

A38 Derby Junctions

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Volume 6

6.3 Environmental Statement Appendices

Appendix 8.7b: Reptile Surveys in 2017

Regulation 5(2)(a)

Planning Act 2008

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

April 2019

Infrastructure Planning

Planning Act 2008

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

A38 Derby Junctions Development Consent Order 202[]

6.3 Environmental Statement Appendices Appendix 8.7b: Reptile Surveys in 2017

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A38 Derby Junctions

Reptile Survey Report

Report Number: HE514503-ACM-EBD-A38_SW_PR_ZZ-RP-EG-0012 P02 S4
August 2018

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1 INTRODUCTION

1.1 Background and Scope

- 1.1.1 AECOM Infrastructure & Environment UK Limited (AECOM) has been commissioned by Highways England to provide design services with regards to the A38 Derby Junctions scheme (referred to as the proposed scheme herein).
- 1.1.2 The proposed scheme concerns the grade separation of 3 junctions on the A38 in Derby, namely:
- A38/ A61 Little Eaton junction;
 - A38/ A52 Markeaton junction; and
 - A38/ A5111 Kingsway junction.
- 1.1.3 These three junctions are located along an approximate 5.5km length of the A38 national trunk road, to the west and north of Derby.
- 1.1.4 In order to assist with the assessment of the proposed scheme's potential environmental effects, a range of environmental surveys has been undertaken to define prevailing baseline conditions.
- 1.1.5 The Phase 1 Habitat survey conducted by AECOM in 2015 (AECOM(a), 47071319-URS-05-RP-EN-003, 2016) and updated in 2017 across the proposed scheme (AECOM(c), Unpub.) highlighted the presence of habitats suitable for supporting reptiles within the proposed scheme boundary and/or the immediate surroundings.
- 1.1.6 The proposed scheme boundary was updated in 2017 to include additional areas proposed for potential flood storage, construction compounds and ecological compensation. Three new discrete locations were identified in 2017, as part of the updated Phase 1 Habitat survey, to have potential habitat to support reptiles. These were recommended for reptile survey in 2017.
- 1.1.7 Additionally, suitable habitats identified in 2015 to have potential to support reptile were subject to an updated review as part of the 2017 Phase 1 Habitat survey. This review aimed to identify where there had been habitat changes which could affect the occurrence of reptiles within the proposed scheme boundary and where further updated surveys may be required to inform the baseline for the impact assessment, where applicable, in 2018.
- 1.1.8 Results of the 2017 reptile survey are provided below together with the updated desk study data and habitat assessment review.

1.2 Site and Study Area

- 1.2.1 The proposed scheme under appraisal encompasses Kingsway and Markeaton junctions, west of the City of Derby and Little Eaton junction north of Derby. A plan illustrating junction locations is shown in Figure 1, Appendix A. The ecological study area as referred to herein extends up to 50m beyond the proposed scheme boundary.
- 1.2.2 The A38 is a busy arterial 'A' road carrying traffic around the west and north of the City of Derby. South of Kingsway junction, the road enters a cutting and is bordered by semi-improved grassland and scrub covered verges. The central reservation south of Kingsway junction and the junction island in this location support a mosaic of habitat types, including semi-improved neutral grassland and native broadleaved woodland. Bramble Brook flows from the west of the proposed scheme in this location through

culverts located under the north-bound carriageway and the central reservation before connecting with further culverts located between the junction islands. North of Kingsway junction there is an area of mixed plantation represented by semi-mature trees on embankment.

- 1.2.3 Markeaton junction section of the proposed scheme is bordered to the east by residential properties and to the west by parkland with veteran trees. The outfall from Markeaton Lake and Markeaton Brook flows through culverts beneath the existing A38 at the northern extent of the Markeaton junction section of the proposed scheme.
- 1.2.4 The western boundary of the proposed scheme at Little Eaton junction borders the road bridge over the River Derwent. The existing A38 is on embankment in this location, with the embankments themselves represented by areas of scrub and immature broadleaved plantation habitats. A variety of grassland habitats exist at the base of the embankments in this location.

