

M5 Junction 10 Improvements Scheme

Environmental Statement Appendix 7.10 Reptile surveys TR010063 – APP 6.15

Regulation 5 (2) (a)

Planning Act 2008

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

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Infrastructure Planning Planning Act 2008

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

M5 Junction 10 Improvements Scheme Development Consent Order 202[x]

6.15 Environmental Statement: Appendix 7.10 Reptile surveys

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1. Introduction

1.1. Terms of Reference

- 1.1.1. Atkins, a member of the SNC Lavalin Group, was commissioned by Gloucestershire County Council (GCC) to undertake reptile surveys to inform the Environmental Statement (ES) for the M5 Junction 10 Improvements Scheme (hereafter referred to as ‘the Scheme’).
- 1.1.2. The purpose of the reptile surveys was to determine whether reptiles are present or likely absent within the Scheme; provide recommendations to enable compliance with legislation and policy; and, if necessary, identify the need for avoidance, mitigation, compensation or enhancement measures.
- 1.1.3. This Technical Appendix summarises the results of the reptile surveys undertaken to date, including the methods used, results of the desk study field surveys, and provides an evaluation of the nature conservation value of reptiles within the survey area.
- 1.1.4. This report provides factual information to support the ES, which will accompany the planning application for the Scheme.

1.2. Legislation

- 1.2.1. Relevant legislation in relation to widespread reptile species is provided in Table 1-1 below. Smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are European protected species under the Conservation of Habitats and Species Regulations 2017 (as amended); however, they are not within the geographical range of this Scheme.

Table 1-1 - Summary of Relevant Legislation

Species	Legislation	Offences	Guidance
Adder (<i>Vipera berus</i>) Common lizard (<i>Zootoca vivipara</i>) Grass snake (<i>Natrix helvetica</i>) Slow worm (<i>Anguis fragilis</i>)	Wildlife and Countryside Act 1981 (as amended) S.9(1) and S.9(5)	Intentionally kill or injure any common reptile species	No licence is required. However, an assessment for the potential of a site to support reptiles should be undertaken prior to any development works which have potential to affect these animals. Guidance documents: NE Standing Advice for protected species 2013.

2. Methodology

2.1. Introduction

2.1.1. The term 'Scheme Boundary' refers to the Order limits, excluding areas of the Order limits that extend approximately 2 km north and 2 km south of the Scheme alignment, along the M5. In these locations the Scheme Boundary is the Scheme alignment. The Order limits and the Scheme alignment are shown on Figure 7-10A in Appendix A.

2.1.2. Within the areas of the Order limits that extend north and south of the Scheme alignment, the only works proposed are the installation of signs in discrete locations, which will require vegetation clearance of up to approximately 20 m² plus some minor trimming back of vegetation up to a distance of 180 m in front of the sign to ensure visibility. These signage locations can be micro sited to avoid/ minimise ecological impacts. These small-scale works are consistent with routine highway maintenance works. The results of desk study and field surveys here would not have any bearing on the impact assessment for the Scheme, and these areas have been excluded from assessments to inform the ES. Pre-construction surveys of the discrete signage locations and working with the contractor to micro site locations where appropriate to avoid or minimise ecological impacts is the approach that will be taken, which is considered to be proportionate.

2.2. Desk study

2.2.1. The Defra MAGIC website¹ was reviewed to identify statutory designated nature conservation sites within 2 km of the Scheme Boundary citing reptiles as a reason for designation. Desk study records of non-statutory designated sites for nature conservation within 1 km of the Scheme were requested from Gloucestershire Centre for Environmental Records (GCER) in September 2019 and again in April 2021 and July 2022, to identify those sites citing reptiles as a reason for designation.

2.2.2. GCER also provided recent records² of reptiles from within 1 km of the Scheme Boundary.

2.3. Field survey

Habitat Assessment

2.3.1. Terrestrial ecology walkover surveys were undertaken in May and September 2019. This included an assessment of the habitats within and up to 250 m from the Scheme Boundary for their suitability to support reptiles, and informed the scope of the reptile surveys. The following range of factors were taken into consideration when assessing the potential suitability of habitats to support reptiles:

- Location in relation to species range.
- Vegetation structure.
- Insolation (sun exposure).
- Aspect.
- Topography.
- Surface geology.
- Connectivity to nearby good quality habitat.
- Prey abundance.

