of these fields are unsuitable for reptiles, being arable with only the boundaries providing suitable habitat. These suitable boundaries are measured at: Field 1 0.24ha, Field 2 0.25ha and Field 3 0.1ha therefore achieving a density of greater than ten per ha following guidance for each field. Heat traps consisted of heavy gauge green mineral roofing felt cut into approximately 0.7m x 1m rectangles which were placed following linear margins and orientated to receive the maximum amount of sunshine.

2.1.7 Seven survey visits were undertaken from 22nd May to 1st October 2018 in weather conditions suitable for reptiles; the time and conditions of each visit were recorded.

Reptile Evaluation Methodology

2.1.8 Froglife have established criteria for establishing Key Reptile Sites and the criteria is also used in the designation process for Local Wildlife Sites. The scoring system is based upon the maximum number of adult animals: that is all animals recorded excluding hatchlings and juveniles, seen under artificial refugia (placed at a density of a minimum of 10 per hectare) or by general observation by one person, in one day.

Table 1 – Evaluation of Reptile Population Status

Species	Low Population Score 1	Good Population Score 2	Exceptional Population Score 3
Adder	<5	5-10	>10
Grass Snake	<5	5-10	>10
Common Lizard	<5	5-20	>20
Slow Worm	<5	5-20	>20

2.1.9 A Key Reptile Site is identified when a site meets any of the following thresholds:

- Supports three or more reptile species; or
- Supports two snake species; or
- Supports an exceptional population of any one species; or
- Supports an assemblage of species scoring ≥4 points using the above system; or,
- Supports a population of adder scoring >1.

2.1.10 Any other species noted under the refugia were also recorded, principally any amphibian species in terrestrial phase.

3.0 RESULTS

3.1 Desk Study

3.1.1 KMBRC have provided records of slow worm, grass snake, adder *Vipera berus* and common lizard *Zootoca vivipara* from within a 3km radius of the Site. No records are located within the Site.

- The closest record of slow worm to the Site is 75m to the north in 2016 within a private residence.
- The nearest record of grass snake is from 1.8km to the north in 2006.
- Adder are known to be present within Darland Banks Local Nature Reserve (LNR): the closest record is from approximately 500m to the north of Field 3 in 2009. This species has been recorded more recently in the wider LNR in 2012.
- The nearest record of common lizard is from the southern edge of Darland Banks LNR, 200m to the north-east of Field 3 in 2005. This species has been recorded more recently in other areas of Darland Banks LNR in 2013.
- Princes Park, which is located 330m to the west of the Site, has records of slow worm, common lizard and adder from 2009.

3.2 Survey Results

3.2.1 Three species of reptile were recorded during the surveys across the entire Site: slow worm, common lizard and grass snake.

3.2.2 Due to the size of the survey area and distance and separation between suitable areas of reptile habitat a peak count of each reptile species for the entire Site would be inaccurate. As such, a peak count of each surveyed area of continuous reptile habitat would be more appropriate and these have been presented in Tables 2 – 5 below. These four areas include the eastern boundary of Field 1, the southern and western boundary of Field 2 and continuous area of margin and scrub between Fields 2 and 3. Figure 1 shows the locations of felts and the survey areas highlighted above.

3.2.3 In Field 1, a peak count of two adult male slow worms was recorded on a single occasion on 28th August 2018 (Table 2). These slow worms were recorded on the eastern boundary of Field 1, towards the northern end and within the vegetated bank of Shawstead Road. No other reptiles were recorded anywhere within Field 1. The total area of suitable habitat available for reptiles to use is 0.12ha equating to a 16.6 individuals/ha. This equates to a 'Good' population under the Froglife criteria and results in one point (see Table 1; Froglife 1999).

