

# A47 Blofield to North Burlingham Dualling

**Scheme Number: TR010040**

**Volume 6**

## **6.2 Environmental Statement Appendices** **Appendix 8.9 – Reptile Survey Report**

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009

December 2020

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms and  
Procedure) Regulations 2009**

A47 Blofield to North Burlingham  
Development Consent Order 202[x]

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**ENVIRONMENTAL STATEMENT APPENDICES**  
**Appendix 8.9 Reptile Survey Report**

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<b>Regulation Number:</b>	Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010040
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<b>Author:</b>	A47 Blofield to North Burlingham Dualling Project Team, Highways England

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# 1. Scheme introduction and location

## 1.1. Background

1.1.1. Between July and September 2020, Sweco UK undertook reptile surveys in proximity to the A47 between Blofield and North Burlingham. This is to inform the Environmental Statement (ES) Chapter at PCF Stage 3 for the A47 Blofield to North Burlingham Improvement Scheme.

1.1.2. This Scheme improvements will:

- improve accessibility to and around the region, reducing congestion and delays to enable more reliable journey times
- improve safety performance for all road users, contributing to a 40% reduction target in accidents across Highways England's roads over the implemented schemes' first five years in operation
- provide alternative access to local roads
- improve the environmental impact of traffic along the A47 route, particularly for the communities in the six scheme areas
- support economic growth in the Peterborough, Norwich and Great Yarmouth areas by improving overall road capacity

1.1.3. This baseline report details the results of the reptile surveys undertaken by Sweco UK in 2020, potential impacts of the proposed Scheme upon reptiles and proposals for mitigation which are addressed in Chapter 6.

## 1.2. Scheme location and description

1.2.1. The proposed DCO boundary, hereafter referred to as 'the site', is located along the A47 between Blofield and North Burlingham, Norfolk between grid ref TG 3349 1012 to the west and TG 3887 1019 to the east. It is proposed to:

- upgrade the existing 2.6km section of single carriageway between Blofield and North Burlingham to a dual carriageway. The new section of dual carriageway with junction improvements is proposed to be constructed to the south of the existing carriageway
- introduce a compact grade separated junction at the B1140 Junction
- improve Yarmouth Road Junction
- construct a new overbridge at Blofield traversing the proposed A47 dual carriageway, connecting Yarmouth Road with the existing A47
- provide new drainage systems including an attenuation pond and retention of existing drainage systems where possible

### 1.3. Aims and objectives

- 1.3.1. This survey and the report presented herein are intended as an update to the reptile survey previously undertaken in 2017, outlined in Section 2.1.3, in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEMs) guidelines on the lifespan of ecological data (CIEEM, 2019).
- 1.3.2. The aim of the survey is to establish the presence or likely absence of reptiles on site, assess potential impacts of the Scheme upon reptiles and provide recommendations for undertaking the Scheme in compliance with relevant legislation regarding reptiles (see Section 2.2).
- 1.3.3. The following elements of work were included in the reptile survey programme:
- Field survey visits, including one visit to place artificial refugia (see Section 3.2 for a description of artificial refugia) within the survey area and seven subsequent visits undertaken in July, August and September to survey the refugia and survey area for reptiles.
  - Production of the ecological report herein, detailing the reptile survey results, implications of the Scheme on reptiles and mitigation requirements.

## 2. Ecological background

### 2.1. Previous studies

#### Desk study

2.1.1. As part of a desk study previously undertaken at PCF Stages 1 and 2 species records within 2km of the outermost route options were purchased from Norfolk Biodiversity Information Service ((NBIS). No records of reptiles were received (Amey (a), 2017).

#### Phase 1 habitat surveys

2.1.2. Phase 1 habitat surveys were previously undertaken in 2016, and updated in 2017, within 100m of the outermost route options at PCF Stage 1. Within the boundary of the Scheme pockets of habitat suitable for reptiles, such as scrub and field margins and their associated habitats, were identified (Amey (a), 2017). In addition, a common lizard *Zootoca vivipara* was identified during the phase 1 habitat survey at the easternmost end of the Scheme approximately 200m south of the current road (See Appendix A: survey site locations and results map).

#### Phase 2 reptile surveys

2.1.3. Between September and October 2017, to inform PCF Stage 3, targeted phase 2 reptile surveys in accordance with guidance from Froglife (1999) were undertaken within 50m of the final route option (the survey area) at six chosen survey sites (Amey (b), 2017).