¹ Defra. c2019. Magic Map Application. [Online]. [Accessed July 2021]. Available from: <https://magic.defra.gov.uk/MagicMap.aspx>

² Records of observations within the last 10 years.

- Refuge opportunity.
- Hibernation potential.
- Disturbance.
- Egg-laying site potential (grass snake only).

2.3.2. Grass snake, slow worm and common lizard require foraging areas in proximity to basking sites and dense cover, typical habitats include combinations of woodland edge, hedgerows, scrub, rough grassland, gardens and embankments.

Presence/ Likely Absence Survey

2.3.3. The survey area for this species group included all suitable habitat within the Scheme Boundary and a 250 m buffer extending out in all directions from the Scheme Boundary where access allowed, hereafter referred to as the Reptile Survey Area, as shown on Figure 7-10A in Appendix A.

2.3.4. Presence/ likely absence surveys for widespread reptile species³ were carried out between September and October 2019, August and October 2020, and September and October 2021 in accordance with standard survey guidance^{4,5,6} and Chartered Institute of Ecology and Environmental Management (CIEEM) competencies for undertaking reptile surveys⁷.

2.3.5. A total of 1,102 artificial refuges, consisting of roofing felt and corrugated metal sheets ('tins') measuring approximately 0.5 m², were laid out in 39 survey transects within suitable habitat between 28 August and 30 August 2019 and on 17 August 2020.

2.3.6. Of these transects, 25 are within the survey area of the current Scheme (K, J, I, Z, H, G, F, AD, AF, E, C, D, B, A, AH, AI, AN, AM, AL, AK, AJ, AP, AS, 1 and 2). The remaining 14 transects are associated with previous Scheme options and are beyond the survey area of the current Scheme. Seventy-three artificial refuges were laid out, on 26 August 2021, in an additional transect (AT) that had not been subject to reptile surveys previously. Reptile transects are shown on Figure 7-10A in Appendix A. The refuges were left to bed in for 10 days to give reptiles an opportunity to locate them. Other suitable refuge features already present on the site that could be used by reptiles (e.g. litter and logs) were also checked where present.

2.3.7. Seven checks of the artificial refuges were undertaken in suitable weather conditions (taken to be daytime air temperatures between 9°C and 20°C with little or no wind or precipitation) between September and October 2019, August and October 2020, and September and October 2021.

2.3.8. In order to minimise any potential disturbance to animals basking on/under the refugia the surveyors' approach was cautious and slow, and where possible, reptile refugia were observed from a distance prior to approach. Surveyors initially checked the upper surface of reptile refugia to identify any reptiles basking. The refugia were then lifted to identify any reptiles present underneath. Notes of any reptiles identified including numbers, species, sex, age and notable identification features were recorded.

2.3.9. The weather conditions during each survey period are summarised in Appendix B.

³ Due to the restricted ranges of smooth snake and sand lizard, these species are not considered within this report.

⁴ Froglife (2015) Surveying for Reptiles. Online: [Reptile-survey-booklet-3mm-bleed.pdf](https://www.froglife.org/reptile-survey-booklet-3mm-bleed.pdf) (froglife.org)

⁵ Design Manual for Roads and Bridges. 2019. Sustainability and Environment Design. LD 118 Biodiversity Design (formerly LA 118). Online: <https://www.standardsforhighways.co.uk/dmrb/search/9317652b-4cb8-4aaf-be57-b96d324c8965>

⁶ Sewell D., Griffiths R., Beebee T., Foster J., & Wilkinson J. (2013). Survey protocols for the British herpetofauna. Version 1.0.

⁷ CIEEM (2014) Competencies for Species Survey: Reptiles. The Chartered Institute of Ecology and Environmental Management.

2.4. Assessment

- 2.4.1. The reptile population has been valued in a geographical context following the framework provided in LA 108⁸. The evaluation is based on the information gathered from the desk study and field surveys, using a combination of professional judgement and accepted criteria⁹ (e.g. diversity, rarity and naturalness).

