REPTILE SURVEY REPORT

LAND AT SPRINGFIELDS, HOOK LANE, ALDINGBOURNE

On Behalf of Domusea Developments Ltd

Planning Issue

Prepared by	GS
Checked by	CO
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SUMMARY

Lizard Landscape Design and Ecology has been commissioned to undertake a Reptile Presence / Absence Survey and Reptile Population Class Assessment of land at Springfields, Hook Lane, Aldingbourne *(Grid Reference: SU 935 045 – hereafter referred to as 'the site'*).

The surveys were recommended within the Preliminary Ecological Appraisal undertaken by Lizard Landscape Design and Ecology in March 2019, due to habitats on-site being identified as having the potential to support protected species of reptiles. The detailed reptile survey has been carried out in accordance with relevant best practice guidelines; this report outlines the results of the reptile survey and has been prepared by George Sayer (*Project Ecologist – Lizard Landscape Design and Ecology*).

25 no. artificial reptile refugia *(roofing felt; 0.50 x 1.0 m^2)* were laid out around the area on 17th June 2019 and allowed to settle for 14 days prior to commencement of the survey. 07 no. site visits were conducted, where the number, species, age and sex of any reptiles present were recorded.

The detailed reptile surveys have revealed that the site is utilised by a *'low'* population of slow worms. The population count is based on the peak number of adult slow-worms found during a single survey visit. The surveys were carried out during suitable weather and during a suitable time of year and as such are considered to be representative of the population on site.

A full mitigation method statement is included in Section 6.0 below. This method statement has been devised to ensure that no reptiles shall be recklessly or intentionally killed or injured during the construction process, in line with *The Wildlife and Countryside Act 1981 (as amended).* Small areas of marginal habitat suitable for reptiles would be lost through the proposals; these areas shall be replaced through the retention and protection of boundary vegetation to the east and north, and creation of a protected buffer zone along the southern boundary , to ensure the continued favourable conservation status of reptiles within the immediate vicinity.

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1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned to undertake a Reptile Presence / Absence Survey and Reptile Population Class Assessment of the of land to the rear of Springfields, Hook Lane, Aldingbourne *(Grid Reference: SU 935 045 – hereafter referred to as 'the site'*).

1.2 The surveys were recommended within the Preliminary Ecological Appraisal undertaken by Lizard Landscape Design and Ecology in March 2019, due to habitats on site being identified as having the potential to support protected species of reptiles.

1.3 The detailed reptile survey has been carried out in accordance with relevant best practice guidelines; this report outlines the results of the reptile survey and has been prepared by George Sayer (*Project Ecologist – Lizard Landscape Design and Ecology*) and reviewed by Catherine O'Reilly (*Senior Ecologist – Lizard Landscape Design and Ecology).*

Site Description

1.4 The ecological survey conducted during March 2019 identified habitats of improved grassland margins; and tall ruderal, all of which offered some potential for reptiles.

1.5 The survey area covers c. 0.46Ha and is located on Hook Lane, a country lane between the villages of Woodgate and Aldingbourne, approximately 7.0 km west of the centre of the city of Chichester. The site is enclosed by defunct mixed-species hedges; scrub and treelines and is bordered by Hook Lane to the west; a patch of scrubby woodland to the east; residential dwellings with extensive gardens to the north and south of the western section; and a new housing development to the north of the eastern section.

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Survey Rationale

1.6 Development proposals propose the removal and disturbance of small areas of suitable reptile habitat, without suitable mitigation this could result in a contravention of *The Wildlife and Countryside Act 1981* (*As Amended*). The habitats considered to hold potential for reptiles consist of: improved grassland and tall ruderal margins of the site.

Development Proposals

1.7 The proposals involve demolition of the existing dwelling and construction of 10 new dwellings with associated access drive, parking and gardens. The boundary vegetation is largely proposed for retention and reinforcement, with the exception of several large Monterey cypress and small sections of hedge.

Widespread Reptiles & Legislation

1.8 The common or viviparous lizard *(Zootoca vivipara)* has a wide range over most of Europe. Its body can reach 7.0 cm in length and can have very variable patterns and colouration. Slow worm *(Anguis fragilis)* is also found over most of Europe; it can reach lengths of up to 50.0 cm and is typically brown, grey, or reddish, with females frequently having a dorsal stripe. Grass snake *(Natrix Helvetica formerly Natrix natrix)* may reach up to 120.0 cm in length and is thick-bodied – many have a distinct yellow-black bordered collar around the neck. Adders *(Vipera berus)* have a characteristic diamond pattern along their backs and rarely exceeding 70.0cm in length.