Table 2 – Summary of Reptile Survey Results for Field 1 – Eastern Boundary East Hill, Hempstead 2018

Survey visit	Date	Number of slow worm	Number of common lizard	Number of grass snake
1	22/05/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
2	04/06/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
3	02/07/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
4	12/07/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
5	28/08/2018	Total: 2 Peak: 2	Total: 0 Peak: 0	Total: 0 Peak: 0
6	31/08/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
7	01/10/2018	Total: 1 Peak: 1	Total: 0 Peak: 0	Total: 0 Peak: 0

Table 3 – Summary of Reptile Survey Results for Field 2 – Southern Boundary East Hill, Hempstead 2018

Survey visit	Date	Number of slow worm	Number of common lizard	Number of grass snake
1	22/05/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
2	04/06/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
3	02/07/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
4	12/07/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
5	28/08/2018	Total: 4 Peak: 4	Total: 0 Peak: 0	Total: 0 Peak: 0
6	31/08/2018	Total: 1 Peak: 1	Total: 0 Peak: 0	Total: 0 Peak: 0
7	01/10/2018	Total: 2 Peak: 2	Total: 0 Peak: 0	Total: 0 Peak: 0

3.2.4 In Field 2, a peak count of four adult male slow worms was recorded on the 28th August 2018 (see table 4). These slow worms were recorded on the fields western boundary towards the southern end within the vegetated bank of Shawstead Road. The total area of suitable habitat available for reptiles to use is 0.26ha equating to a 15.3 individuals/ha. This equates to a 'Good' population under the Froglife criteria and results in one point (see Table 1; Froglife 1999).

3.2.5 The peak count of slow worm recorded in Field 1 and Field 2 was recorded on the same occasion. Shawstead road, a minor road, lies between the eastern boundary of Field 1 and western boundary of Field 3, however is unlikely to create a major barrier to reptiles moving between areas of suitable habitat in these two fields. If the total area of the suitable habitat (0.38ha) both areas are equating to a 15.8 individuals/ha. This equates to a 'Good' population under the Froglife criteria and results in one point (see Table 1; Froglife 1999).

Table 4 – Summary of Reptile Survey Results for Field 2 – Western Boundary East Hill, Hempstead 2018

Survey visit	Date	Number of slow worm	Number of common lizard	Number of grass snake
1	22/05/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
2	04/06/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
3	02/07/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
4	12/07/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
5	28/08/2018	Total: 2 Peak: 2	Total: 1 Peak: 1	Total: 0 Peak: 0
6	31/08/2018	Total: 14 Peak: 12	Total: 2 Peak: 2	Total: 1 Peak: 1
7	01/10/2018	Total: 3 Peak: 3	Total: 1 Peak: 1	Total: 0 Peak: 0

3.2.6 A peak count of 12 slow worms, consisting of five males, four females and three sub-adults, was recorded on the 31st August 2018 within the western boundary of Field 2, towards the northern end. The total area of suitable habitat available for reptiles to use is 0.5ha equating to a 24 individuals/ha. This equates to an 'Exceptional' population under the Froglife criteria and results in three points. A peak count two sub-adult common lizards, the total area of suitable habitat available for reptiles to use is 0.5ha equating to a 4 individuals/ha. One adult grass snake was also recorded on this date. These both equates to a 'Low' population under the Froglife criteria and results in one point each.

Table 5 – Summary of Reptile Survey Results for Field 2 and 3 – Margins and scrub area East Hill, Hempstead 2018

Survey visit	Date	Number of slow worm	Number of common lizard	Number of grass snake
1	22/05/2018	Total: 0 Peak: 0	Total: 0 Peak: 0	Total: 0 Peak: 0
2	04/06/2018	Total: 5 Peak: 5	Total: 1 Peak: 1	Total: 0 Peak: 0
3	02/07/2018	Total: 2 Peak: 2	Total: 1 Peak: 1	Total: 0 Peak: 0
4	12/07/2018	Total: 3 Peak: 3	Total: 0 Peak: 0	Total: 0 Peak: 0
5	28/08/2018	Total: 2 Peak: 2	Total: 0 Peak: 0	Total: 11 Peak: 1
6	31/08/2018	Total: 2 Peak: 2	Total: 1 Peak: 1	Total: 4 Peak: 0
7	01/10/2018	Total: 2 Peak: 2	Total: 0 Peak: 0	Total: 0 Peak: 0

3.2.7 On the eastern side of Field 2 and in Field 3, a peak count of five slow worms consisting of two females and three males, was recorded on the 4th July 2018. The total area of suitable habitat available for reptiles to use is 1ha equating to a 5 individuals/ha. On this same date a peak count of one adult common lizard was found, equating to 1 individuals/ha. These equates to a 'Low' population under the Froglife criteria and result in one point each. A peak count of one adult grass snake and 11 juvenile grass snakes was recorded on the 28th August 2018. This equates to a 'Low' population under the Froglife criteria and result in one point.