2.5. Limitations

- 2.5.1. In 2019, several reptile refugia were found to have been mown between deployment and the first check (in Transects B, E, G, W, AH and AI). In addition, livestock (cows, sheep and horses) were present in some of the fields (Transects I, J, L, R, S, U, V, Y, Z, AA, AF, AJ, AK, and AP). Some of the refugia in Transect I and J were found to have been trampled or were missing (presuming to have been moved by cattle). However, the majority of the reptile refugia in each transect were left intact throughout the whole survey period and this is not considered to be a significant limitation.
- 2.5.2. In 2021, on three occasions (8, 15 and 23 September 2021) the temperature exceeded the maximum optimum air temperature for undertaking reptile surveys at the end of the survey by one degree. Given that the temperature at the start of the surveys was always within the recommended minimum and maximum temperature range, and that there was only a small increase above the recommended maximum air temperature, this is not considered to be a significant limitation.
- 2.5.3. On one occasion (25 September 2019) the survey was abandoned due to heavy rain, although it was dry at the start of the survey, and on another occasion (17 September 2019) the survey was undertaken in moderate rain. Whilst these conditions are not ideal, the remaining surveys were undertaken when there was no, or only light drizzle/ rain. Therefore, this is not considered to be a significant limitation.
- 2.5.4. It has not been possible to survey an area north of Stanboro Lane for reptiles due to no access permission given by the landowner (access was requested in August 2021 as part of the surveys undertaken that year, but was refused). However, a reptile was recorded incidentally here during the walkover survey on 23 September 2019 (see 'Incidental Records' below). No reptile refugia were deployed on the verges of the M5 motorway due to safety concerns; however, the presence of reptiles in suitable road verge habitats was assessed by deploying reptile refugia along the edge of adjacent fields. It is considered that sufficient coverage of the Reptile Survey Area has been achieved, and that the habitats surveyed are representative of suitable reptile habitat present within areas not surveyed (such as the motorway verges and the area north of Stanboro Lane). As such, it is considered appropriate that the results of the reptile surveys are used to extrapolate the likely presence of reptiles across the Scheme.
- 2.5.5. Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore, the absence of any particular reptile species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.
- 2.5.6. The above limitations are not considered significant, and the conclusions drawn from the data are considered valid.

⁸ Highways England. March 2020. LA 108 Biodiversity [Online]. [Accessed October 2020]. Available from: https://www.standardsforhighways.co.uk/dmrb/search?discipline=SUSTAINABILITY_AND_ENVIRONMENT

⁹ Set out in Ratcliffe, D.A (1977). A Nature Conservation Review. Cambridge University Press.

3. Results

- 3.1.1. The results described below are shown on Figure 7-10A in Appendix A.
- 3.1.2. There are no statutory or non-statutory designated nature conservation sites within the search areas (2 km and 1 km respectively) that cite reptiles as a reason for designation.
- 3.1.3. The data search provided by GCER included four records of reptiles within the last ten years, within 1 km of the Scheme:
- An adult and juvenile common lizard (unknown sex) were recorded in November 2014 in an outside wall of a house adjacent to the A4019, within the Scheme Boundary. This area was included in the 2020 reptile surveys (Target Note (TN) 7 on Figure 7-10A).
 - Two adult slow worms (unknown sex) were recorded in May 2014 at the edge of a residential housing area adjacent to agricultural fields approximately 800 m north east of the Scheme Boundary (TN8 on Figure 7-10A).
- 3.1.4. Suitable habitats for grass snake, slow worm and common lizard are scattered throughout the Reptile Survey Area. Suitable habitats identified comprised arable and improved grassland field boundaries, particularly where hedgerows were present; fields comprising rough, tussocky grassland; woodland edge habitat; and less managed habitat along the banks of the River Chelt, Minor Watercourse 4 and the Leigh Brook. Areas of particular note include:
- A complex of woodland, scrub, tall ruderal habitat, semi-improved neutral tussocky grassland and a pond at Colmans Farm to the north of the Scheme. This is now beyond the 250 m survey area.
 - An earth mound covered in tall ruderal vegetation surrounding a farm compound just to the east of Withybridge Lane.
 - A mosaic of rough grassland, scrub and orchard habitat just north of Stanboro Lane (where access for targeted reptile surveys was refused, as discussed in paragraph 2.5.4).
 - A derelict nursery comprising a mosaic of open areas with rough grassland, ruderal vegetation, fruit trees and scrub located to the north of the A4019 east of the M5 Junction 10.
- 3.1.5. During the targeted reptile surveys in 2019, grass snakes were recorded along three transects (Transects R, U and V) on three occasions, as follows:
- On 11 September 2019 one adult grass snake (unknown sex) was found on Transect R during the first check of reptile refugia along this transect. The refugia was located within a sheep-grazed rough grassland field with scattered scrub and adjacent to an area of woodland. There are several waterbodies and wet ditches within neighbouring fields (TN1 on Figure 7-10A).
 - On 30 September 2019 one adult grass snake (unknown sex) was found on Transect U during the sixth check of reptile refugia along this transect. The refugia was located within a sheep-grazed grassland field adjacent to a waterbody bordered by dense scrub. There are several other waterbodies and wet ditches within neighbouring fields (TN2 on Figure 7-10A).
 - On 30 September 2019 one juvenile grass snake (unknown sex) was found on Transect V during the sixth check of reptile refugia along this transect. The refugia was located within a sheep-grazed rough grassland field adjacent to an area of scrub and woodland. There are several waterbodies and wet ditches within neighbouring fields (TN3 on Figure 7-10A).
- 3.1.6. These transects are all associated with Colmans Farm, which is now outside of the Reptile Survey Area.