1.3 Relevant Legislation and Biodiversity Strategies

- 1.3.1 Widespread reptile species are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally kill, injure or trade in common lizard *Zootoca vivipara*, slow worm *Anguis fragilis*, grass snake *Natrix helvetica* or adder *Vipera berus*. Neither of the 2 species listed under European law are likely to be present on Site given their highly prescriptive habitat requirements and restricted geographic range.
- 1.3.2 In addition to the above, the Natural Environment and Rural Communities (NERC) Act 2006 places additional responsibilities on local planning authorities, in discharging their planning duty; namely, to consider impacts on all reptiles, which are listed on Section 41 of the Act as Species of Principal Conservation Importance in England.
- 1.3.3 Adders, grass snakes, common lizards and slow worms are reptile species that in Derbyshire are recognised as Local Biodiversity Action Plan (LBAP) priority species. These have been recorded in the Lowland Derbyshire Biodiversity Action Plan area since 2000 (Lowland Derbyshire Biodiversity Partnership, 2011).
- 1.3.4 Highways England, through the national Road Investment Strategy (RIS), has set an aspiration that the operation, maintenance, and enhancement of the Strategic Road Network (SRN) should move to a position that delivers no net loss of biodiversity by 2020; and, in the long term, Highways England should deliver a net gain in biodiversity across its broader range of works by 2040. Highways England published a Biodiversity Plan in 2015 to show how it will work with service providers to halt overall biodiversity loss, and maintain and enhance habitats and ecological networks. The Government requires Highways England to demonstrate progress against the 2015 Biodiversity Plan, to secure an ongoing annual reduction in the loss of net biodiversity due to its activities. The 2015 Biodiversity Plan provides a general plan to protect and increase biodiversity. The 2015 Biodiversity Plan supersedes the preceding 2002 Highways Agency Biodiversity Action Plan (Highways BAP 2002), which still however carries some relevance as it lists specific habitats and species of conservation concern. Reptiles (all species) are listed in the 2002 Highways BAP as priority species. The objectives of this species action plan for reptiles is to enhance the value of the soft estate for all reptile species, as appropriate, and to mitigate any potential effects of new schemes on reptiles.

2 METHODOLOGY

2.1 Desk-based Study

- 2.1.1 The desk study identified national and local statutory and non-statutory nature conservation designations within 2km of the proposed scheme boundary, and protected or notable species up to 1km from the proposed scheme boundary.
- 2.1.2 Online resources reviewed as part of the desk-study included the Multi-Agency Geographic Information Centre (MAGIC) for statutory sites within 5km. A data search to identify any local designated non-statutory sites or sites of local interest within 2km, and notable or protected species records within 1km of the proposed scheme boundary was requested from the Derbyshire Wildlife Trust (DWT).
- 2.1.3 The Highways England Environmental Information System (EnvIS) was also searched for any nature conservation and ecology records.
- 2.1.4 The data sources used to carry out the desk study is shown in Table 1, which also shows the search date and distances used for each subject.

Table 1: Desk Study Data Source

Data type	Data Source	Date obtained and comments
International / European designated sites up to 30km of the proposed scheme boundary	MAGIC	Last accessed October 2017
National and Local statutory designated sites up to 2km of the proposed scheme boundary	MAGIC	Last accessed October 2017
Non-statutory designated sites within 2km of the proposed scheme boundary	DWT	October 2016
Other sites within 2km of the proposed scheme boundary	MAGIC DWT website DWT	MAGIC last accessed October 2017 DWT Nature Reserves map and site details October 2016
Habitat connections and green corridors within 2km of the proposed scheme boundary	Aerial photographs Google Earth	Aerial photographs last accessed October 2017 Map date 2017.
Local BAP Species and Habitats within 1km of the proposed scheme boundary	Lowland Derbyshire BAP 2011	Accessed March 2017
Protected and notable Species Data within 1km of the proposed scheme boundary	DWT	October 2016 Records for past 10 years.
Protected and notable Species Data within the vicinity of the proposed scheme boundary	A-One+	March 2015
Protected and notable Species Data within the vicinity of the proposed scheme boundary	EnvIS	September 2017

2.2 Review of 2017 Habitat Assessment and Requirement for Further Survey

2.2.1 The habitat suitability for reptiles was assessed in 2017 against the new proposed scheme boundary utilising the reptile habitat characteristics provided in the Reptile Mitigation Guidelines (Natural England 2011) and these included:

- location in relation to species range;
- vegetation structure;
- insolation (sun exposure);
- aspect;
- topography;
- surface geology;
- connectivity to nearby good quality habitat;
- prey abundance;
- refuge opportunity;
- hibernation habitat potential;
- disturbance; and
- egg-laying site potential (grass snake and sand lizard only).

2.2.2 The habitat suitability for reptiles was re-assessed in 2017, utilising the criteria above, against the new scheme boundary. During the 2017 Phase 1 habitat assessment no significant changes in habitat were recorded with regards to reptile suitability within land parcels previously surveyed in 2015; therefore, updated surveys were not considered necessary in these areas.

2.2.3 Additional areas which were considered suitable for reptiles which were not surveyed in 2015, and therefore surveyed in 2017 included:

- Site 8 (assessed as having a Moderate to High potential suitability for reptiles);
- Site 10 (the southern part – assessed as having a potentially High value for grass snake in marshy grassland); and
- Site 19 (assessed as potentially having Low to Moderate value for reptile species due to a mosaic habitat).