2.1.4. No reptiles were noted during the surveys, which were undertaken in suitable weather conditions.

## 2.2. Legislation

### Wildlife and Countryside Act (WCA) 1981 (as amended)

2.2.1. Common lizard, slow worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix natrix* are native reptile species and are protected under Schedule 5, Section 9.1 and 9.5(a)(b) of the WCA 1981 (as amended), making it an offence to:

- intentionally kill or injure a reptile
- trade or sell a reptile

2.2.2. Full protection of Schedule 5, Section 9 is afforded the sand lizard *Lacerta agilis* and the smooth snake *Coronella austriaca*, for which it is an offence to:

- intentionally kill, injure or take (capture) a sand lizard or smooth snake

- intentionally disturb a sand lizard or smooth snake while it is occupying a place used for shelter or protection
- intentionally destroy a place used by a sand lizard or a smooth snake for shelter or protection

### **The Conservation of Habitats and Species Regulations (CHSR) 2017**

2.2.3. The sand lizard and smooth snake are European Protected Species (EPS) afforded protection under Section 2 of the CHSR 2017 Regulation 42.

2.2.4. Under the CHSR, it is an offence if you:

- deliberately capture, injure or kill any wild animal of a EPS
- deliberately disturb wild animals of any such species
- deliberately take or destroy the eggs of such an animal
- damage or destroy a breeding site or resting place of such an animal

2.2.5. Disturbance is defined as that which is likely:

1. To impair their ability –
  - to survive, to breed or reproduce, or to rear or nurture their young
  - in the case of animals of a hibernating or migratory species, to hibernate or migrate
2. To affect significantly the local distribution or abundance of the species to which they belong.

### **Norfolk Biodiversity Action Plan (BAP)**

- There are no reptile species listed as Local Priority Species (LPS) by the Norfolk Biodiversity Partnership (Norfolk Biodiversity Partnership, undated).

### **Mistreatment**

2.2.6. The Animal Welfare Act 2006 came into force in 2007 and places a duty of care on an individual responsible for an animal. The duty of care is placed on an individual to meet the welfare needs of the animal. The Act states that the following are an animal's welfare needs:

- A suitable environment
- A suitable diet
- The ability to exhibit normal behaviour patterns
- Needs it has to be housed with, or apart from, other animals
- Protection from pain, suffering, injury and disease

- 2.2.7. Should mitigation such as capture and translocation of animals be required as a result of the development, the Animal Welfare Act 2006 would apply.
- 2.2.8. This species is also protected by the Protection of Animals Act 1911, which prohibits any acts of cruelty or mistreatment.



## 3. Methodology

- 3.1.1. The locations of the reptile survey remain the same as those locations previously surveyed by Amey. Amey ((b) 2017) determined the locations of survey based on the potential zone of influence over which the scheme may have ecological impacts upon each individual ecological receptor and previously identified habitat suitable for reptiles.
- 3.1.2. The survey was undertaken with reference to the best practice guidelines in Froglife Advice Sheet 10: Reptile Survey (Froglife, 1999) and the Herpetofauna Workers Manual (Gent and Gibson, 2003).
- 3.1.3. The survey utilised the following methodologies:
- the use of mats, further referred to as 'artificial refugia', which attract reptiles as a place of shelter from predation and disturbance, and as an aid to absorbing heat when basking
  - manual searches of placed artificial refugia on site
  - visual observations of all areas of the site, including checking for signs of sloughed skin, burrows and egg laying
- 3.1.4. A record was kept throughout the surveys noting any reptile observed, including their species, number, gender and age. Amphibians and other protected or notable species observed during the survey visits were also recorded.

## 3.2. Refugia

- 3.2.1. In total 120 artificial refugia were placed on site, across six survey sites (collectively referred to as the survey area) previously identified by Amey ((b) 2017) (Appendix A: survey sit locations and results map). The numbers of artificial refugia in each survey site are as follows:
- site 1 – 20 artificial refugia
  - site 2 – 20 artificial refugia
  - site 3 – 20 artificial refugia
  - site 4 – 20 artificial refugia
  - site 5 – 20 artificial refugia
  - site 6 – 20 artificial refugia
- 3.2.2. Artificial refugia was composed of roofing felt mats cut to approximately 50cm x 50cm. Artificial refugia were placed in suitable reptile habitat including rides through grassland or scrub and road verge embankments. These areas provide basking habitat adjacent to areas of shelter and protection. It was not considered

necessary to place artificial refugia in less optimal habitat around the site and survey area as the surveys aims to determine presence or likely absence only.

3.2.3. Appendix A contains a map of the artificial refugia locations.

### **3.3. Survey timings and weather conditions**

3.3.1. Reptiles are active between March and October (Froglife, 1999) and the survey visits were undertaken in July, August and September 2020.