1.9 Adders, grass snakes, common lizards and slow worms are protected against killing, injury or sale under *The Wildlife and Countryside Act 1981*. Developments that could predictably kill or injure reptiles could result in an offence. Furthermore, these species are targets of UK and Local Biodiversity Action Plans and listed as *Species of Principle Importance* under *Section 41* of the *Natural Environment and Rural Communities Act 2006*. This obligates local authorities to have regard to the purpose of conserving biodiversity, with particular emphasis on targeted species.

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2.0 SCOPE OF THE SURVEY

2.1 The aim of the reptile survey was:

- *To identify the presence / absence of reptile species within the site as a whole;*
- *To estimate population size classes for said populations; and;*
- *To advise mitigation for reptiles within the proposed development scheme.*

3.0 METHODOLOGY

3.1 25 no. artificial reptile refugia *(roofing felt; 0.50 x 1.0 m^2)* were laid out around the area on 17th June 2019 and allowed to settle for 14 days prior to commencement of the survey.

3.2 07 no. site visits were conducted, where the number, species, age and sex of any reptiles present were recorded.

3.3 Surveys were undertaken where possible during recommended times *(08:00–11:00 and 16:00-18:30)* with suitable weather conditions for surveying reptiles *(guidelines recommend temperatures 9-18°C with intermittent or hazy sunshine during warm days).* Weather conditions recorded at each survey visit are shown in Table No. 1 below.

Table No. 1 - Details of Weather Conditions during the Reptile Surveys

Survey	*Date of Visit*	*Time*	*Temperature*	*Weather*
01	1/7/2019	15:30	20ºC	Clear & Sunny
02	10/7/2019	09:00	18ºC	Overcast
03	12/7/2019	09:30	20ºC	Light Cloud
04	16/7/2019	10:20	18ºC	Light Cloud
05	7/8/2019	11:00	18ºC	Light Cloud
06	21/8/2019	09:30	16ºC	Light Cloud
07	6/9/2019	09:30	14ºC	Light Cloud

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3.4 Evaluation Methodology

3.4.1 Despite its withdrawal, *Natural England Technical Information Note TIN102* still provides a valuable resource tool to allow the comparison and evaluation of reptile populations on site. A population size class category has been derived using guidance provided by the *Key Reptile Site Register Mechanism (Froglife – Advice Sheet 10)*, designed to promote the protection of key reptile areas.

3.4.2 The criteria for key reptile site selection include:

1) *supports 3 or more reptile species;*
2) *supports 2 snake species;*
3) *supports an exceptional population of one species (see Table No. 02);*
4) *supports an assemblage of species scoring at least 4 (see Table No. 02);*
5) *supports a local rarity or even adder with low population score.*

3.4.3 The population size classes used in this instance are provided in *Froglife – Advice Sheet 10* and displayed in Table No. 02.

Table No. 02 – Population Scores for Selection of Key Reptile Sites

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

3.4.4 Figures in Table No. 02 refer to the maximum number of reptile adults seen by observation and / or under refugia by one person during one survey visit with artificial refugia placed at a maximum density 10/ha.

4.0 RESULTS

4.1 Background Information

4.1.1 Records of common lizard (*Zootoca vivipara);* adder (*Vipera berus);* grass snake (*Natrix natrix*) and slow worm (*Anguis fragilis*) exist within 2.0 km of the site.

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4.2 Field Survey

4.2.1 A '*low'* population of slow worms was recorded on site. A summary of reptiles seen on the site during the survey visits is shown below in *Table No. 03*. The full results are shown in *Appendix No. 01 – Full Survey Results* and *LLD1680-ECO-FIG-001 – Figure No. 01 - Location of Artificial Reptile Refugia*.

4.2.2 The greatest number of Slow Worm recorded during one survey visit was three, recorded on the third visit. The second visit recorded only two adult slow-worm but also 13 juvenile slow-worm.

4.2.3 Slow worms were found beneath 56% of artificial refugia spread throughout the site, with reptiles spread thinly along the northern, eastern and southern margins.

