

# A1 Birtley to Coal House

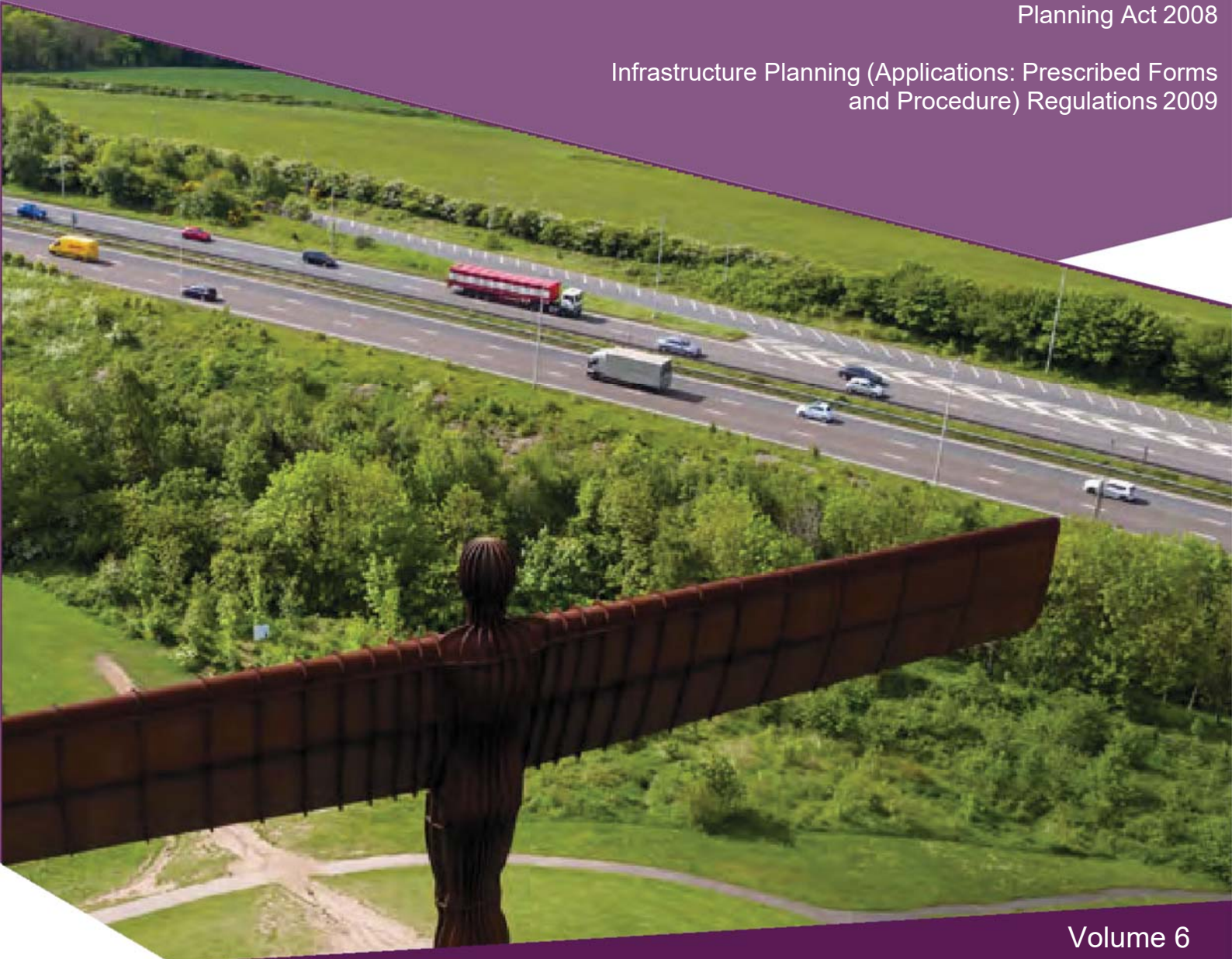
## Scheme Number: TR010031

### 6.3 Environmental Statement – Appendix 8.8 Reptile Survey Report

APFP Regulation 5(2)(a)

Planning Act 2008

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



Infrastructure Planning

Planning Act 2008

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

**A1 Birtley to Coal House  
Development Consent Order 20[xx]**

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**Environmental Statement -  
Appendix**

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<b>Regulation Reference:</b>	APFP Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010031
<b>Application Document Reference</b>	TR010031/APP/6.3
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<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
Rev 0	14 August 2019	Application Issue