3.3.2. Survey timings focused on the species most likely to be found at the site: slow worm, grass snake, common lizard and adder. The sand lizard is associated with heathland and coastal sand dunes and the smooth snake is associated with heathlands (Gent and Gibson, 2003). Therefore, it is considered unlikely these species are present on site due to lack of suitable habitat to support them.

3.3.3. Froglife (1999) recommends surveying between temperatures of 9 - 18°C. Common lizard and slow worm will bask between 9 - 18°C, grass snake will bask between 12 - 20°C and adder will bask between 8 - 16°C (Gent and Gibson, 2003). The majority of survey visits were undertaken within the recommended temperatures of 9 - 18°C (see Table 1 below). The temperatures during survey visit three, undertaken on 28 July 2020, were slightly higher (19°C) than those recommended temperatures for surveying common lizard and grass snake (9 - 18°C) and adder (8 - 16°C). However, this is not considered a significant constraint to the surveys as the temperature during the survey is not considered significantly higher than recommended temperatures and all other survey visits were undertaken within the recommended temperatures (with the partial exception of survey visit one for which the temperature was 17/18°C at the start of survey and 19°C at the end of survey).

3.3.4. The recommended times for checking artificial refugia are between 8:30 – 11:00am and 16:00 – 18:30pm in April, May and September, when it is considered conditions in these optimum months are best for basking (Froglife, 1999). As the reptile surveys were undertaken outside of the optimum months due to time constraints resulting from COVID-19, the survey timings also differ slightly from these recommended timings (see Table 4-1 below) in an effort to ensure the recommended temperatures for survey, 9 - 18°C (Froglife, 1999), were adhered to.

3.3.5. The survey visits were undertaken by Lydia Waite (Ecology Field Assistant, Sweco), Lewis Gospel (Ecology Field Assistant, Sweco), Martin Brammah (MLM), Beck Harrington (MLM) and Sophie Barrell (MLM).

### 3.4. Limitations

- 3.4.1. The results of this survey will remain valid until March 2022. Beyond this period, if works have not commenced, it is recommended that a new review of the ecological conditions is undertaken.
- 3.4.2. Due to difficulties in contacting the landowner of survey site one, no land access was granted until 14 July 2020. As such, the artificial refugia at this survey site was not deployed until this date and the first survey visit not undertaken at this survey site until 21 July 2020. However, as six other survey visits were undertaken at site one and no reptiles were identified, it is considered unlikely that a seventh survey visit would identify any reptiles in the area. As such this is not considered a constraint to the assessment of reptile status at this particular location.

## 4. Results

4.1.1. The surveys comprised eight visits, one visit to place out the artificial refugia, undertaken on 1 July 2020, and seven subsequent visits in suitable weather conditions to manually check the artificial refugia and undertake visual observations of the site. These visits were undertaken on 14 July 2020, 21 July 2020, 28 July 2020, 18 August 2020, 20 August 2020, 27 August 2020, 1 September 2020.

4.1.2. The date of survey, time of survey and weather conditions are shown in Table 4-1 below.

Table 4-1: survey dates, times and weather conditions

Visit number	Date	Start and finish time	Weather conditions	Temperature (°C) at the start and end of survey
Refugia placement	1 July 2020 (survey sites two to six) 14 July 2020 (survey site one)			
1	14 July 2020 (survey sites two to six only)	16:00 – 17:30	Precipitation – 0 Cloud cover – no data Wind (Beaufort) - 1	17/18 - 19
2	21 July 2020	11.30 – 13:00	Precipitation – 0 Cloud cover – 45% Wind (Beaufort) - 2	18 - 18
3	28 July 2020	15:00 – 16:30	Precipitation – 0 Cloud cover – 45% Wind (Beaufort) - 2	19 – 19
4	18 August 2020	6:00 – 7:30	Precipitation – 0 Cloud cover – 4% Wind (Beaufort) - 1	13 - 15
5	20 August 2020	6:15 – 7:45	Precipitation – 0 Cloud cover – 3% Wind (Beaufort) - 1	12 - 15
6	27 August 2020	6:15 – 7:45	Precipitation – 0 Cloud cover – 4% Wind (Beaufort) - 2	14 - 16

Visit number	Date	Start and finish time	Weather conditions	Temperature (°C) at the start and end of survey
7	1 September 2020	10:00 – 14:00	Precipitation – 0 Cloud cover – 2% Wind (Beaufort) - 0	16 - 17

- 4.1.3. One adult female grass snake, approximately 80cm in length, was recorded on top of an artificial refugia on the survey visit undertaken on 21 July 2020. The grass snake was recorded on survey site four south-west of North Burlingham (see Appendix A).