2.2.4 See Figures 2 and 3, Appendix A for previous and additional survey locations.

2.3 Field Survey

2.3.1 Surveys were carried out in September and October 2017 in areas of suitable reptile habitat within Sites 8, 10 and 19 in accordance with Volume 10, Section 4, Part 7 of the Design Manual for Roads and Bridges – Nature Conservation Advice in Relation to Reptiles and Roads (2005). The surveys utilised 4 recognised methodologies i.e.:

- Use of refugia to attract reptiles on site;
- Manual searches of natural refugia present on site;
- Checks for signs of reptile activity including sloughed skins, egg laying sites *etc*; and

- Sustained visual observation of suitable habitat within the site.
- 2.3.2 The method for survey using artificial refugia was based upon Froglife's (1999) 'Advice Sheet 10 for reptile surveys' and the 'Herpetofauna Workers' Manual' (1998) with particular reference to those species most likely to be encountered: common lizard and grass snake. The reptile surveys comprised eight visits; one to place out the artificial refugia and seven separate visits in suitable weather conditions to check them.
- 2.3.3 Common lizards will typically bask at temperatures between 9°C and 18°C during their active phase.
- 2.3.4 Grass snakes will bask at temperatures between 12°C and 20°C. They typically lay eggs in compost heaps, manure piles and grass cuttings and careful checking of these sites offers a potential means of survey. Eggs are laid between June and the end of July. The Herpetofauna Workers' Manual (1998) recommends checking – without disturbing – such sites.
- 2.3.5 Refugia used were of standard size and specification, namely 1m x 0.5m tiles of roofing felt.
- 2.3.6 A total of 195 tiles (between 30 and 50 refugia per hectare; 135 for Site 8, 30 for Site 10 and 30 for Site 19) were placed at specific locations within Sites 8, 10 and 19 (see Figure 4 Appendix A for survey locations). The refugia were placed on 14 August 2017, three weeks prior to the first survey visit on the 4 September 2017 to allow for 'bedding in'. Refugia were set in transects and within areas of favourable habitat, which were exposed to the sun.
- 2.3.7 Attention was paid to the forecast temperatures to ensure periods of extreme heat were avoided during surveys. Surveys were carried out between 8.30am and 6.30pm, ensuring that surveys were undertaken between guideline temperatures of 12°C and 18°C and when there was little wind and intermittent hazy sunshine (representing ideal basking temperatures for UK reptiles). Table 2 lists the weather conditions at each survey visit.
- 2.3.8 In order to minimise any potential disturbance to animals basking on the tiles, the surveyor's approach was cautious and slow, and where possible, tiles were observed with binoculars from a distance prior to approach.

Table 2: Reptile Survey Conditions

Area	Visit number	Date	Weather conditions	Temperature range throughout survey	Survey Limitations
Site 8	Refugia placement	14/08/2017	N/A	N/A	
	1	04/09/2017	Sunny, 20% cloud, no wind	13°C - 18°C	Refugia moved or stacked in piles on site voiding survey. Refugia had to be reset.
	2	08/09/2017	Preceded by shower sunny spells, 50% cloud no wind	11°C - 18°C	55 out of 135 refugia stolen, moved or stacked in piles on site voiding survey. Stacked refugia were reset

Area	Visit number	Date	Weather conditions	Temperature range throughout survey	Survey Limitations
	3	15/09/2017	Intermittent sunny spells, 80% cloud, light breeze	13°C - 15°C	Line of refugia to west of site missing.
	4	18/09/2017	Intermittent cloud spells, dry light breeze	13°C - 14°C	Line of refugia to west of site missing.
	5	20/09/2017	Intermittent cloud, sunny spells, dry	13°C	Remaining refugia remained in place.
	6	26/09/2017	Intermittent sunny spells, 60% cloud, heavy rain on previous day	14°C	Remaining refugia remained in place
	7	02/10/2017	sunny spells, intermittent cloud, breezy , calm	14°C	Remaining refugia remained in place
Site 10 and 19	Refugia placement	14/08/2017	N/A	N/A	
	1	04/09/2017	Sunny, 20% cloud, no wind	13°C - 18°C	Site 10: No survey constraints. Site 19: Refugia missing or moved voiding survey. Refugia on site 19 had to be replaced
	2	08/09/2017 (Site 10 Final survey - abandoned due to access issues).	Preceded by shower sunny spells, 50% cloud no wind	11°C - 18°C	Site 10 No access to site permitted for rest of survey period and further surveys were not possible. Site 19 refugia moved or missing. More refugia deployed to compensate for loss.
	3	15/09/2017 (Site 19 Final survey - abandoned due to interference with refugia).	Intermittent sunny spells, 80% cloud, light breeze	13°C - 15°C	Site 19 – all refugia but 2 mats removed from site voiding the survey. No further mats deployed as likely to be removed and complete suite of replicates could not be completed.
	4	Abandoned (see limitations section)	N/A	N/A	Abandoned due to access and interference with refugia
	5	Abandoned (see limitations section)	N/A	N/A	Abandoned due to access and interference with refugia