4.2.4 No other reptile species were recorded during the survey visits.

Table No.3 – Reptile Survey Summary

Visit No.	***Slow Worm Adult***	***Slow Worm Juvenile***	***Grass Snake***
01	0	1	0
02	2	13	0
03	3	2	0
04	2	4	0
05	3	1	0
06	1	2	0
07	1	3	0
Peak Count	**3**	**13**	**0**

Constraints and Limitations

4.2.5 No significant constraints were encountered. The first three surveys were undertaken during a period of hot weather; however the surveys were undertaken earlier in the morning and later in the afternoon to ensure weather conditions were suitable. The findings are considered to be representative.

5.0 EVALUATION

5.1 The results obtained from the detailed reptile survey carried out in July-September 2019 revealed a '*low'* population of Slow Worm. As a *'general rule of thumb'* it is accepted that a reptile survey under optimal conditions will reveal around 10% of the reptile population under scrutiny.

5.2 Slow worms were found under 56% of the artificial refugia and were spread thinly along the northern, eastern and southern margins. The reptiles are considered to utilise the margins of the field and are likely to use the hedges and adjacent scrubby woodland area as hibernation habitat.

5.3 The development area would remove a small proportion of the habitat currently in use by reptiles; it is considered feasible to retain a suitable margin along the base of trees and hedge to the northern and eastern boundaries, with a larger buffer zone along the southern boundary. Vegetation outside of these areas would be carefully mown under supervision, with reptile fencing installed to protect the marginal habitats. This is detailed in the *Reptile Mitigation Method Statement* (see Section 6.0).

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6.0 REPTILE MITIGATION METHOD STATEMENT

6.1 The detailed reptile surveys have revealed that the margins of the site are utilised by a *'low'* population of slow worms; a full translocation exercise is not considered proportionate; however, sufficient mitigation must be put in place to protect both reptiles and their habitat. The method statement below has been designed to ensure that no reptiles shall be recklessly or intentionally killed or injured during the construction process, in line with *The Wildlife and Countryside Act 1981 (as amended).* The method statement also ensures that suitable reptile habitat is retained and replaced within the site, such that the favourable conservation status of reptiles within the local vicinity is not negatively impacted.

Receptor Area

6.2 A strip of land along the northern and eastern boundaries (1.5 m width) shall be retained and protected using temporary reptile fencing. A wider (2.5 m) strip of land along the southern boundary shall be retained and protected, and enhanced further for reptiles.

6.3 The receptor area will be enhanced with compost, log piles and hibernacula suitable for reptiles. Sections of vegetation within the receptor zone should be cut annually with areas cut on a rotational basis. Occasional cutting of the area would prevent scrub encroachment and ensure that habitat on site remains suitable. Small patches of scrub shall be allowed to remain to provide structural variation and shelter for reptiles.

6.4 Prior to installation of temporary reptile fencing, the receptor area must be well-established, ready to receive reptiles and suitable for habitation by reptiles year-round. The grassland must have established over the course of at least one season prior to translocation, to ensure the vegetation is sufficiently dense and to ensure sufficient invertebrate prey are established.

Supervised Vegetation Clearance

6.5 All piles of debris; compost; and other vegetation would be inspected by hand and then carefully removed from the site with the use of machinery as appropriate.

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6.6 An initial strim would reduce vegetation on the site to no less than 15.0 *cm* and a subsequent cut would then reduce vegetation to a height of < 5.0 *cm* rendering the area unsuitable for reptiles All arisings would be removed from the site to prevent the creation of compost piles which are attractive to reptiles. Vegetation on site would be maintained to a height of less than 5.0 *cm* before and during any construction activities to render the area unsuitable for reptiles.

6.7 Temporary reptile exclusion fencing would be installed around the construction zone following vegetation clearance to prevent movement of reptiles into this area. The reptile exclusion fencing will be 750 mm in height and constructed using 1000-gauge UV-treated polythene fixed to 50 x 50 mm stakes and buried 250 mm underground. A trench will be excavated to a depth of approximately 250 mm; the fence sheet laid around the edge and the trench back filled.

6.8 The above works would be conducted under the supervision of a suitably qualified ecologist to ensure the welfare of any reptile / amphibian species that may otherwise be adversely affected. The fencing would be maintained for the duration of the construction period and until all works have been completed on site. Fencing would be checked on a regular basis and repaired where necessary as soon as possible.