- 3.1.7. No other reptiles were recorded during the targeted reptile surveys in 2019. However, reptiles were recorded incidentally during other surveys on three occasions during 2019, as follows:
- A grass snake (unknown sex/age) was observed during a walkover survey on 20 May 2019. It was observed moving through dead leaves at the base of a treeline on the boundary of a derelict nursery to the north of the A4019 near Uckington, approximately 200 m north of the Scheme Boundary (TN5 on Figure 7-10A).
 - A juvenile slow worm was recorded during a bird survey on 8 September 2019 within an area of woodland to the north of the A4019 near Uckington approximately 160 m north of the Scheme Boundary (TN6 on Figure 7-10A).
 - A common lizard was recorded during a walkover survey on 23 September 2019 within a grazed pasture field close to an orchard north of Stanboro Lane approximately 100 m north of the Scheme Boundary (TN4 on Figure 7-10A).
- 3.1.8. In 2020 and 2021, no reptiles were recorded during any of the targeted reptile surveys, or incidentally during other surveys.

4. Evaluation

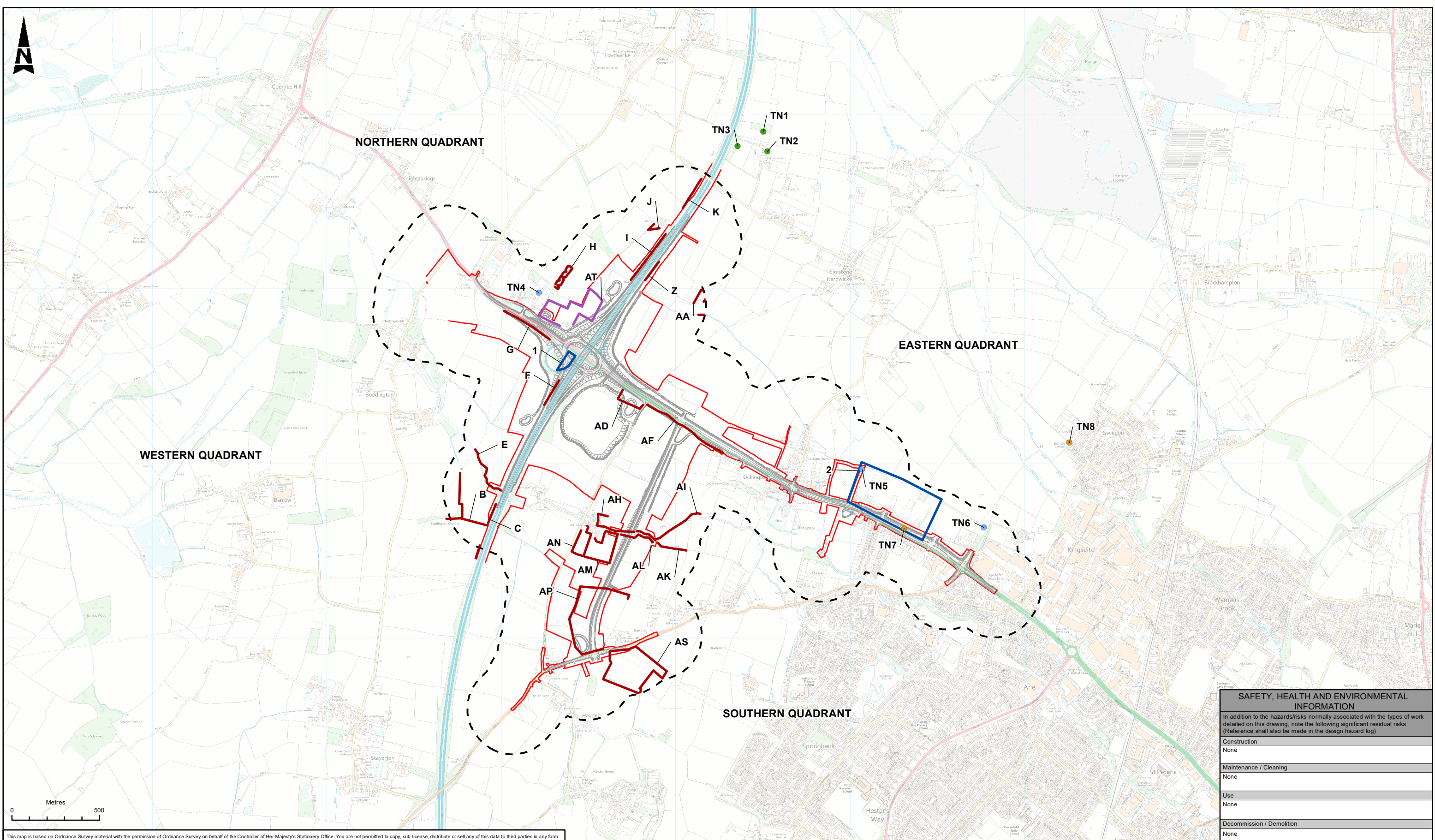
- 4.1.1. No reptiles were recorded during the targeted reptile surveys within the current Reptile Survey Area during the 2019, 2020 and 2021 surveys.
- 4.1.2. A grass snake, a juvenile slow worm and a common lizard were recorded within the current Reptile Survey Area incidentally during other surveys in 2019. The common lizard was recorded within an area just north of Stanboro Lane that had been identified as providing suitable reptile habitat, but access for targeted reptile surveys was refused. The grass snake was recorded within a derelict nursery to the north of the A4019 that was also subject to targeted reptile surveys, and the slow worm was recorded just east of this area. While these locations are all in the Reptile Survey Area, all are outside the Scheme Boundary.