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### APPENDIX A

#### WEATHER CONDITIONS

## EXECUTIVE SUMMARY

WSP were commissioned by Highways England to undertake a suite of ecology surveys in support of the proposals for A1 Birtley to Coal House Scheme (hereafter referred to as the “Scheme”), including a reptile presence/absence survey. The Scheme is located between junction 67 (Coal House) and junction 65 (Birtley) and is approximately 6.5km in length as shown on **Figure 1**. The Scheme involves on-line widening and the replacement of Allerdene Bridge as close as possible to the existing structure to enable the retention of Coal House interchange.

WSP conducted a Preliminary Ecological Appraisal (PEA) in 2015 (then WSP | Parsons Brinckerhoff 2016a) which was updated in September 2016 (WSP, 2016b). The PEA recorded suitable reptile habitat in the north west of the Scheme (Approximate Central Grid Reference NZ 25309 58493) along the railway sidings and the associated scattered scrub and dense bramble (hereafter the ‘Survey Area’).

A total of 20 artificial refugia were placed around areas of suitable habitat within the Survey Area. These refugia were visited 7 times between April and July 2017. The results of this survey are detailed in this report.

No reptiles were observed during the reptile survey; therefore, it is considered that there is an inferred absence of reptiles within this survey area. However, if during the construction phase, vegetation clearance reveals reptile presence anywhere within the Scheme then clearance operations must cease in that area until advice has been sought from a suitably qualified ecologist (SQE).

The baseline conditions described in this report are accurate at the time at which the survey was undertaken, however, the data obtained in this survey will remain valid for a period of two years, and further surveys are recommended if development occurs after the validity of the data has expired.

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# 1 INTRODUCTION

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## 1.1 PROJECT BACKGROUND

- 1.1.1 WSP were commissioned by Highways England to undertake a suite of ecology surveys in support of the proposals for A1 Birtley to Coal House Scheme (hereafter referred to as the “Scheme”), including a reptile presence/absence survey.
- 1.1.2 The Scheme is located between junction 67 (Coal House) and junction 65 (Birtley) and is approximately 6.5km in length as shown on **Figure 1**. The Scheme involves on line widening and the replacement of Allerdene Bridge as close as possible to the existing structure to enable the retention of Coal House interchange. The Scheme Footprint is defined by the red line shown on **Figure 1**. The Survey Area (**Figure 2**) comprised a small area of roadside scrub and adjacent rough grassland field margin within the Scheme Footprint (**Figure 1**). The Survey Area was adjacent to the Allerdene Bridge towards the northern end of the Scheme.

## 1.2 BRIEF AND OBJECTIVES

- 1.2.1 Reptile surveys were carried in accordance with good practice guidance (DMRB, 2005, Froglife, 1999 and Gent and Gibson, 1998). The aims of the surveys were to:
- Establish whether reptiles were present or likely absent from the Survey Area.
  - Determine, if present, which species are present and their estimated populations and distribution around the Survey Area.
  - Evaluate, if present, the value of the Survey Area for reptiles and make recommendations as to how proposals should account for reptiles in relation to legislation, planning and biodiversity policy.
- 1.2.2 The results of this survey and subsequent recommendations are included within this report.

## 1.3 ECOLOGICAL BACKGROUND

- 1.3.1 WSP undertook a Preliminary Ecological Appraisal (PEA) of the Scheme in December 2015 (then WSP | Parsons Brinckerhoff 2016a) and updated surveys of areas that could not be accessed during this initial survey in September 2016 (WSP 2016b). These surveys identified areas suitable for reptiles including rough grassland and scrub. No records of reptiles within 2km of the Scheme were returned in the data search carried out in 2015 (WSP 2016a). Reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) from ‘intentional or reckless’ killing and injury and the Scheme has the potential to affect any reptiles present. Surveys were therefore required to determine whether reptiles are present within the Scheme.