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7.0 REFERENCES

Griffiths, R. A. and Inns, H. (1998): Surveying - Herpetofauna Workers' Manual

Gent, A. H. & Gibson, S. D. (Eds.): Joint Nature Conservation Committee, Peterborough, Pp. 1–6

www.arc-trust.org: Herptile Conservation Trust and Froglife Merged in 2009

Guidelines from Froglife (Factsheet 10): Froglife; 1999

Natural England Technical Information: Note TIN102; Natural England; 2011

Appendix A – Full Survey Results

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Visit No. 1

Surveyor	Will Mills			
Date	01/07/19			
Time	15:30			
Temperature	20ºC			
Wind	2			
Weather	Clear & Sunny			
Tile No.	Species	Ad/J	Sex	Notes
7	Slow Worm	Juvenile	Unknown	

Visit No. 2

Surveyor	George Sayer			
Date	10/07/19			
Time	09:00			
Temperature	18ºC			
Wind	0			
Weather	Overcast			
Tile No.	Species	Ad/J	Sex	Notes
3	Slow Worm	Juvenile	Unknown	
4	Slow Worm	Adult	Male	
6	Slow Worm	Juvenile	Unknown	
7	Slow Worm	Juvenile	Unknown	
7	Slow Worm	Juvenile	Unknown	
10	Slow Worm	Juvenile	Unknown	
10	Slow Worm	Juvenile	Unknown	
11	Slow Worm	Juvenile	Unknown	
14	Slow Worm	Juvenile	Unknown	
15	Slow Worm	Adult	Female	
16	Slow Worm	Juvenile	Unknown	
17	Slow Worm	Juvenile	Unknown	
17	Slow Worm	Juvenile	Unknown	
17	Slow Worm	Juvenile	Unknown	
17	Slow Worm	Juvenile	Unknown	

Visit No. 3

Surveyor	George Sayer			
Date	12/07/19			
Time	09:30			
Temperature	20ºC			
Wind	f1			
Weather	Light Cloud			
Tile No.	Species	Ad/J	Sex	Notes
1	Slow Worm	Adult	Male	
6	Slow Worm	Adult	Female	
7	Slow Worm	Adult	Female	
9	Slow Worm	Juvenile	Unknown	
15	Slow Worm	Juvenile	Unknown	

Visit No. 4

Surveyor	George Sayer			
Date	16/07/19			
Time	10:20			
Temperature	18ºC			
Wind	f1			
Weather	Light Cloud			
Tile No.	Species	Ad/J	Sex	Notes
1	Slow Worm	Juvenile	Unknown	
5	Slow Worm	Adult	Female	
7	Slow Worm	Juvenile	Unknown	
7	Slow Worm	Adult	Female	
8	Slow Worm	Juvenile	Unknown	
8	Slow Worm	Juvenile	Unknown	

Visit No. 5

Surveyor	Niall Walkden			
Date	07/08/19			
Time	11:00			
Temperature	18ºC			
Wind	F2			
Weather	Light Cloud			
Tile No.	Species	Ad/J	Sex	Notes
4	Slow Worm	Adult	Male	
4	Slow Worm	Adult	Female	
5	Slow Worm	Adult	Male	
9	Slow Worm	Juvenile	Unknown	

Visit No. 6

Surveyor	George Sayer			
Date	21/08/19			
Time	09:30			
Temperature	16ºC			
Wind	F0			
Weather	Light Cloud			
Tile No.	Species	Ad/J	Sex	Notes
6	Slow Worm	Adult	Female	
9	Slow Worm	Juvenile	Unknown	
10	Slow Worm	Juvenile	Unknown	

Visit No. 7

Surveyor	George Sayer			
Date	06/09/2019			
Time	09:30			
Temperature	14ºC			
Wind	F1			
Weather	Light Cloud			
Tile No.	Species	Ad/J	Sex	Notes
6	Slow Worm	Adult	Female	
9	Slow Worm	Juvenile	Unknown	
10	Slow Worm	Juvenile	Unknown	
14	Slow Worm	Juvenile	Unknown	