- 4.1.3. The fact that these three individual reptiles were recorded incidentally, but not during the targeted surveys, could indicate that the existing habitats present provide better conditions than the refugia, with reptiles being under recorded as a result. The reptile surveys covered the majority of suitable reptile habitat within the Reptile Survey Area, and the locations where reptiles were recorded (albeit incidentally) align with the areas identified during the habitat assessment as being of particular note for reptiles, supporting the fact that the reptile surveys targeted the right areas. The surveys followed best practice guidelines, and in addition, an extensive suite of other surveys have been undertaken since 2019 which have recorded species observed incidentally, despite them not being the focus of those surveys. Therefore, it is considered that the reptile results gathered since 2019 provide a robust indication of the reptile population present within the Reptile Survey Area.
- 4.1.4. Three grass snakes were recorded during the targeted reptile surveys undertaken during 2019 within an area which is now outside of the current Reptile Survey Area, at Colmans Farm. This area provides optimal habitat for this species, with a mosaic of habitats including wet areas, which this species favours.
- 4.1.5. Slow-worm, common lizard and grass snake are protected under the Wildlife and Countryside Act 1981 (as amended) from killing and injury. All three species are species of Principal Importance for the conservation of biodiversity in England, as listed under Section 41 of the NERC Act (2006), but they are not Gloucestershire Biodiversity Action Plan species.
- 4.1.6. Given that no reptiles were recorded within the current Reptile Survey Area during the targeted reptile surveys in 2019, 2020 and 2021, and given the low numbers of reptiles recorded incidentally within the current Reptile Survey Area, it is considered that only low numbers of grass snake, slow worm and common lizard are present within this area. Therefore, reptiles have been ascribed a value of Local nature conservation importance.