## 2 METHODS

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### 2.1 OVERVIEW

- 2.1.1 The reptile survey concentrated on the reptile suitable habitats surrounding the East Coast Mainline Railway, identified during the PEA surveys (WSP, 2016a & 2016b).
- 2.1.2 To determine presence/likely absence of reptile species within the Survey Area, the reptile survey comprised two main elements; the checking of artificial refugia and visual observation of habitats and natural refugia present. The survey comprised one visit in March 2017 to place artificial refugia and then seven survey visits between April and July 2017. Artificial refugia were installed in areas considered most suitable for reptiles.
- 2.1.3 The reptile survey was completed with regard to guidance within the Design Manual for Roads and Bridges (DMRB), Volume 10, Section 4, Part 7 (2005), the methodology within Froglife's Reptile Survey Advice Sheet 10 (1999) and the Herpetofauna Workers' Manual (1998).

### 2.2 REPTILE PRESENCE/LIKELY ABSENCE SURVEY

- 2.2.1 The survey comprised seven survey visits to the Survey Area, each incorporating two elements:
- A survey of artificial refugia.
  - Visual observation of habitats and natural refugia present.
- 2.2.2 Twenty artificial refugia<sup>1</sup> were installed within suitable habitat in March 2017 and allowed to bed down for one week prior to survey visits.
- 2.2.3 Bitumen felt sections, sized approximately 0.5 metres x 1 metre were used as artificial refugia, and were sited in suitable basking spots, close to cover, within habitat parcels identified as providing suitable conditions for reptiles during an initial walkover of the Survey Area.
- 2.2.4 Suitable reptile habitat within the Survey Area totalled less than 2 hectares (see **Figure 2** for location of refugia); by using 20 refugia, the density is the greatest required to meet the minimum density as recommended by good practice guidance (Froglife, 1999). This guidance states the number of mats used 'will depend on many factors, such as likelihood of disturbance, size of site and what the survey is attempting to achieve' and recommends 5-10 refugia per hectare for 'general survey purposes'.
- 2.2.5 Although the Froglife guidance forms current, recognised, good practice, it should be noted that it is not specifically designed for use in demonstrating the absence of reptiles from a
-

development site, rather the focus is on identifying key reptile sites and increasing recording of reptiles. For this reason, the density of refugia has been increased for this survey to increase confidence in results, should likely absence be concluded.

2.2.6 The location of each refugia was recorded and is shown in **Figure 2**.

2.2.7 Reptiles are ectothermic animals, deriving their body heat from the external environment. Therefore, the timing of the survey visits was dictated by weather conditions. Surveys were completed within the appropriate season (March to October), at suitable times of day (either between 8:30 and 11:00am or between 16:00 and 18:30 pm) and, with the exception of one survey visit, within the appropriate ambient air temperature range (10-18°C). As far as possible, surveys were undertaken on sunny days with low cloud cover and little wind to maximise the probability of recording reptiles, should they be present; where ambient air temperatures were towards the upper end of the temperature range, days of higher cloud cover were targeted (see **Appendix A** for weather conditions).

## 2.3 DATES OF SURVEY AND PERSONNEL

2.3.1 The reptile survey was completed by Ecologist Barney Leigh GradmCIEEM, Graduate Ecologist Gillian Birtles (GradCIEEM) and Assistant Ecologists Charis Russell-Smith, Emily Shipley and Máté Vakarcs.

2.3.2 Barney Leigh and Gillian Birtles are accomplished field surveyors who have carried out reptile presence/likely absence surveys on a number of sites across the UK. Barney has also provided advice on reptile watching briefs, survey and mitigation in conjunction with development projects.

2.3.3 Surveys were completed on the following dates:

- 3rd April
- 8th and 17th May
- 9th, 12th and 16th June
- 3rd July

## 2.4 NOTES AND LIMITATIONS

2.4.1 Although all refugia remained in situ, ant colonies became established under a number of the refugia. These refugia were moved to other areas of suitable habitat and allowed to bed in at the new locations. This is not considered to be a constraint on the survey results.

2.4.2 During the third visit, starting temperatures were above 18oC (19.4oC), which is outside the optimum temperature range for surveys stated in guidelines (Froglife 1999). Although temperatures cooled to within the range stated within the guidelines during the survey, there is the potential for reptiles to have been warmed from the heat of the day and as a result would not be basking during the survey; meaning that the results of the third visit could potentially be a false negative. Considering the lack of reptiles recorded using the Site, this discrepancy is not considered likely to have impacted the validity of the survey results.