Other recordings

3.2.8 Common shrew *Sorex araneus* and bank voles *Myodes glareolus* were recorded across the Site on several occasions. No amphibians were recorded beneath the refugia.

4.0 EVALUATION

4.1 Summary

4.1.1 A reptile presence/likely absence survey has been undertaken of land at East Hill, Hempstead between May and October 2018. The suitable reptile habitat is restricted to the margins of the three fields (fields 1 – 3), a track and scrub area between Fields 2 and 3 and area of long grass and scrub on the north-west edge of Field 2. The vast majority of the Site is arable land that is not suitable for use by reptiles.

4.1.2 Three reptile species were recorded across the Site including slow worm, common lizard and grass snake. If all survey areas across the entire Site were considered as one continuous matrix of reptile habitat the peak count for slow worm is 15, for grass snake is one and for common lizard is 3.

4.1.3 The entire Site therefore scores five points under the criteria and this along with three reptile species qualifies as a Key Reptile Site. However, it is considered appropriate to evaluate the reptile species present within the site as separate populations due to the distance and lack of suitable reptile habitat between the areas found to support reptiles, and the home-ranges of reptiles particularly slow worm and common lizard. However when split down to the three separate habitat areas only the western boundary of Field 2 and the habitats between Field 2 and 3 had three reptile species recorded, the area consisting of either side of Shawstead Road to the south only scored two points with a good population of slow worms recorded.

4.1.4 The suitable habitats at the Site's boundaries have mixed levels of connectivity to further suitable habitat within the wider landscape. The eastern boundary of Field 2 and southern boundary of Field 3 are adjacent to the Capstone Country Park where there are multiple large areas of tussocky grassland and scrub. However the western boundaries of the Fields 1 and 2 are bordered by North Dane Way road and residential development and these habitats are likely to be a major barrier to any reptiles moving between on and off-site suitable habitat along this boundary. No reptiles were recorded in the margins adjacent to the two blocks of ancient woodland which provides optimal habitat for resting, foraging and hibernating slow worm. Therefore, slow worm could be favouring habitat further into the woodland as opposed to the boundary within the Site.

4.1.5 However the most significant factor in whether reptiles are present within the Site appear to be the levels on which the field margins are affected by use of the fields for arable crops and how large these margins are. The margins in areas that reptiles have been found present are between 2 to 5m wide or contain large areas of grassland leading into scrub, the margins where reptiles are absence are narrow, around 0.5m wide with crops planted right up the field edges.

Survey Constraints

4.1.6 During the 2018 surveys there was a record breaking UK summer heatwave which resulted in rapidly rising temperatures even very early in the mornings. The Site measures approximately 50ha, with heat traps positioned around the entirety of the Site's boundaries and within the two suitable habitats in Field 2 and between Fields 2 and 3. On average, it would take the surveyor approximately 1.5hrs to complete one reptile survey, resulting in the temperature towards the end of the survey sometimes exceeding 18°C. Reptiles use their environment to control or maintain their body temperature, meaning they move to different areas of their habitat to warm up or cool down. It is therefore possible that some of the heat traps may have become too warm towards the end of some of the surveys, which may have resulted in under recording. However, to limit this, the surveys were undertaken outside of the hottest periods, or during breaks in the weather and not undertaken when the daytime temperatures were at their peak. In some cases the surveys were split across the Site in the morning and afternoon of the same day to miss the peak day temperatures.

4.1.7 During the surveys there was also a significant amount of public interference with the reptile felts, especially in locations where public rights of way or informal paths run near to locations that felts were set. This interference consisted of felts being moved and piled up in locations whilst some were thrown into the nearby scrub. As such it is likely that reptiles may have been under recorded in these areas due to the levels of disturbance to the felts. Between the July and August surveys the land owner undertook scrub and field margin management and approximately 25% of felts were destroyed or moved, these were reset and replaced.

