

Reptile Survey

**Land at Thames Way,
Northfleet, Kent DA11 8HN**

Report to:
Speedgreen (Thames Way) Limited

23rd September 2025



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Information, including any survey data, contained within this report must only be relied upon for a maximum period of 18 months from the date of the report. If there is any alteration to site conditions within this period, the assessment should be updated.

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1. Summary

Background

- 1.1 Land at Thames Way has been proposed for a new development project.
- 1.2 A preliminary ecological assessment of the site previously determined that available habitat appeared suitable for reptiles.
- 1.3 Calumma Ecological Services was subsequently commissioned to undertake a reptile survey of the proposed development site.

Reptiles

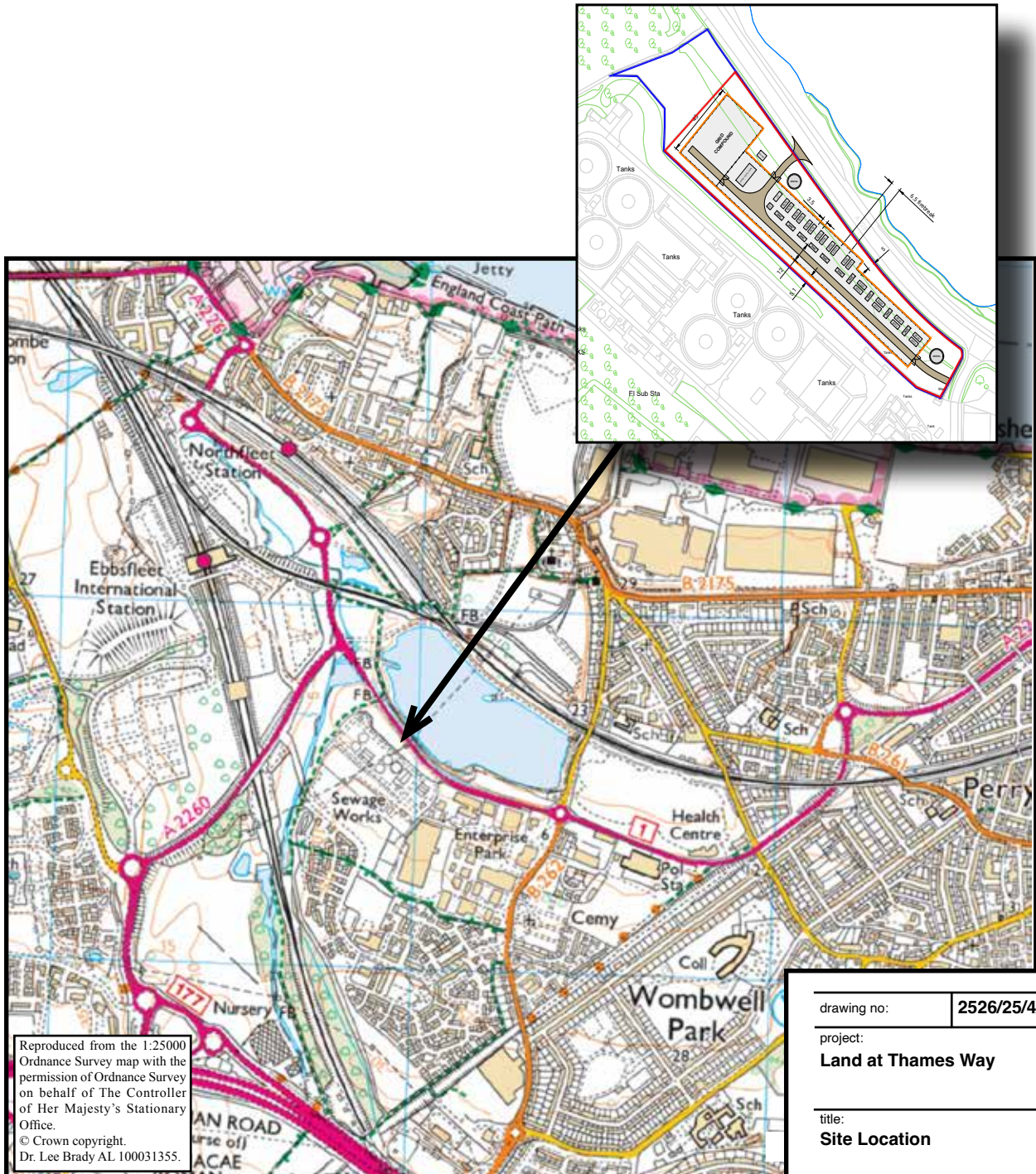
- 1.4 Survey work undertaken within the proposed development site in 2025 confirmed the presence of a low population of breeding viviparous lizard.
- 1.5 Appropriate mitigation for reptiles is recommended.
- 1.6 If development work is not undertaken within 18 months of the date of this report, a further reptile assessment should be undertaken.