- 2.4.3 The first survey visits over-ran by 10 minutes outside the survey window as indicated in survey guidelines (Froglife 1999). Despite the survey overrunning the weather conditions were still suitable and it is likely that reptiles would still have been basking. Therefore, this is not considered to impact the validity of the results.
- 2.4.4 The survey has been designed and carried out with reference to good practice guidelines (Froglife 1999), but it should be noticed that these are guidelines and small deviations from them is not necessarily considered to impact the validity or reliability of the results.
- 2.4.5 The conditions described in this report are accurate at the time of survey. Should considerable time pass (e.g. 2+ years) and/or conditions/land-use on the Site change prior to the commencement of works, it is recommended that an update survey is undertaken.

### 3 RESULTS AND EVALUATION

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#### 3.1 RESULTS OF REPTILE SURVEY

- 3.1.1 No reptile species or evidence of reptiles was recorded during the reptile survey.
- 3.1.2 Weather conditions during surveys ranged between 12oC and 18oC in temperature (with the exception of the third visit), with cloud cover of between 2 and 8 oktas; full details are included in **Appendix A**.

## 4 CONCLUSIONS

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### 4.1 GENERAL

- 4.1.1 The Survey Area supports habitats with suitability for reptiles; however, the reptile survey identified no reptiles or evidence of reptile presence. Therefore, likely absence of reptiles is concluded and it is considered unlikely that reptiles will be disturbed as a result of the Scheme.
- 4.1.2 If during the construction phase, vegetation clearance reveals reptile presence anywhere within the Scheme then clearance operations must cease in that area until advice has been sought from a suitably qualified ecologist (SQE).

### 4.2 LEGAL COMPLIANCE

- 4.2.1 Native, widespread reptile species (common or viviparous lizard *Lacerta vivipara*, adder *Vipera berus*, grass snake *Natrix natrix* and slow worm *Anguis fragilis*) are partially protected under Schedule 5 of The Wildlife and Countryside Act (1981), under part of Section 9(1) and all of Section 9(5). As such it is an offence to:
- 'Intentionally or recklessly kill or injure' an individual of these species; or
  - 'Sell, offer or expose for sale, or [have in] possession or transport for the purpose of sale, any live or dead [individual] or any part of, or anything derived from' an individual of these species.
- 4.2.2 All species of reptile are also listed as Species of Principal Importance (SPI) for the Conservation of Biodiversity in England in accordance with Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Under Section 40 of the NERC Act (2006) public bodies, including local planning authorities have a duty to have regard for SPI when carrying out their functions, including determining planning applications.

### 4.3 GENERAL ENHANCEMENT AND AVOIDANCE MEASURES

- 4.3.1 Due to the lack of evidence of reptiles within the Survey Area, reptile specific enhancement measures are not recommended, in order to prevent encouraging their use of the Scheme and increasing mortality.
- 4.3.2 It is recommended that general enhancement planting and sufficient landscaping is incorporated within the Scheme's landscape designs in order to prevent permanent loss of habitats.
- 4.3.3 The enhancement of existing and/or replacement of any habitats lost within the Scheme is recommended; and that the following measures are adopted with regards to habitat management:
- Allowing the development of broad hedgerow margins adjacent to retained hedgerows with some scrub cover extending out into the grassland.

- Development of a low intensity cutting regime along retained and created hedgerows and other interface scrub habitats, allowing long grass to provide cover for species during summer months.
- Ensuring created habitats within the Scheme are connected to high quality habitat areas outside the Scheme, thus enhancing habitat connectivity in the local area.

## REFERENCES

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### INTERNAL REFERENCES

- WSP | PB (2016a) A1 Coalhouse to Birtley Extended Phase 1 Habitat Survey Report (Additional)
- WSP | PB (2016b) A1 Birtley to Coalhouse Update Ecological Assessment Report (Additional)

### TECHNICAL REFERENCES

- CIEEM (2006) Guidelines for Ecological Impact Assessment in the United Kingdom.
- Department for Communities and Local Government (2012), National Planning Policy Framework. Department for Communities and Local Government, London.
- Department for Environment and Rural Affairs (2014), National Pollinator Strategy: for bees and other pollinators in England, Bristol
- 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 and Gibson, S. (1998) Herpetofauna Workers Manual, Joint Nature Conservation Committee, Peterborough.
- Her Majesty's Stationary Office (HMSO) (1981). Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act 2000)
- Highways Agency (2005) Design Manual for Roads and Bridges, Volume 10, Section 4, Part 7: Nature Conservation Advice in Relation to Reptiles and Roads.
- HMSO (2005) Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System. Office of the Deputy Prime Minister (ODPM) Circular 06/2005 HMSO, Norwich.
- HMSO (2006) Natural Environment and Rural Communities Act.