Area	Visit number	Date	Weather conditions	Temperature range throughout survey	Survey Limitations
	6	Abandoned (see limitations section)	N/A	N/A	Abandoned due to access and interference with refugia
	7	Abandoned (see limitations section)	N/A	N/A	Abandoned due to access and interference with refugia

2.4 Limitations

- 2.4.1 As presented in Table 1, the major constraint on all Sites was interference to artificial refugia, which were either stacked on Site or entirely removed from Site.
- 2.4.2 Due to lack of access on Site 10, no conclusions can be drawn on reptile presence/absence at this location.
- 2.4.3 Due to removal of all but two mats on Visit 3 at Site 19, no further surveys could be undertaken as there would not be sufficient replicate surveys to provide confidence in the survey results, especially where absence of reptiles is recorded and no conclusions can be drawn on presence/absence at this location.
- 2.4.4 Site 8 was the only site where full replicate surveys could be completed. Whilst 40% of refugia were removed or stacked on site along the footpath, the density of refugia deployed per hectare ($32/\text{ha}^{-1}$) is higher than the advised density of 10 per hectare by Froglife (1999). Consequently the removal or tampering of the refugia was not considered to affect the findings of this report.

3 RESULTS

3.1 Desk-Based Study

- 3.1.1 Biological records provided by DWT as part of the desk based investigations are presented in Figures 5 and 6, Appendix A.
- 3.1.2 There are records of reptiles within 1km of the proposed scheme from within the last 10 years: records nearest to the proposed scheme boundary being two records of grass snakes situated 1km south east of Kingsway roundabout (shown in Figure 5, Appendix A) and 11 records of slow worms for Little Eaton junction including three records approximately 600m from the proposed scheme boundary and 8 approximately 1km to the north (shown in Figure 6, Appendix A).
- 3.1.3 No reptile records were found on EnvIS.

Reptile surveys conducted in 2015 across the proposed scheme (which were based on the 2015 proposed scheme boundary) were all negative for reptiles (AECOM(b), 47071319-URS-05-RP-EN-010, 2016).

3.2 Field Survey

- 3.2.1 Three areas within the proposed scheme boundary and the associated 50m buffer were identified as having potential to support reptiles. The habitat description and number of refugia placed in each area, including density per hectare, is provided in Table 3 with associated photographs in Appendix B.2.

Table 3: Habitat Description for Reptile Survey Areas and Details on Refugia Placed

Area	Habitat Description	Number of refugia in area; Density per hectare	Photograph Reference (Appendix B)
8	Mosaic of disturbed ground including areas of unmanaged poor semi-improved grassland with some more species-rich areas of rabbit-grazed shorter grassland. Several wetter pockets with species typical of wetland community were also recorded. Much vehicle disturbance. Extensive scrub encroachment.	135; 32	1
10	Area of tall grassland overwhelmingly dominated by Yorkshire-fog, with lesser amounts of other robust grass species. Herbs represent only a minor sward component in this location. The most suitable habitat for reptiles was along the southern edge of the field, by a margin of tall herb and scrub.	30; 37	2
19	This tall coarse grassland area occurred adjacent to the River Derwent. It is likely to have been enriched by river silt and flooding events and it was lacking management. The invasive species Himalayan balsam (<i>Impatiens glandulifera</i>) occurs in frequent stands.	30; 37	3

3.3 Presence/ absence Survey Results

- 3.3.1 No reptiles were recorded during the surveys at any of the three locations across the proposed scheme; however a full suite of surveys could not be completed on Sites 10 and 19 due to access issues and interference with the artificial refugia.
- 3.3.2 Although no reptiles were found, juvenile toads *Bufo bufo*, a species of principal importance listed under Section 41 of the NERC Act 2006, were found within Site 8 near the northern boundary of the survey area and within Site 19.
- 3.3.3 Table 4 shows the results of the reptile survey. All the animals recorded were found beneath the refugia.

Table 4: Reptile Survey Results

Area	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6	Visit 7
8	-	-	7 juv* toads	-	-	-	1 juv toad
10	-	No access	No access	No access	No access	No access	No access
19	-	-	1 juv toad	Survey abandoned	Survey cancelled	Survey cancelled	Survey cancelled

*Juv = Juvenile

4 SUMMARY AND RECOMMENDATIONS

- 4.1.1 A presence/ absence survey for reptiles was undertaken at three locations within the proposed scheme boundary and associated 50m buffer identified as being of potential suitability to reptiles.