Slow Worm Ecology

4.1.8 Slow worms, which are legless lizards, have a widespread distribution across England, Wales and Scotland but are particularly common in southern and eastern England. They occur in a variety of habitats including rough grassland, hedgerows, heathland, woodland edges, downs and moorland (Beebee & Griffiths, 2000). Fairly thick vegetation cover, combined with sunny areas to allow basking, appear to be their preferred habitat. They have a limited home range between 10-20m.

4.1.9 Despite the range of their distribution and the diversity of habitats in which they may be found, the national status of the slow worm is not considered favorable. The slow worm is considered to have undergone a long term decline since the 1930's. Currently the largest threat has been identified as loss of habitat, in particular, due to a shift in planning policy towards the development of brown field sites (English Nature, 2004).

Common Lizard Ecology

4.1.10 Common lizard often survive in loose colonies arranged along features such as road embankments, or within large areas of suitable habitats, for example, on sunny banks or hillsides. Common lizards occur in a wide range of different habitats across the United Kingdom and Ireland and are considered the most widespread of the British reptiles. Despite being widespread however, their habitat requirements result in a patchy distribution. Adequate common lizard habitat may be described as undisturbed ground that is topographically diverse with fairly dense but short vegetation less than 0.5 metres high, open to the sun and with at least a few exposed areas or promontories that be used for basking (Beebee & Griffiths, 2000).

Grass Snake Ecology

4.1.11 Grass snakes are Britain's largest snake and hibernate from around October to early March. The species is wide ranging, with records of individuals travelling up to 120m per day and a recorded home range of up to 33 hectares. Within southern England the species is locally common with the preferred habitat type consisting of ponds, streams, ditches and marshland. As well as wetlands, grass snake are also known to frequently use areas of open woodland, woodland edge, hedgerows and rough grassland, although research has disclosed a preference for these habitats within the local vicinity of water. Feeding and egg laying sites may be several hundred metres from hibernaculum and snakes will use hedgerows, ditches and banks as movement corridors where possible. Newts, frogs and toads form the majority of their diet and grass snakes are accomplished swimmers (Beebee & Griffiths, 2000).

Reptile Population Estimates

4.1.12 In the experience of the surveyors, to estimate the size of the slow worm and common lizard population which may be present, the proportion of the total population recorded during a standard presence/likely absence survey may be suggested to be in the region of 10%. On this Site, this would equate to approximately 120 slow worm and 20 common lizard within the western boundary of Field 2, 50 slow worm and 10 common lizard between Fields 2 and 3, 40 slow worm on the southern boundary of Field 2 and 20 slow worm on the eastern boundary of Field 1.

4.1.13 However, the heat trap density was greater than the ten traps per hectare recommended by Froglife in their guidance. It is therefore considered that a higher percentage of the slow worm population would have been detected during the seven survey visits.

4.1.14 The above proportional method is not considered accurate for estimating grass snake population size as densities are limited by available resources and typical individual home ranges: grass snakes tend to live at densities of <5 per ha and the home range of grass snake has been recorded at up to 33ha (Beebee and Griffiths, 2000). The peak count of one adult snake in Field 3 and one snake in the western boundary of

Field 2, 11 juvenile snakes were also recorded in the area between Field 2 and 3. The species is therefore breeding within or close to the Site and using the fields' marginal habitats.

4.1.15 The 'Low' populations of slow worm, common lizard and grass snake as well as a single 'good' population of slow worms within the banks of Shawstead Road and a single area of 'Exceptional' population on the western boundary of Field 2 are considered to be of Local Importance.

5.0 CONCLUSIONS

5.1 Reptile presence/likely absence surveys at land at East Hill, Hempstead have been undertaken in 2018. Heat traps were set around the suitable reptile habitat within the field margins as well as within suitable areas of tussocky grassland and scrub on the western boundary of Field 2 and between Field 2 and 3.

5.2 'Low' populations of slow worm were found in one locations across Site, and a single 'Good' slow worm population was found on the banks of Shawstead Road. A single 'Exceptional' slow worm population on the western boundary of Field 2. A 'low' population common lizards were recorded in two locations during the surveys and a 'low' population grass snake were recorded across the entire Site. The reptile populations identified across the Site are considered to be of Local Importance.