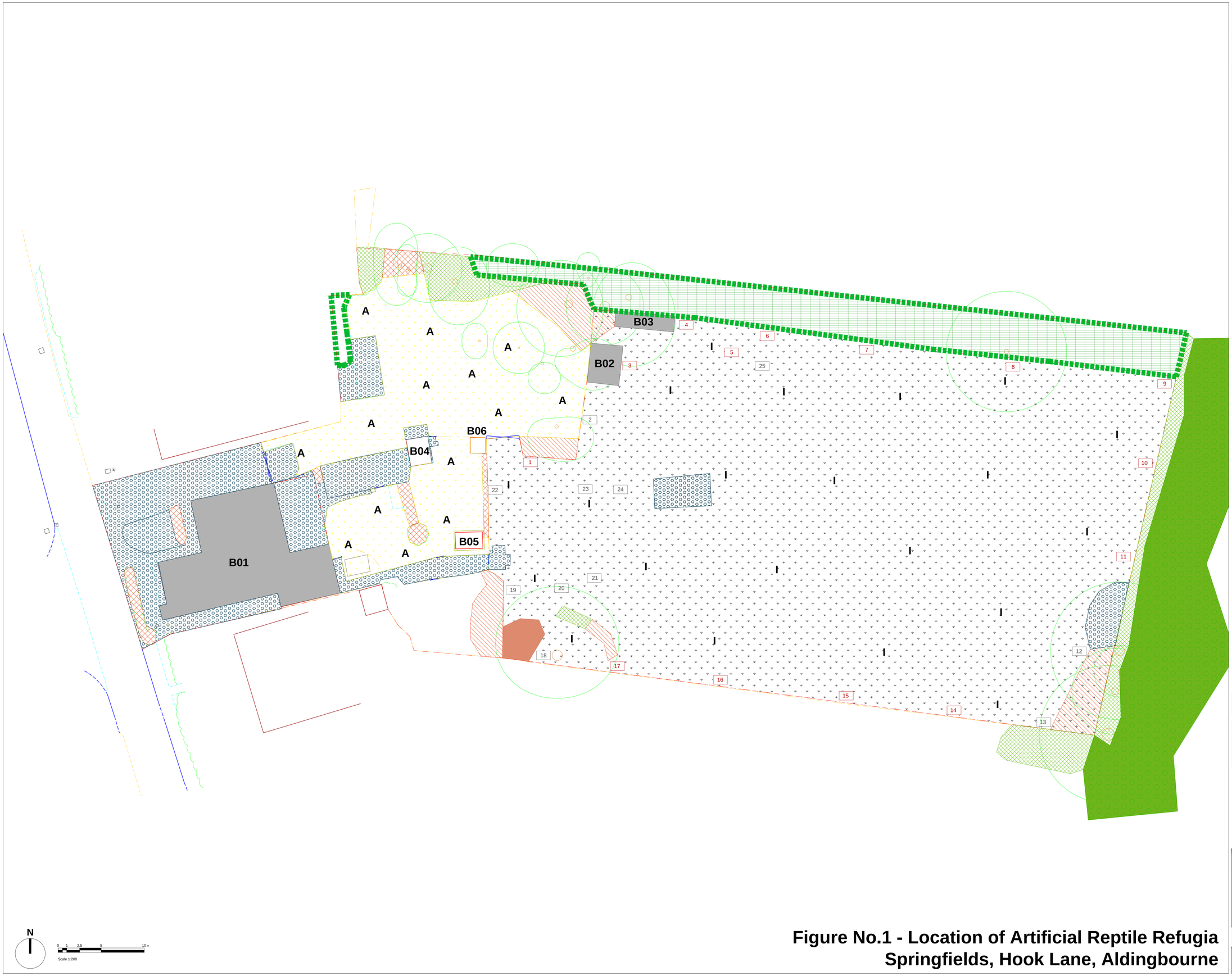

Figure No.1 - Location of Artificial Reptile Refugia
Springfields, Hook Lane, Aldingbourne

Legend

- A — Amenity Grassland.
- I — Improved Grassland.
- Site Boundary.
- Bare/Hard Ground.
- Existing Building.
- Defunct, Species Poor Hedge with Trees.
- Introduced Shrub.
- Dense / Continuous Scrub.
- Tall Ruderal.
- 1 — Reptile Refugia.
- 1 — Reptile Refugia: Protected Species of Slow-worm Recorded.
- Compost Pile.
- Mixed Woodland.