## 5. Impact assessment and requirements

### 5.1. Reptile status at the site

- 5.1.1. The reptile observation recorded during the survey (see Section 4.1.3) suggests a low population of grass snake within the survey area.
- 5.1.2. The lack of observations of other common reptile species does not prove their absence from the survey area. As such, it is considered that low populations of common lizard may also be present within the survey area. An individual common lizard was observed approximately 200m south of the current road at the easternmost extent of the Scheme during a phase 1 habitat survey previously undertaken at PCF Stage 1 (see Section 2.1.2).

### 5.2. Impact assessment

- 5.2.1. Anticipated impacts of the proposed Scheme upon common and widespread reptiles include the temporary loss of habitats including roadside verge and arable field margins. Some permanent loss of potential reptile habitat will occur as woodland and arable field margins and their associated habitats will be lost in areas, including an area immediately east of Blofield where a large new junction shall be constructed, areas to the south of the current road where the new road alignment will be located and at the eastern extent of the Scheme where a second large new junction will be constructed. The temporary and permanent loss of habitat is not considered significant in the wider primarily rural landscape where further suitable habitat is available. In addition, the creation of road verges post-construction has the potential to replace and provide new habitat for reptile's post-construction.
- 5.2.2. The construction phase also has the potential to adversely impact upon reptiles through the risk of incidental mortality. De-vegetation undertaken as part of advance mobilisation works and general works activities throughout the construction phase may, if undertaken without appropriate mitigation, result in incidental injury or death of reptiles on site.

### 5.3. Mitigation measures

- 5.3.1. Vegetation clearance should take place during the reptile active season (from March to October inclusive) in order to prevent any hibernating reptiles being killed or injured which would constitute an offence (see Section 2.2). Under the current Scheme programme this should be achievable as site preparation works are scheduled to take place between June – August 2022.
- 5.3.2. An ecological clerk of works (ECoW) should be present during vegetation clearance to deliver a toolbox talk regarding relevant legislation, the risk of

finding reptiles on site and reptile identification. Vegetation should be directionally strimmed to a height of approximately 10 - 15cm to allow the ECoW to undertake a fingertip search, removing any reptiles (or allowing reptiles to move away from the works area themselves), or other animals found, offsite to a place of safety. Vegetation should then be strimmed to ground level and any areas of potential refugia on site should be subject to a destructive search by the ECoW and removed from site.

5.3.3. The following general mitigation measures should be employed on site throughout works:

- In the event a reptile is found on site during works, works in the vicinity of the reptile should cease until the reptile has moved out of the works area.
- Trenches or excavations should be covered overnight to prevent injury/death of animals. If this is not possible, a means of escape, such as a ramp, should be inserted into the trench or excavation to allow animals to exit.
- The site should be kept tidy at all times. Materials should not be left/stored in piles/heaps on the ground but should be stored in skips or raised off the ground on pallets to prevent creating any potential refugia on site for reptiles.
- Pollution prevention measures should be employed during and post construction. Guidance on best practice in relation to pollution prevention and water management is set out in Construction Industry research and Information Association (CIRIA) Guidelines ((Soubry (2001), Murnane *et al.* (2006), Charles and Edwards (2015)), and the Environment Agency's approach to groundwater protection (Environment Agency, 2017) and groundwater protection guides (Environment Agency, 2017a), as required under the Water Framework Directive.