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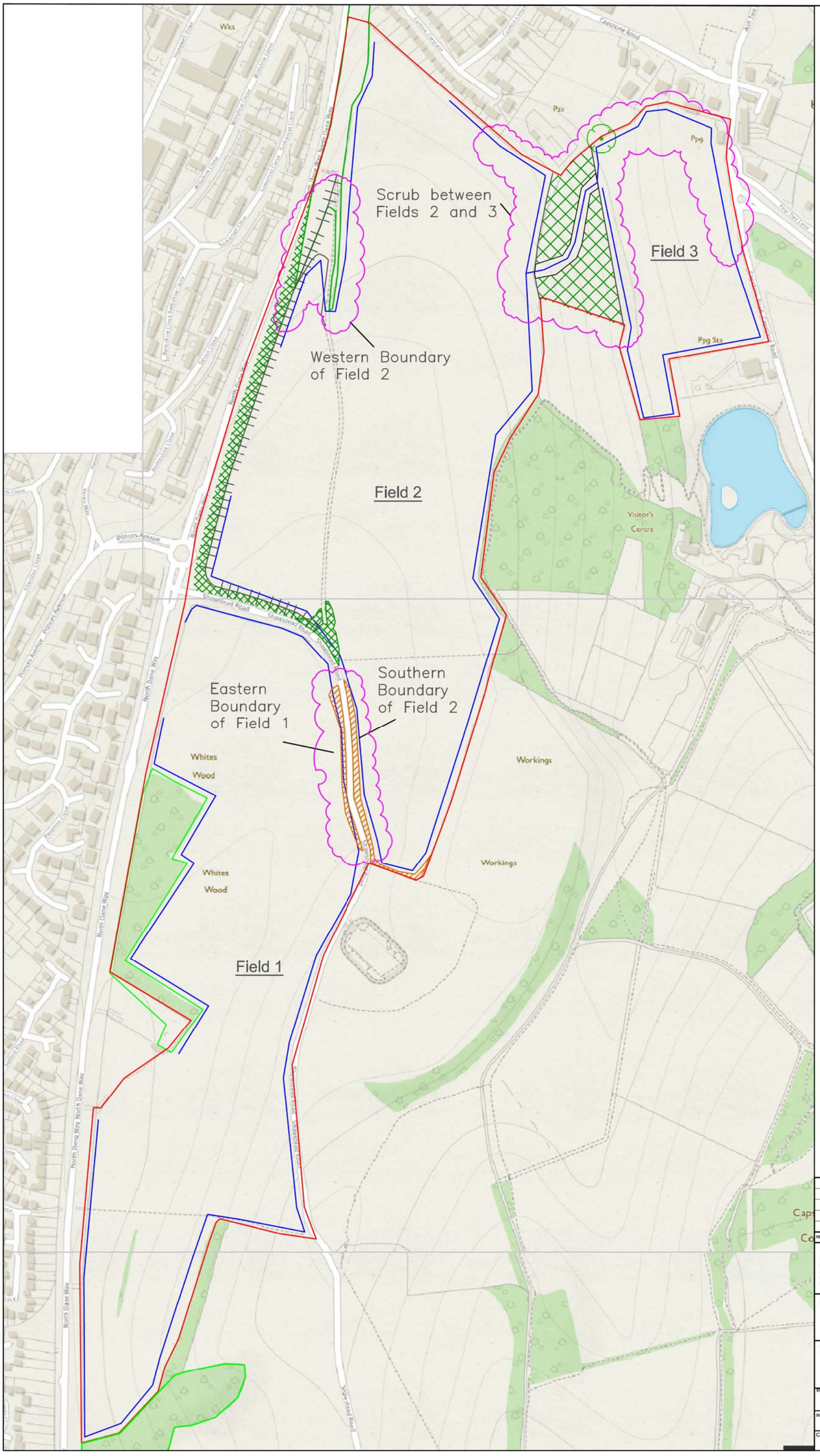

Key

- Site Survey Area
- Reptile Felt Locations
- Reptiles Found Present
- Broad-leaved Woodland
- Ancient Woodland Boundary
- Dense Scrub
- Tall Ruderal

Ordnance Survey
Licence Number
100050443

revision	description	date	checked by

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Project:

17032 East Hill, Hempstead

Title:

Reptile Survey Plan

status		drawing no.		
		Figure 1		
scale	size	date	drawn	checked
NTS	A3	22.02.2019	AW	HL

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Figure_1.dwg

Appendix 1 - Reptile Survey Results

South Field- Field 1
Eastern boundary Only

Visit no	Date	Initials	Species	Common lizard	Slow worm	Grass Snake	Tv/Th	Toad	Frog	Location	Weather conditions	
1	22/05/2018	AW	Male								Time	9.30
			Female								Temp	20c
			Adult Unknown	0	0	0	0	0	0		Cloud %	30%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
2	04/06/2018	AW	Male								Time	10.00
			Female								Temp	17c
			Adult Unknown	0	0	0	0	0	0		Cloud %	70%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
3	02/07/2018	AW	Male								Time	9.30
			Female								Temp	21c
			Adult Unknown	0	0	0	0	0	0		Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF2
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
4	12/07/2018	EK	Male								Time	14:30
			Female								Temp	22c
			Adult Unknown	0	0	0	0	0	0		Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
5	28/08/2018	AW	Male		2						Time	10:00
			Female								Temp	16c
			Adult Unknown	0		0	0	0	0		Cloud %	100%
			Sub								Rain	Nil
			Juv								Wind	BF1
			TOTAL	0	2	0	0	0	0			
			PEAK	0	2	0	0	0	0			
6	31/08/2018	AW	Male								Time	10:00
			Female								Temp	17c
			Adult Unknown	0	0	0	0	0	0		Cloud %	0%
			Sub								Rain	in night
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
7	01/10/2018	AW	Male		1						Time	10:00
			Female								Temp	19
			Adult Unknown	0		0	0	0	0		Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF2
			TOTAL	0	1	0	0	0	0			
			PEAK	0	1	0	0	0	0			

North Fields- Field 2
Western Boundary

Visit no	Date	Initials	Species	Common lizard	Slow worm	Grass Snake	Tv/Th	Toad	Frog	Location	Weather conditions	
1	22/05/2018	AW	Male								Time	9.30
			Female								Temp	20c
			Adult Unknown	0	0	0	0				Cloud %	30%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
2	04/06/2018	AW	Male								Time	10.00
			Female								Temp	17c
			Adult Unknown	0	0	0	0				Cloud %	70%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
3	02/07/2018	AW	Male								Time	9.30
			Female								Temp	21c
			Adult Unknown	0	0	0	0				Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF2
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
4	12/07/2018	EK	Male								Time	14:30
			Female								Temp	22c
			Adult Unknown	0	0	0	0				Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
5	28/08/2018	AW	Male		1						Time	10:00
			Female								Temp	16c
			Adult Unknown	1		0	0				Cloud %	100%
			Sub		1						Rain	Nil
			Juv								Wind	BF1
			TOTAL	1	2	0	0	0	0			
			PEAK	1	2	0	0	0	0			
6	31/08/2018	AW	Male		4						Time	10:00
			Female		5						Temp	17c
			Adult Unknown			1	0	0	0		Cloud %	0%
			Sub	2	3						Rain	in night
			Juv		2						Wind	BF1
			TOTAL	2	14	1	0	0	0			
			PEAK	2	12	1	0	0	0			
7	01/10/2018	AW	Male		1						Time	10:00
			Female		1						Temp	19
			Adult Unknown	1							Cloud %	10%
			Sub		1						Rain	nil
			Juv								Wind	BF2
			TOTAL	1	3	0	0	0	0			
			PEAK	1	3	0	0	0	0			