Planning Issue

Rev	Description	Date	Initials
00	Planning Issue	06.09.19	WM

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Project Title and Location
Springfields, Hook Lane
Aldingbourne

Drawing Title
Figure No.1 - Location of Artificial Reptile Refugia

Scale	*Drawn*	*Approved*	*Date*
1:200@A1	WM	GS	06.09.19

Drawing No	*Revision*
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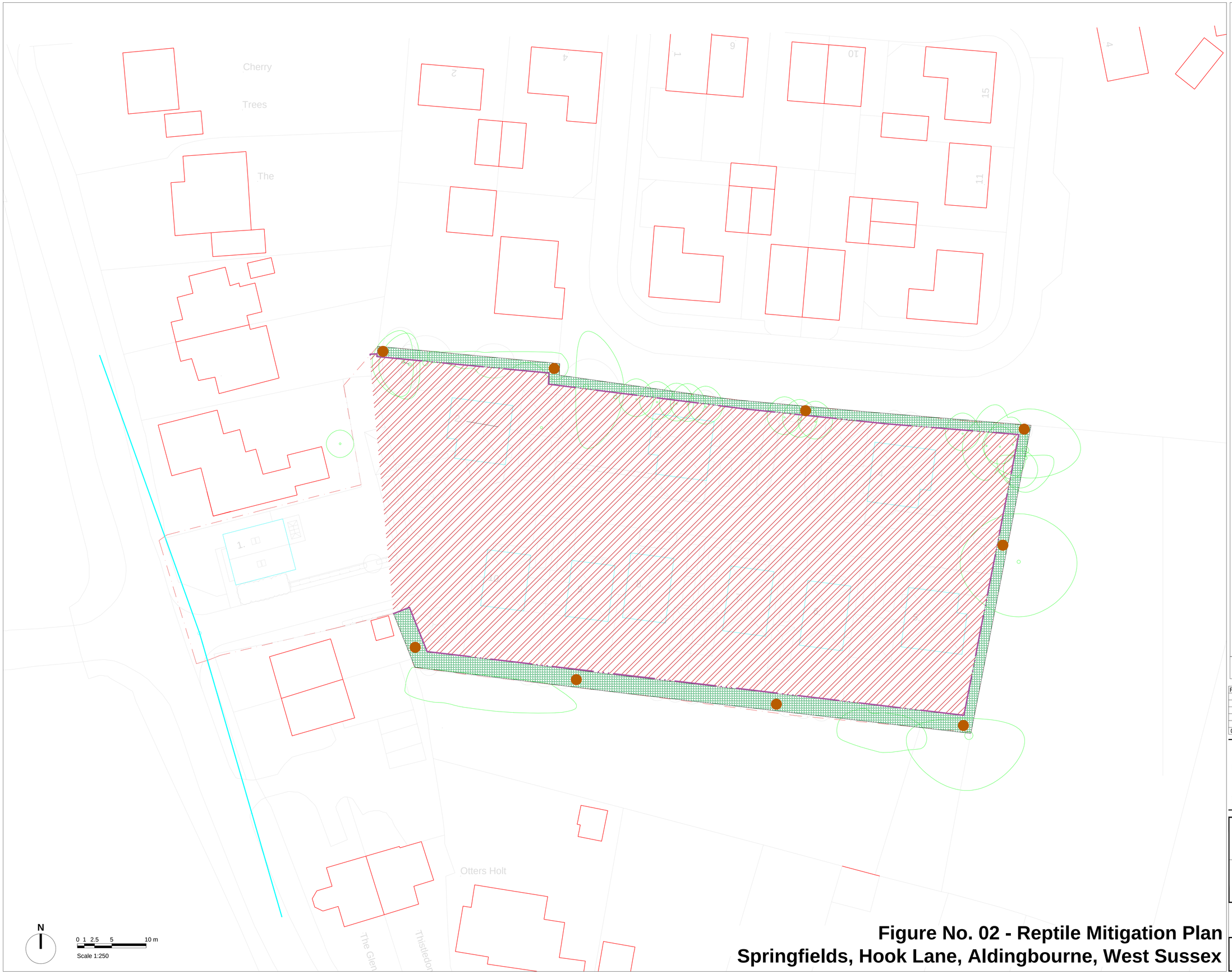

Figure No. 02 - Reptile Mitigation Plan
Springfields, Hook Lane, Aldingbourne, West Sussex

Legend

- Site Survey Boundary.
- Trees Proposed to be Retained.
- Area Proposed for Supervised Vegetation Clearance.
- Proposed Reptile Buffer / Habitat Zone.
- Proposed Log Piles / Compost Piles / Reptile Hibernacula.
- Temporary Reptile Fencing.

Planning Issue

Rev	Description	Date	Initials
00	Planning Issue	06.09.19	GS

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Project title
Springfields
Hook Lane, Aldingbourne, West Sussex

Drawing title
Reptile Mitigation Plan
Domusea Developments Ltd

Scale	*Drawn*	*Date*
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