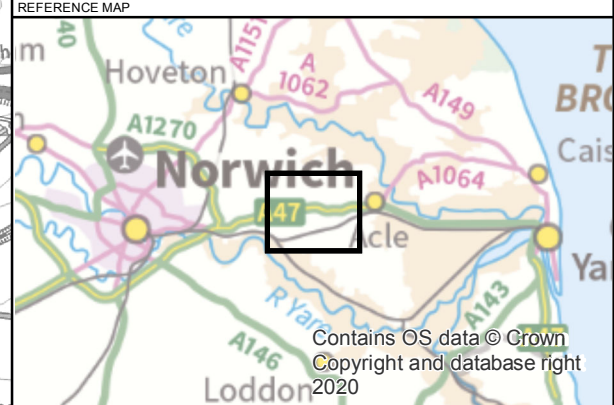
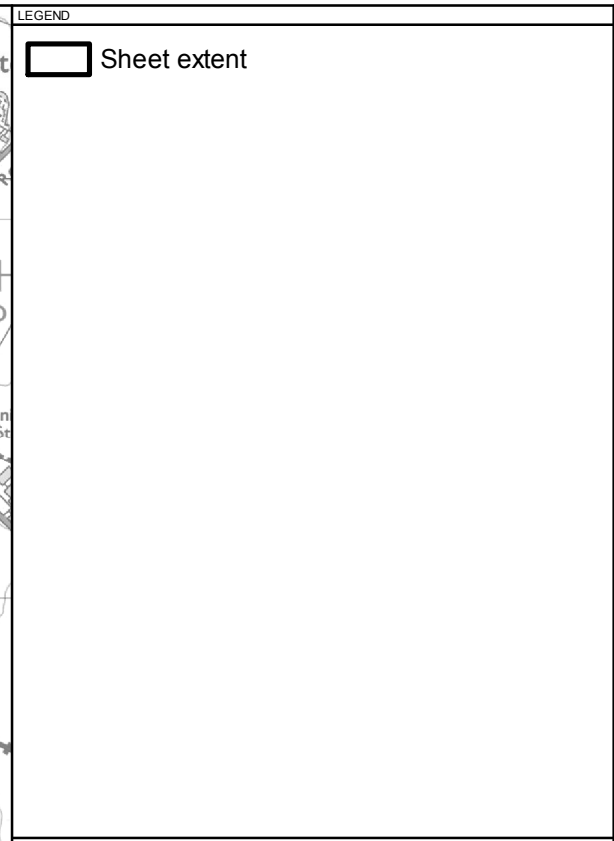
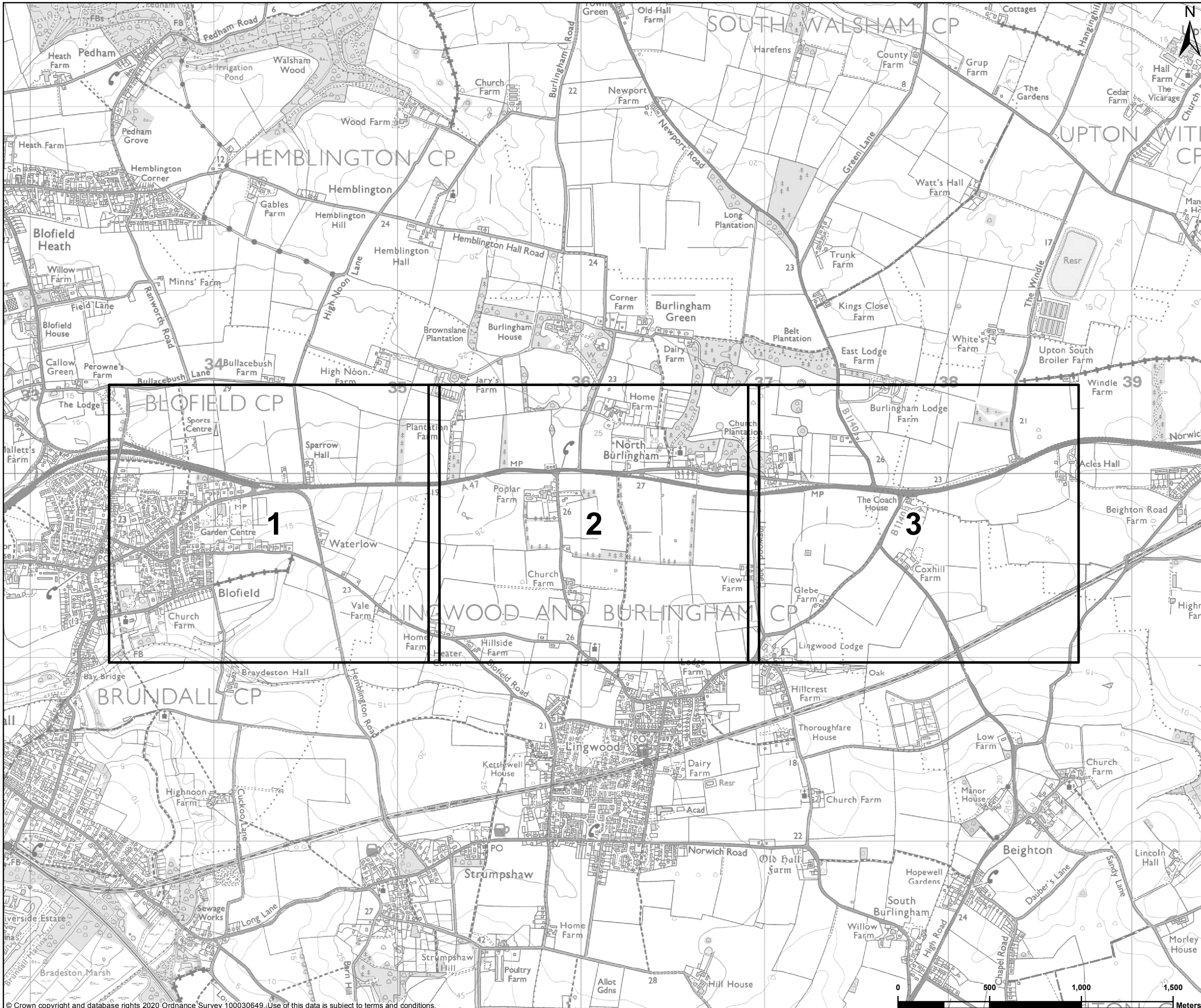
## 6. References