Site 8

- 4.1.2 Forty percent of the refugia on Site 8 were either moved or removed from site; however, due to the high density (32ha^{-1}) of refugia deployed, a sufficient number ($>10\text{ha}^{-1}$) (60%) were retained across the site to complete all seven replicate surveys. Notwithstanding the interference, no reptiles were recorded on site and reptiles are not considered to be a constraint at this location.

Site 10

- 4.1.3 Only one survey visit could be undertaken on Site 10 due to access issues and the full number of replicate surveys could not be undertaken. Further surveys are therefore advised in 2018 to confirm reptile presence/ absence.

Site 19

- 4.1.4 Only three survey visits could be completed on Site 19 with artificial refugia being moved or entirely removed during Visits 1 and 2 and with all but two artificial refugia removed on Visit 3. A sufficient number of replicates could therefore not be completed and the survey suite was voided. A repeat survey utilising artificial refugia is not advised; however visual encounter surveys over 10 survey visits could be undertaken in 2018 to help determine presence/ absence of reptiles at this location.
- 4.1.5 Recommendations for mitigation and/ or enhancement of the proposed scheme with regard to reptiles will be considered and reported in the Environmental Statement.

5 REFERENCES

AECOM(a) (2016), A38 Junction Improvements - Extended Phase 1 Habitat survey (Report number 47071319-URS-05-RP-EN-003).

AECOM(b) (2016) A38 Derby Junctions Reptile Survey Report (Ref. No. 47071319-URS-05-RP-EN-010).

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[http://webarchive.nationalarchives.gov.uk/20101110115126/http://www.highways.gov.uk/aboutus/documents/heathld_feat_reptiles_\(all\).pdf](http://webarchive.nationalarchives.gov.uk/20101110115126/http://www.highways.gov.uk/aboutus/documents/heathld_feat_reptiles_(all).pdf) – accessed 25.02.16.

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Appendix A Figures

Figure 1 – A38 Derby Junctions Scheme Location Plan

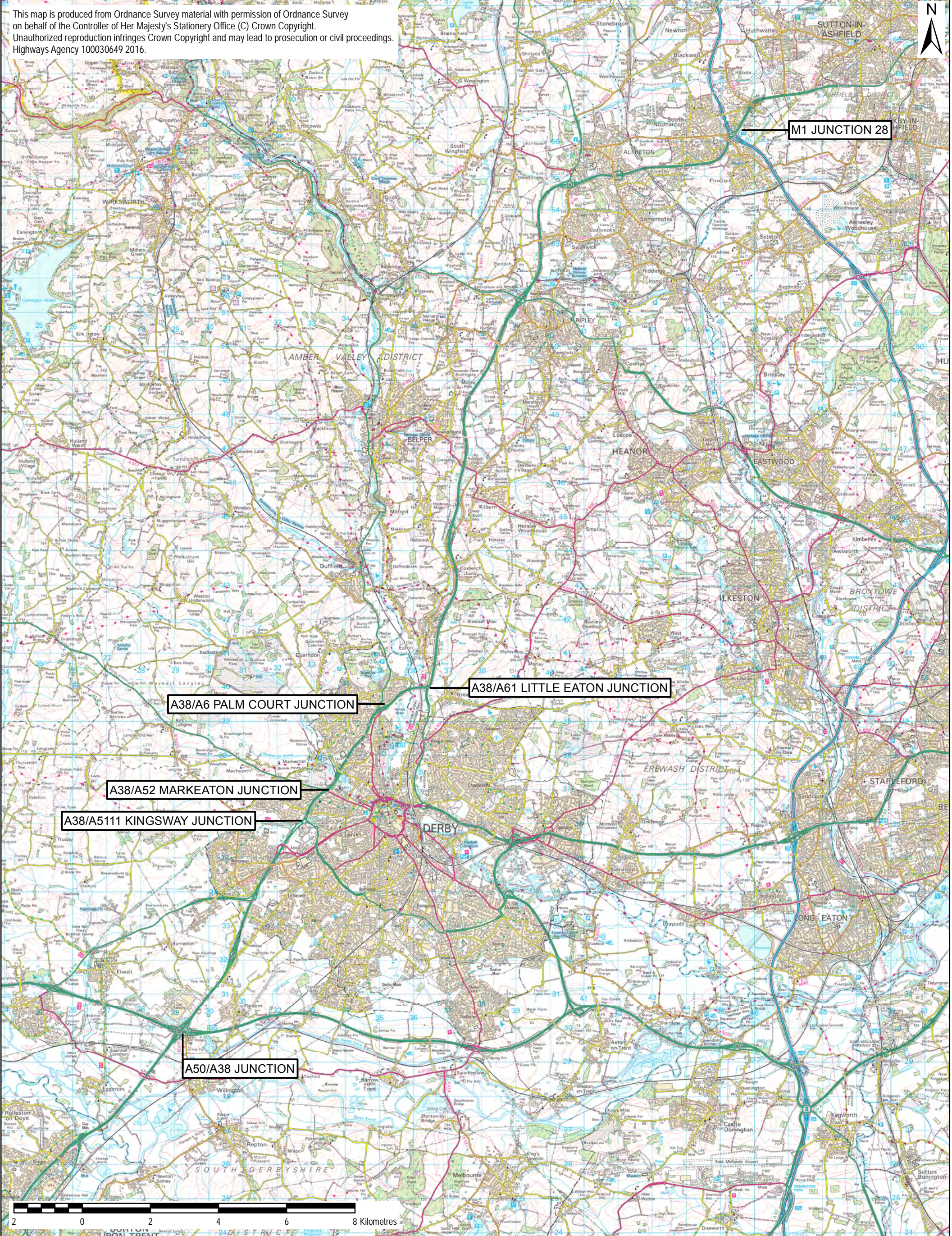
Figure 2 – A38 Derby Junctions Kingsway Markeaton Reptile Surveys