**Key**  
 Scheme Footprint  
 Reptile Survey Area



Rev	Date	Description	By	Chk'd	App'd
P03	Apr 2019	Third Issue	GH	JR	KS
P02	Mar 2019	Second Issue	GH	JR	KS
P01	Dec 2018	First Issue	GH	JR	NJA

Suitability Status

PINS Reference Number TR010031

Client [Redacted]

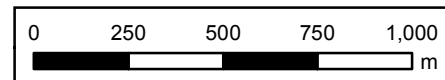
Project Title A1 Birtley to Coal House Scheme

Drawing Title Figure 1 Site Location Plan

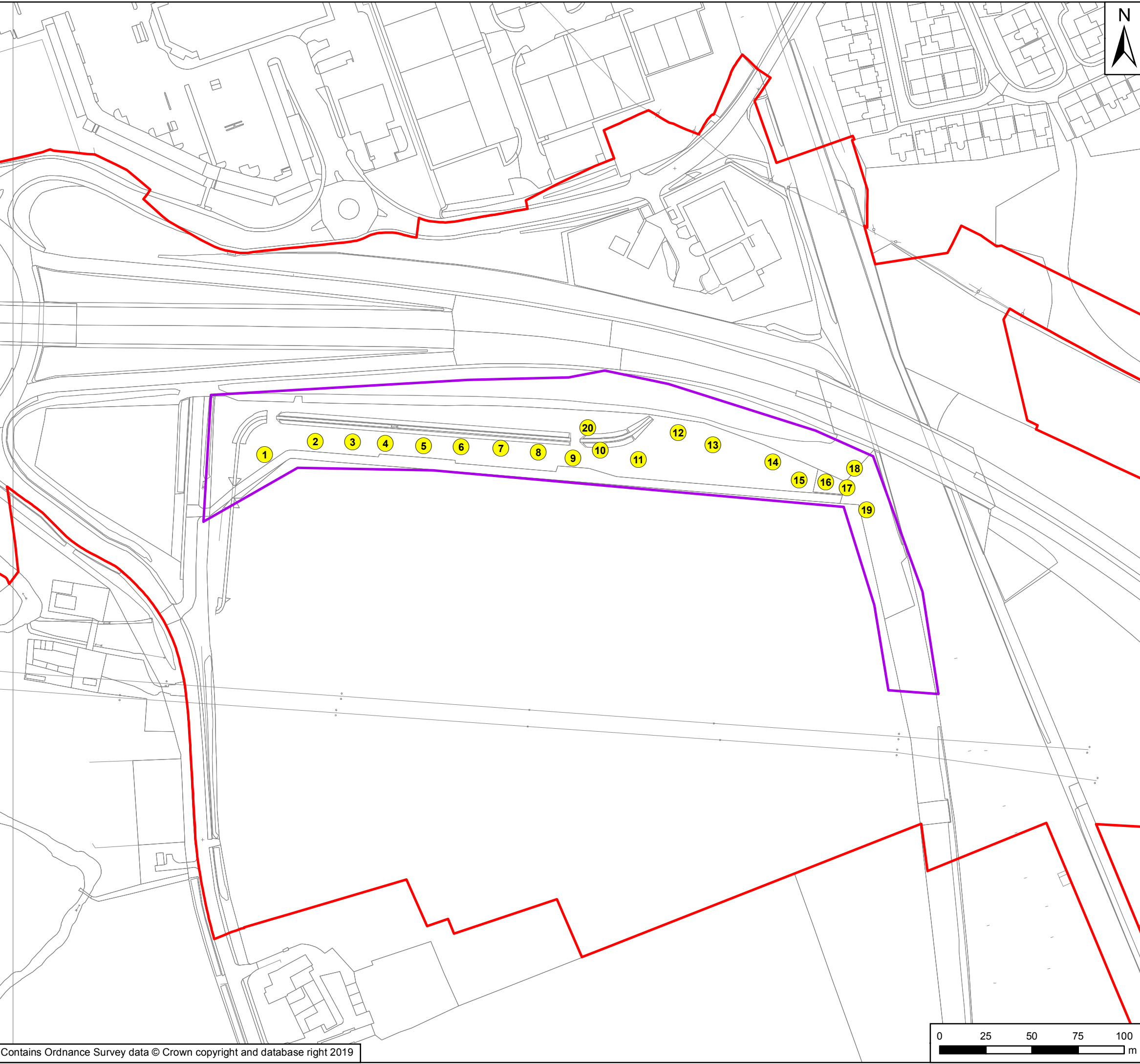
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A3	Dec 2018	Dec 2018	Dec 2018	Dec 2018