- 6.1.1. Amey ((a) 2017). Preliminary Ecological Appraisal – A47 Blofield to North Burlingham. A47IMPS2-AME-BB-ZZ-DO-J0024-PEA.
- 6.1.2. Amey ((b) 2017). Stage 3 Ecology Baseline Report A47 Blofield to North Burlingham. COCDFL1BL7.
- 6.1.3. Charles, P. and Edwards, P. (2015) Environmental good practice on site guide (Fourth Edition). CIRIA C741.
- 6.1.4. CIEEM (2019). Advice Note on the Lifespan of Ecological Reports and Surveys. Available online at: <https://cieem.net/resource/advice-note-on-the-lifespan-of-ecological-reports-and-surveys/> (Accessed 13/01/2020).
- 6.1.5. Froglife (1999). Froglife Advice Sheet 10 'Reptile Survey – an introduction to planning, conducting and interpreting surveys for snake and lizard conservation'. Froglife. Available online at: <http://bailey.persona-pi.com/Public-Inquiries/M4-Newport/C%20-%20Core%20Documents/11.%20Ecology%20and%20Nature%20Conservation/11.3.3%20-%20Froglife%20Froglife%20Advice%20Sheet%2010%20reptile%20survey.%20Froglife%20C%20London.%201999.pdf> (Accessed 24/10/19)
- 6.1.6. Gent, T. & Gibson, S. (2003) Herpetofauna Workers' Manual. JNCC, Peterborough.
- 6.1.7. Multi-Agency Geographical Information for the Countryside. Available online at: <http://magic.defra.gov.uk/> (Accessed 13/01/2020).
- 6.1.8. Murnane, E., Heap, A. and Swain, A. (2006) Control of water pollution from linear construction projects. Technical guidance. CIRIA C648.
- 6.1.9. Soubry, M. (2001) Bridge Detailing Guide. CIRIA C543.



## **Annex A. Survey site locations and results map**





P01	16/12/2020	FIRST EDITION	PC	BM	DW
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER

**SWECO**

CONTRACTOR

**GallifordTry**

CLIENT

**highways  
england**

PROJECT TITLE

A47 BLOFIELD TO NORTH BURLINGHAM

PROJECT STAGE

PCF STAGE 3

DRAWING TITLE

ANNEX A - REPTILE SURVEY AREAS AND RESULTS  
KEY PLAN  
TR010040/APP/6.2

SUITABILITY

FOR INFORMATION

SHEET SIZE	SCALE	STATUS
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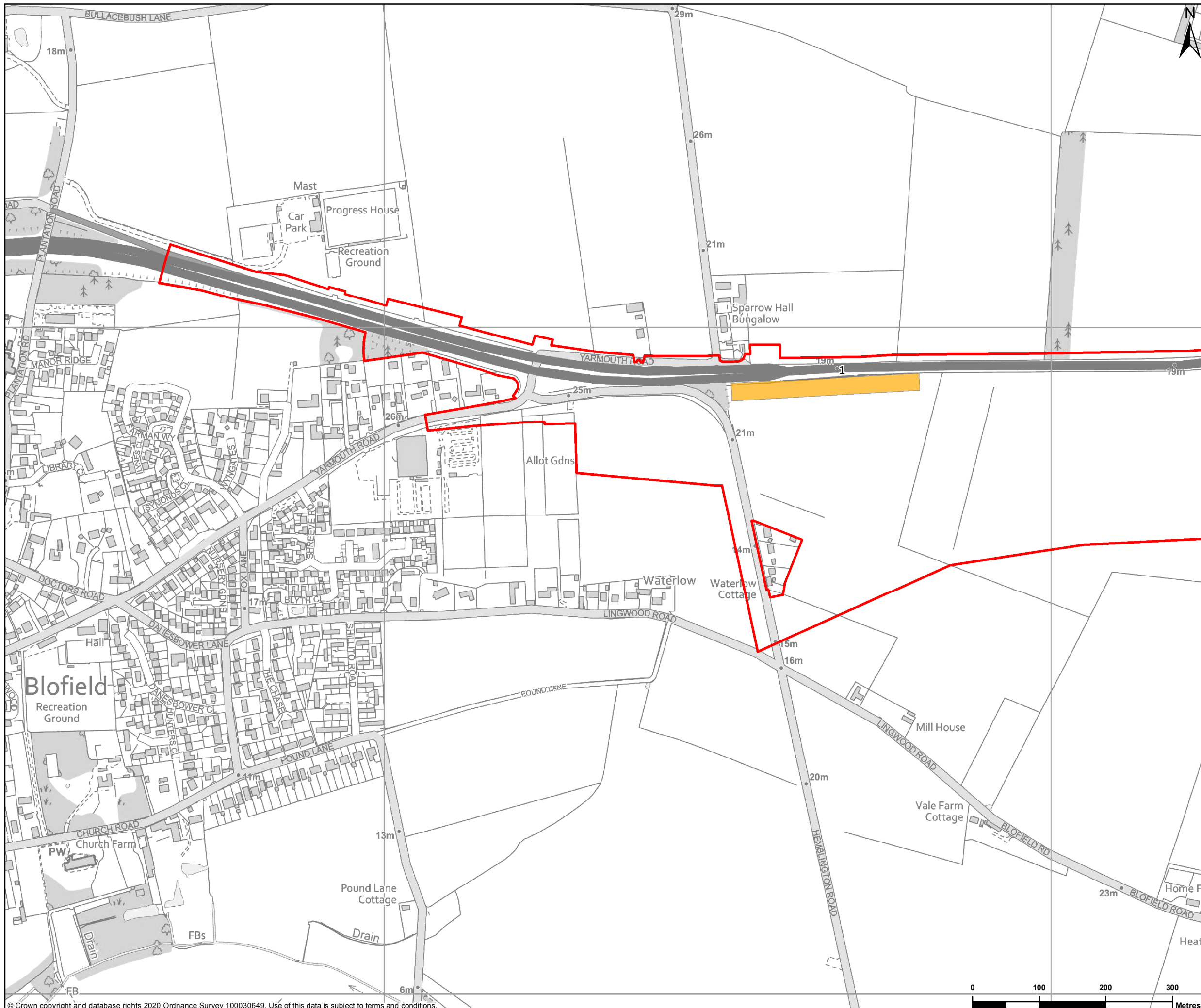
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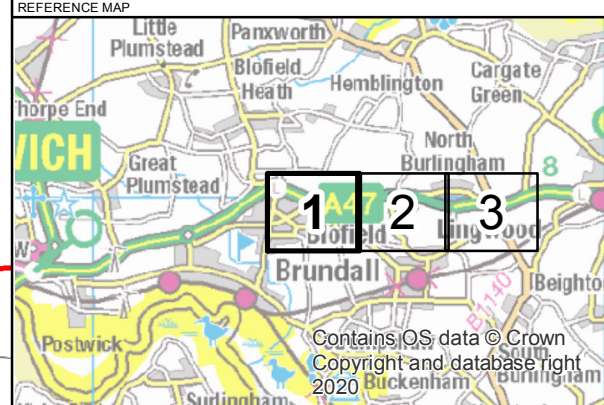
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**LEGEND**

- Red line boundary
- Reptile survey area



P01	16/12/2020	FIRST EDITION	PC	BM	DW
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER

**SWECO**

CONTRACTOR

CLIENT

PROJECT TITLE

**A47 BLOFIELD TO NORTH BURLINGHAM**

PROJECT STAGE

**PCF STAGE 3**

DRAWING TITLE

**ANNEX A - REPTILE SURVEY AREAS AND RESULTS  
SHEET 1 OF 3  
TR010040/APP/6.2**

SUITABILITY

**FOR INFORMATION**

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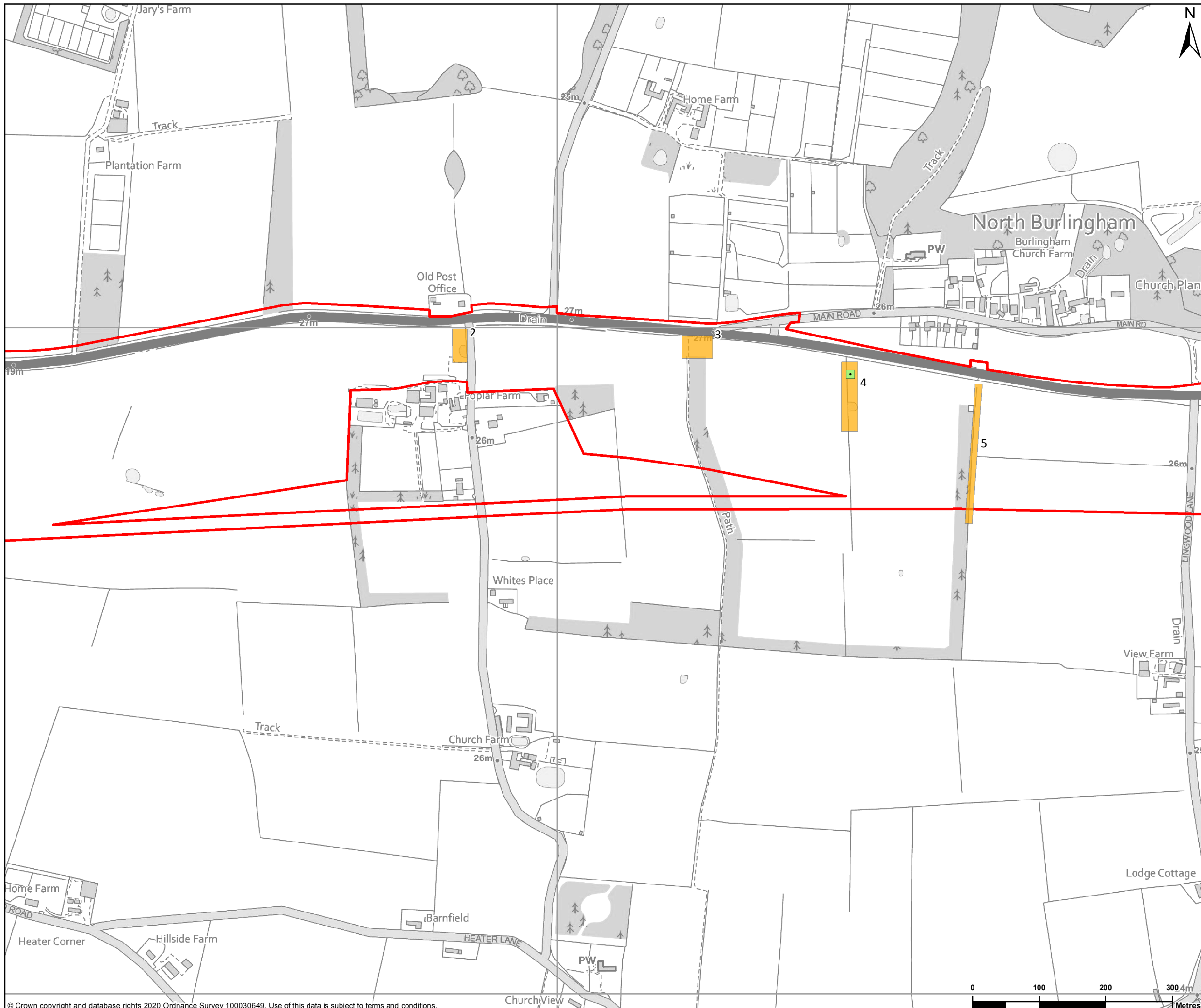
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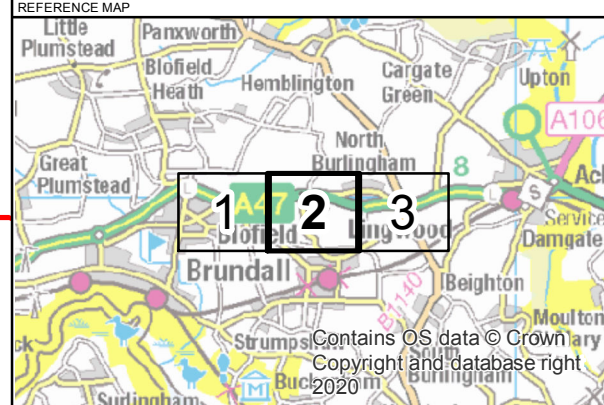
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**LEGEND**

- Red line boundary
- Reptile results (2020)
- Reptile survey area



P01	16/12/2020	FIRST EDITION	PC	BM	DW
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

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**highways england**

PROJECT TITLE  
A47 BLOFIELD TO NORTH BURLINGHAM

PROJECT STAGE  
PCF STAGE 3

DRAWING TITLE  
ANNEX A - REPTILE SURVEY AREAS AND RESULTS  
SHEET 2 OF 3  
TR010040/APP/6.2

SUITABILITY  
FOR INFORMATION

SHEET SIZE	SCALE	STATUS
A3	1:5,500	S2

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