Figure 3 – A38 Derby Junctions Little Eaton Reptile Survey 2017

Figure 4 – A38 Derby Junctions Little Eaton Reptile Survey 2017 Sites 8, 10 and 19

Figure 5 – A38 Derby Junctions Kingsway Markeaton Desk Study 2016

Figure 6 – A38 Derby Junctions Little Eaton Desk Study 2016



Project Title/Drawing Title <div>A38 DERBY JUNCTIONS SCHEME LOCATION PLAN</div>	AECOM Internal Project Number 47071319			A38 Derby Junctions Project Highways England, Floor 5 2 Colmore Square 38 Colmore Circus Birmingham B4 6BN 
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	Date 04/02/2016	Scale @ A3 1:100,000	Purpose of issue FINAL	AECOM Royal Court Basil Close, Chesterfield Derbyshire. S41 7SL +44 (0) 1246 209221 +44 (0) 1246 209229 www.aecom.com 
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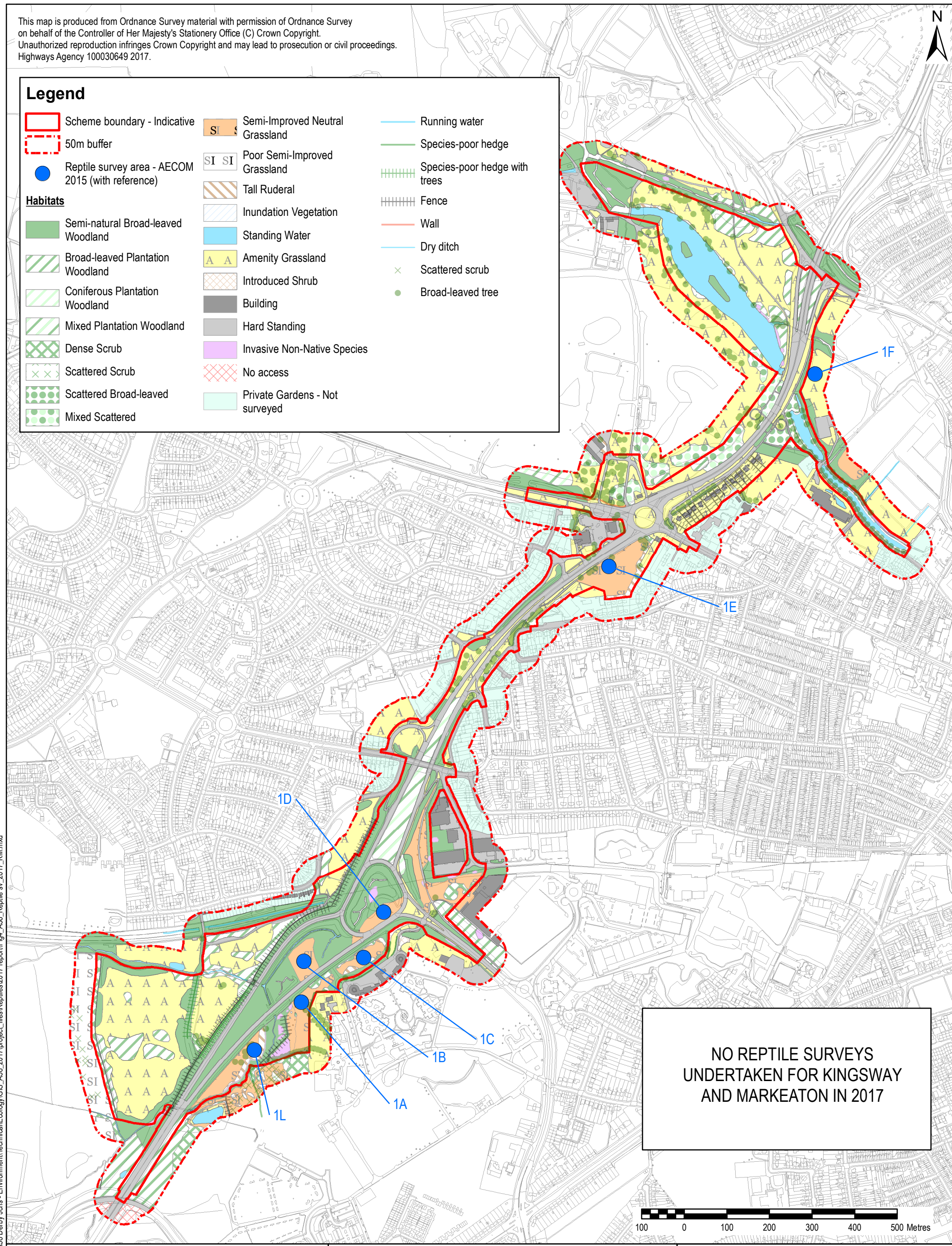
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Legend