Drawing Number	Originator	Volume	Revision
HE551462	WSP	6.3	P03

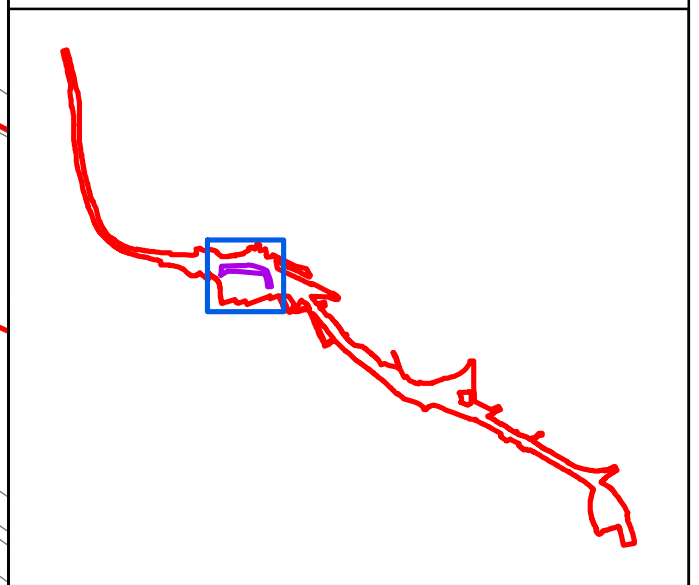
PW Stage Code						
B2CH	Section	Type	ID	Direction	Type	Role



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Key	
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Rev	Date	Description	By	Chk'd	App'd
P03	Apr 2019	Third Issue	GH	JR	KS
P02	Mar 2019	Second Issue	GH	JR	KS
P01	Dec 2018	First Issue	GH	JR	NJA

PINS Reference Number: **TR010031**

Client: [REDACTED]

Project Title: **A1 Birtley to Coal House Scheme**

Drawing Title: **Figure 2 Reptile Survey Area and Refugia Location Plan**

Scale	Drawn	Checked	Approved	Authorised
1:2,000	GH	JR	KS	NJA
Original Size	Date	Date	Date	Date
A3	Dec 2018	Dec 2018	Dec 2018	Dec 2018

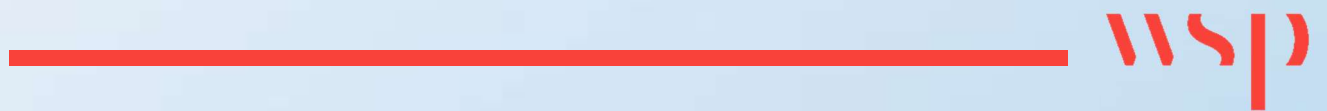
Drawing Number	Originator	Volume	Revision
HE551462	WSP	6.3	P03
PW Stage Code			



Section	Type	ID	Direction	Type	Role	Number

# Appendix A

## **WEATHER CONDITIONS**





Survey Visit Number	1	2	3	4	5	6	7
Date	3rd April 2017	8th May 2017	17th May 2017	9th June 2017	12th June 2017	16th June 2017	3rd July 2017
Surveyor	Emily Shipley & Barney Leigh	Gill Birtles & Charis Russell-Smith	Gill Birtles & Barney Leigh	Barney Leigh & Mate Vakarcs	Gill Birtles & Barney Leigh	Gill Birtles & Barney Leigh	Gill Birtles & Barney Leigh
Start	Time	10:47	16:29	09:53	09:20	16:00	17:07
	Air Temp. (°C) (shade)	14.4	10.6	19.5	17	16.8	18
	Cloud Cover (oktas)	0	8	4	3	7	7
	Wind Speed	3	2	1	5	4	4
Finish	Time	11:10	16:48	10:16	09:55	16:11	17:23
	Air Temp. (°C) (shade)	14.4	10.4	15.6	17	16.8	18
	Cloud Cover (oktas)	0	8	8	4	7	6
	Wind Speed	5	2	2	5	4	3

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