Appendices



Appendix A. Schedule of figures included in this application document

Figure reference	Document title	Sheet	Document number	Revision
7-10A	Reptile survey areas and results	1 of 1	GCCM5J10-ATK-EBD-ZZ-GS-GI-000029	0



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LEGEND

- ORDER LIMITS
- SCHEME ALIGNMENT
- 250M STUDY AREA
- DESK STUDY RECORDS
- INCIDENTAL RECORDS
- SURVEY RECORDS (2019)

REPTILE SURVEY TRANSECTS

- 2019
- 2020
- 2021

NOTES:

- TN1 - ADULT GRASS SNAKE (UNKNOWN SEX) FOUND UNDER REPTILE REFUGIA ON 11/09/2019
- TN2 - ADULT GRASS SNAKE (UNKNOWN SEX) FOUND UNDER REPTILE REFUGIA ON 30/09/2019
- TN3 - JUVENILE GRASS SNAKE (UNKNOWN SEX) FOUND UNDER REPTILE REFUGIA ON 30/09/2019
- TN4 - COMMON LIZARD (UNKNOWN SEX/AGE) RECORDED INCIDENTALLY DURING A WALKOVER SURVEY ON 23/09/2019
- TN5 - GRASS SNAKE (UNKNOWN SEX/AGE) RECORDED INCIDENTALLY DURING A WALKOVER SURVEY ON 20/05/2019
- TN6 - JUVENILE SLOW WORM (UNKNOWN SEX) RECORDED INCIDENTALLY DURING A BIRD SURVEY ON 08/09/2019
- TN7 - DESK STUDY RECORD OF ADULT AND JUVENILE COMMON LIZARD (UNKNOWN SEX) FROM NOVEMBER 2015
- TN8 - DESK STUDY RECORD OF TWO ADULT SLOW WORMS (SEX UNKNOWN) FROM MAY 2014

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made in the design hazard log)	
Construction	None
Maintenance / Cleaning	None
Use	None
Decommission / Demolition	None

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<table border="1" style="width: 100%;"> <tr> <td style="width: 30%;">Gloucestershire</td> <td style="width: 30%;">COUNTY COUNCIL</td> <td style="width: 40%;">Client</td> </tr> <tr> <td colspan="2"></td> <td>Project: GCCM5J10 - ATK - EBD</td> </tr> <tr> <td colspan="2"></td> <td>Originator: ZZ - GS - GI - 000029</td> </tr> <tr> <td colspan="2"></td> <td>Volume</td> </tr> <tr> <td colspan="2"></td> <td>1 of 1</td> </tr> <tr> <td colspan="2"></td> <td>Rev: P02</td> </tr> </table>						Gloucestershire	COUNTY COUNCIL	Client			Project: GCCM5J10 - ATK - EBD			Originator: ZZ - GS - GI - 000029			Volume			1 of 1			Rev: P02																														
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Appendix B. Weather conditions during each survey period

Date	Survey transects checked (Transects K, J, I, Z, H, G, F, AD, AF, E, C, D, B, A, AH, AI, AN, AM, AL, AK, AJ, AP, AS, AT 1 and 2 are within the current Reptile Survey Area)	Start/ end time	Start/ end temperature (°C)	Start/ end wind ¹⁰	Start/ end precipitation ¹¹	Start/ end cloud cover ¹²
09/09/2019	AD (visit 1) AF (visit 1) AP (visit 1) AS (visit 1)	10:20/12:10	13.0/15.0°C	1/1	1/0	8/8
10/09/2019	A, B, C, D, E, F, G, H, I, J, K, L, M, P, Q, Z, AA, AB, AH, AI, AJ, AK, AL, AM, AN (visit 1)	10:00/15:30	17.0/20.0°C	1/1	0/0	7/5
11/09/2019	R, S, T, U, V, W, X, Y (visit 1)	11:00/15:00	17.0/20.0°C	2/2	0/0	7/5
12/09/2019	A, B, C, D, E, F, G, H, L, M, P, Q, AB, AD, AF, AH, AI, AM, AN, AS (visit 2)	10:45/15:00	18.0/20.0°C	4/5	0/0	6/2
13/09/2019	R, S, T, U, V, W, X, Y, Z, AA, AJ, AK, AL, AP (visit 2)	09:40/13:40	15.0/18.0°C	1/1	0/0	2/2
16/09/2019	I, J, K (visit 2) Z, AA, AD, AF, AH, AI, AJ, AK, AL, AM, AN, AP, AS (visit 3)	10:00/16:00	17.0/19.0°C	1/1	0/1	8/8
17/09/2019	A, B, C, D, E, F, G, H, L, M, P, Q, R, S, T, U, V, W, X, Y, AB (visit 3)	09:50/15:00	13.0/18.0°C	1/1	3/3	0/0
18/09/2019	I, J, K (visit 3)	13:00/14:00	17.0/17.5°C	1/1	0/0	0/0

¹⁰ Wind speed score of 0-12 against Beaufort scale: 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane

¹¹ Precipitation intensity on scale of 0-5: 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.