- Scheme boundary - Indicative
- 50m buffer
- Reptile survey area - AECOM 2015 (with reference)

Habitats

- Semi-natural Broad-leaved Woodland
- Broad-leaved Plantation Woodland
- Coniferous Plantation Woodland
- Mixed Plantation Woodland
- Dense Scrub
- Scattered Scrub
- Scattered Broad-leaved
- Mixed Scattered
- SI Semi-Improved Neutral Grassland
- SI SI Poor Semi-Improved Grassland
- Tall Ruderal
- Inundation Vegetation
- Standing Water
- A A Amenity Grassland
- Introduced Shrub
- Building
- Hard Standing
- Invasive Non-Native Species
- No access
- Private Gardens - Not surveyed
- Running water
- Species-poor hedge
- + Species-poor hedge with trees
- + Fence
- Wall
- Dry ditch
- x Scattered scrub
- Broad-leaved tree

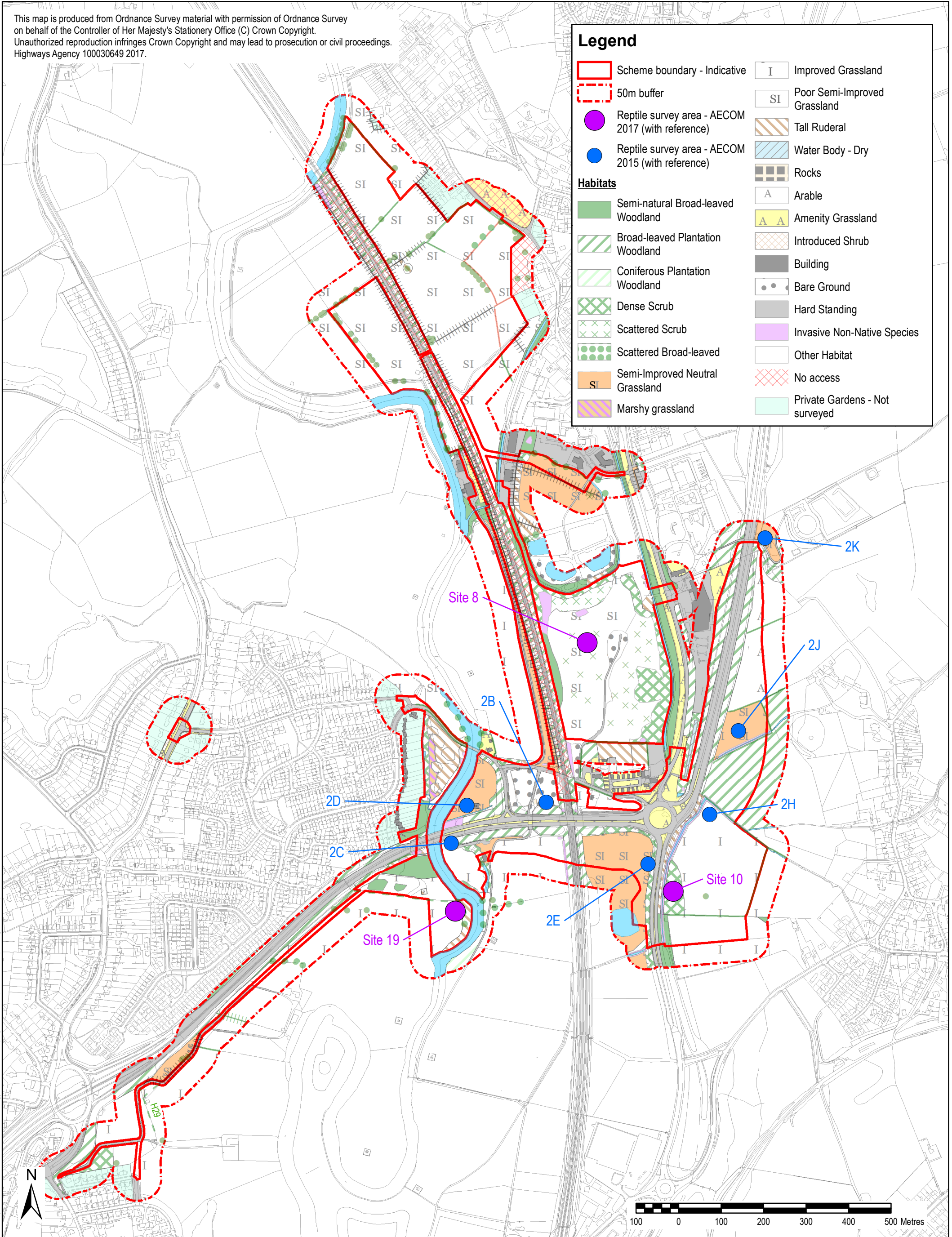




NO REPTILE SURVEYS
UNDERTAKEN FOR KINGSWAY
AND MARKEATON IN 2017

Project Title/Drawing Title A38 DERBY JUNCTIONS KINGSWAY MARKEATON REPTILE SURVEY 2017	AECOM Internal Project Number 60533462			A38 Derby Junctions Project Highways England, Floor 5 2 Colmore Square 38 Colmore Circus Birmingham B4 6BN 
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	Date 14/12/2017	Scale @ A3 1:8,000	Purpose of issue FINAL	AECOM Royal Court Basil Close, Chesterfield Derbyshire. S41 7SL +44 (0) 1246 209221 +44 (0) 1246 209229 www.aecom.com 
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Legend

- Scheme boundary - Indicative

50m buffer

Potential reptile habitat

Reptile refugia location, extent and number

Habitats

Broad-leaved semi-natural woodland

Broad-leaved plantation woodland

Coniferous plantation

Dense scrub

Scattered scrub

Parkland - Broad-leaved trees

SI

Semi-improved grassland

Improved grassland

Marshy grassland
- SI

Poor semi-improved grassland
- Tall ruderal
- Running water
- Dry pond
- Boulders
- Invasive Non-Native Species
- A

Arable
- Amenity grassland
- Introduced shrubs
- Building
- Bare ground
- Hard standing
- No access
- Other
- Private Gardens - Not surveyed

Part of Site 8

Part of Site 10