North Fields- Field 2
Southern Boundary

Visit no	Date	Initials	Species	Common lizard	Slow worm	Grass Snake	Tv/Th	Toad	Frog	Location	Weather conditions	
1	22/05/2018	AW	Male								Time	9.30
			Female								Temp	20c
			Adult Unknown								Cloud %	30%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
2	04/06/2018	AW	Male								Time	10.00
			Female								Temp	17c
			Adult Unknown								Cloud %	70%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
3	02/07/2018	AW	Male								Time	9.30
			Female								Temp	21c
			Adult Unknown								Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF2
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
4	12/07/2018	EK	Male								Time	14:30
			Female								Temp	22c
			Adult Unknown	0	0	0	0				Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
5	28/08/2018	AW	Male		4						Time	10:00
			Female								Temp	16c
			Adult Unknown	0		0	0	0	0		Cloud %	100%
			Sub								Rain	Nil
			Juv			5					Wind	BF1
			TOTAL	0	4	5	0	0	0			
			PEAK	0	4	0	0	0	0			
6	31/08/2018	AW	Male		1						Time	10:00
			Female								Temp	17c
			Adult Unknown								Cloud %	0%
			Sub								Rain	in night
			Juv								Wind	BF1
			TOTAL	0	1	0	0	0	0			
			PEAK	0	1	0	0	0	0			
7	01/10/2018	AW	Male		1						Time	10:00
			Female								Temp	19
			Adult Unknown								Cloud %	10%
			Sub		1						Rain	nil
			Juv								Wind	BF2
			TOTAL	0	2	0	0	0	0			
			PEAK	0	2	0	0	0	0			

North-east Field - Field 2 and 3

Visit no	Date	Initials	Species	Common lizard	Slow worm	Grass Snake	Tv/Th	Toad	Frog	Location	Weather conditions	
1	22/05/2018	AW	Male								Time	9.30
			Female								Temp	20c
			Adult Unknown	0	0	0	0	0	0		Cloud %	30%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	0	0	0	0	0	0			
			PEAK	0	0	0	0	0	0			
2	04/06/2018	AW	Male								Time	10.00
			Female								Temp	17c
			Adult Unknown	1	5						Cloud %	70%
			Sub								Rain	nil
			Juv								Wind	BF1
			TOTAL	1	5	0	0	0	0			
			PEAK	1	5	0	0	0	0			
3	02/07/2018	AW	Male		2						Time	9.30
			Female								Temp	21c
			Adult Unknown	1							Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF2
			TOTAL	1	2	0	0	0	0			
			PEAK	1	2	0	0	0	0			
4	12/07/2018	EK	Male		1						Time	14:30
			Female		1						Temp	22c
			Adult Unknown								Cloud %	10%
			Sub		1						Rain	nil
			Juv								Wind	BF1
			TOTAL	0	3	0	0	0	0			
			PEAK	0	3	0	0	0	0			
5	28/08/2018	AW	Male								Time	10:00
			Female								Temp	16c
			Adult Unknown			1					Cloud %	100%
			Sub		2						Rain	Nil
			Juv				11				Wind	BF1
			TOTAL	0	2	12	0	0	0			
			PEAK	0	2	1	0	0	0			
6	31/08/2018	AW	Male		2						Time	10:00
			Female								Temp	17c
			Adult Unknown								Cloud %	0%
			Sub	1							Rain	in night
			Juv				4				Wind	BF1
			TOTAL	1	2	4	0	0	0			
			PEAK	1	2	0	0	0	0			
7	01/10/2018	AW	Male		2						Time	10:00
			Female								Temp	19
			Adult Unknown								Cloud %	10%
			Sub								Rain	nil
			Juv								Wind	BF2
			TOTAL	0	2	0	0	0	0			
			PEAK	0	2	0	0	0	0			

Appendix 2 - Reptile Legislation

All British reptiles are afforded legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) largely as a consequence of a national decline in numbers due to habitat loss. Under the terms of the Act, it is an offence to intentionally kill or injure a reptile and accordingly in order to avoid committing an offence under the Act, appropriate mitigation techniques need to be incorporated for reptiles occurring within development sites. Mitigation methods for reptiles may include trapping and relocation of animals to a suitable receptor site, combined with the exclusion of the development site through the use of reptile fencing. Measures to enhance habitats for reptiles include the provision of hibernacula and appropriate management to improve foraging areas may also be required.

Mitigation for the more common British reptiles and amphibians does not require a licence from Natural England but would typically be agreed in consultation with the local planning authority.

Despite the range of their distribution and the diversity of habitats in which they may be found, the national status of the slow worm is not considered favourable. The slow worm is considered to have undergone a long term decline since the 1930's. Currently the largest threat has been identified as loss of habitat, in particular, due to a shift in planning policy towards the development of brown field sites (English Nature, 2004).