¹² Cloud cover on a scale of 0-8: 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy

Date	Survey transects checked (Transects K, J, I, Z, H, G, F, AD, AF, E, C, D, B, A, AH, AI, AN, AM, AL, AK, AJ, AP, AS, AT 1 and 2 are within the current Reptile Survey Area)	Start/ end time	Start/ end temperature (°C)	Start/ end wind10	Start/ end precipitation11	Start/ end cloud cover12
20/09/2019	I, J, K, R, S, T, U, V, W, X, Y, Z, AA, AD, AP, AS (visit 4)	08:45/12:40	13.0/19.0°C	1/1	0/0	1/0
23/09/2019	A, B, C, D, E, F, G, H, L, M, P, Q, AB, AJ, AK, AL, AM, AN (visit 4)	10:00/15:00	16.0/18.0°C	1/3	0/2	6/8
25/09/2019	A, B, C, D, E, F, G, AD (visit 5) AF, AH, AI (visit 4)	10:00/13:00	16.0/17.0°C	2/1	0/4 Survey abandoned	6/6
26/09/2019	A, B, C, D, E, F, G, AD (visit 6) H, I, J, K, L, M, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AF, AH, AI, AJ, AK, AL, AM, AN, AP, AS (visit 5),	10:00/16:00	16.0/18.0°C	3/6	0/0	3/5
30/09/2019	H, I, J, K, L, M, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AF, AH, AI, AJ, AK, AL, AM, AN, AP, AS (visit 6)	09:00/14:00	14.0/16.0°C	1/1	0/1	7/8
01/10/2019	AB, AD (visit 7)	14:00/15:00	15.0/15.0°C	3/3	0/0	7/8
02/10/2019	A, B, C, D, E, F, G, H, I, J, K, L, M, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AF (visit 7)	10:00/16:00	10.0/14.0°C	1/2	0/0	6/6
03/10/2019	AH, AI, AJ, AK, AL, AM, AN, AP, AS (visit 7)	10:15/12:45	9.0/11.0°C	2/4	0/0	7/7
28/08/2020	1 and 2 (visit 1)	09:30/11:30	15.0/18.0°C	2/2	2/3- Dry and warm after rain shower. Survey began at this point, then heavy rain at end of survey	6/8

Date	Survey transects checked (Transects K, J, I, Z, H, G, F, AD, AF, E, C, D, B, A, AH, AI, AN, AM, AL, AK, AJ, AP, AS, AT 1 and 2 are within the current Reptile Survey Area)	Start/ end time	Start/ end temperature (°C)	Start/ end wind10	Start/ end precipitation11	Start/ end cloud cover12
04/09/2020	1 and 2 (visit 2)	08:30/11:30	17.0/18.0°C	2/2	0/0	0/0
11/09/2020	1 and 2 (visit 3)	08:30/11:30	14.0/16.0°C	2/2	0/0	0/2
16/09/2020	1 and 2 (visit 4)	08:00/11:00	11.0/16.0°C	2/3	0/0	1/3
23/09/2020	1 and 2 (visit 5)	14:00/16:30	14.0/14.0°C	1/1	0/2	7/7
02/10/2020	1 and 2 (visit 6)	09:30/11:30	9.0 /14.0°C	1/1	0/0	2/3
09/10/2020	1 and 2 (visit 7)	08:30/11:30	9.0 /14.0°C	1/1	0/0	5/7
08/09/2021	AT (visit 1)	08:30/09:00	19.0/21.0°C	0/0	0/0	0/0
15/09/2021	AT (visit 2)	08:30/09:00	17.0/21.0°C	1/0	0/0	1/1
23/09/2021	AT (visit 3)	09:00/09:30	16.0/21.0°C	1/0	0/0	1/3
29/09/2021	AT (visit 4)	08:30/09:00	9.0/11.0°C	1/0	0/0	0/0
05/10/2021	AT (visit 5)	17:00/17:30	13.0/13.0°C	5/4	1/0	6/4
13/10/2021	AT (visit 6)	08:30/09:00	11.0/12.0°C	0/0	0/0	8/8
20/10/2021	AT (visit 7)	08:30/09:15	12.0/14.0°C	1/1	0/0	1/1

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