Part of Site 19



Project Title/Drawing Title

A38 DERBY JUNCTIONS
LITTLE EATON
REPTILE SURVEY 2017
SITES 8, 10 AND 19

AECOM Internal Project Number
60533462

Drawn
GSB

Checked
DN

Approved
PB

Date
18/12/2017

Scale @ A3
1:4,000

Purpose of issue
FINAL

Drawing Number
Figure 4

Rev

A38 Derby Junctions Project
Highways England, Floor 5
2 Colmore Square
38 Colmore Circus
Birmingham
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Legend

Scheme boundary - Indicative

1km buffer

Record provided by DWT Nov 2016

Grass Snake

Project Title/Drawing Title A38 DERBY JUNCTIONS KINGSWAY MARKEATON DESK STUDY 2016		AECOM Internal Project Number 60533462		<div><div><div></div><div>highways england</div></div><div><div>A38 Derby Junctions Project</div><div>Highways England, Floor 5</div><div>2 Colmore Square</div><div>38 Colmore Circus</div><div>Birmingham B4 6BN</div></div></div>
		Drawn GSB	Checked .	Approved .
Date 13/06/2017		Scale @ A3 1:15,000		Purpose of issue FINAL
Drawing Number Figure 5		Rev .		<div><div>AECOM</div><div>Royal Court</div><div>Basil Close, Chesterfield</div><div>Derbyshire, S41 7SL</div><div>+44 (0) 1246 209221</div><div>+44 (0) 1246 209229</div><div>www.aecom.com</div></div>

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File Name: X:\Highways Agency\47071390 A38 Derby Jns - Environment\Technical\Ecology\GIS_A38_2017\project_files\Reptiles\A38_Reptiles_DeskStudy_2017.mxd

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Legend



Scheme boundary - Indicative

1km buffer

Record provided by
DWT Nov 2016



Grass Snake

Slow-worm

Project Title/Drawing Title A38 DERBY JUNCTIONS LITTLE EATON DESK STUDY 2016	AECOM Internal Project Number 60533462			<div></div> <div></div>			
	Drawn GSB	Checked .	Approved .				
	Date 13/06/2017	Scale @ A3 1:15,000	Purpose of issue FINAL				
	Drawing Number Figure 6		Rev .				
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Appendix B Photographs

Site	Photograph Reference	Photograph
8	1	
10	2	
19	3	