2. Site Location and Assessment

Site Name:	Land at Thames Way - <i>the site</i> ; Fig. 2.1
Grid Reference:	TQ 619 736
County:	Kent
Planning Authority:	Gravesham Borough Council
Planning Refs:	Tbd
National Character Area:	North Kent Plain
Client:	Speedgreen (Thames Way) Limited
Proposed Disturbance:	Installation of Battery Energy Storage System
Red Line Application Area:	0.9908 Ha
Development Size:	Small
Ecological Zone of Influence:	1 km
Survey Request:	Reptile survey
Surveyor:	Lee Brady PhD, BSc (Hons), MCIEEM Great Crested Newt Class Licence: 2015-19076-CLS-CLS Accredited Under Level 2 Bat Licence: 2023-11064-CL18-BAT
Assessment Period:	1 st July - 12 th September 2025
Limitations:	This report should be read in conjunction with the PEA and may need to be updated if new information becomes available.
Reliance:	Information, including any survey data, contained within this report must only be relied upon for a maximum period of 18 months from the date of the report. If there is any alteration to site conditions within this period, the assessment should be updated.

Fig. 2.1 Land at Thames Way, Northfleet, Kent DA11 8HN (TQ 619 736)

Location of study site.



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3. Legal Protection

The protection of animals and plants in the United Kingdom is governed by several different regulations and conventions. Principally, these include:

- The Wildlife & Countryside Act 1981 (as amended);
- The Habitats and Species Directive (92/43/EC) enacted through the Conservation of Habitats and Species Regulations 2010 (updated in 2017);
- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Hedgerow Regulations 1997;
- The National Planning Policy Framework (as amended);
- Biodiversity Net Gain.

Species and habitats receive legal protection that may prohibit sale, disturbance and/or killing/injury.

3.1 The Mitigation Hierarchy

The mitigation hierarchy is a widely accepted framework used in UK planning policy and environmental regulation to manage the impacts of development on biodiversity. It is structured as a sequence of steps that must be considered in order of priority:

Avoid – Prevent impacts on biodiversity wherever possible, through careful site selection and design.

Minimise – Reduce the extent of any unavoidable impacts through design and management changes.

Mitigate – Implement measures to reduce the severity or duration of impacts on habitats and species.

Compensate (or Offset) – Where impacts remain after avoidance and mitigation, provide biodiversity gains elsewhere to ensure no net loss, or ideally, a net gain.

This framework is embedded in national planning policy and biodiversity legislation, including the National Planning Policy Framework and the Environment Act 2021. It provides a structure for ensuring that development decisions are consistent with legal obligations to protect biodiversity and deliver Biodiversity Net Gain.

3.2 Reptiles

All native reptiles are listed on Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone to intentionally kill or injure a so-called ‘widespread’ reptile species (viviparous lizard, slow-worm, grass snake or adder), or sell or offer for sale without a licence.

The sand lizard and smooth snake, their breeding sites or resting places (any structure that may offer refuge) are protected under Regulation 41 of The Conservation of Habitats and

Species Regulations. It is an offence for anyone intentionally to kill, injure or handle either of these two species, to possess an animal (whether live or dead), deliberately disturb a sheltering animal, or sell or offer an animal for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by sand lizards and smooth snakes for shelter.

4. Desktop Study

4.1 MAGIC Geographic Information System

The MAGIC website offers reliable geographic information on the natural environment in Great Britain, encompassing rural, urban, coastal, and marine areas. Managed by Natural England (NE) and overseen by a Steering Group representing the MAGIC partnership organisations, the website presents this information through an interactive map equipped with mapping tools for exploration and analysis.

<http://magic.defra.gov.uk>

4.1.1 Priority Habitat Designations

Information available through MAGIC indicates that habitat within the application area forms part of a larger parcel of land that has previously been designated as open mosaic habitat on previously developed land (draft).

4.1.2 Statutory Designated Areas

No statutory designated sites are associated with the proposed development site.

4.1.3 Non-statutory Designated Areas

No non-statutory designated sites are associated with the proposed development site.

4.1.4 Site of Special Scientific Interest Impact Risk Zone

NE has created a tool that is accessed via MAGIC to determine the risk of development impact on designated areas (including SSSIs, SACs, SPAs and Ramsar sites). Available information indicates that the proposed development is located within a SSSI risk zone.

The SSSI risk tool provides guidance on when the Local Planning Authority should consult NE. NE will then provide advice on any potential impacts and how these might be avoided or mitigated.

4.1.5 European Protected Species Licences

Information available via MAGIC reveals that no EPS mitigation licences for amphibians or reptiles have been issued by NE within the 1 km ZOI.

4.1.6 Great Crested Newt Class Survey Licence Returns

Information available via MAGIC reveals that great crested newt has not previously been reported to NE within the 1 km ZOI.

4.2 Records Searches

Available records for protected species have been obtained from Kent and Medway Biological Records Centre and Kent Reptile and Amphibian Group.

Note that the availability of records is directly related to survey effort. A lack of records does not necessarily indicate the absence of protected species.

4.2.1 Kent and Medway Biological Records Centre

Supplied records reflect both protected and otherwise notable species, including those listed on the NERC Act (Section 41), red-listed birds, and Schedule 1 or 5 species under the Wildlife and Countryside Act 1981 (as amended).

Amphibians

- Great crested newt (*Triturus cristatus*): Historic record (1981-1990) from Barming Station.
- Smooth newt (*Lissotriton vulgaris*), palmate newt (*L. helveticus*), common frog (*Rana temporaria*), and common toad (*Bufo bufo*) all recorded within 2 km, including multiple recent records.

Reptiles

- Slow-worm (*Anguis fragilis*): Recorded in 2009 and 2011 from Northfleet and Shorne Marshes.
- Common (viviparous) lizard (*Zootoca vivipara*) and grass snake (*Natrix helvetica*): Multiple records within 2 km, including recent records (2016) from Ebbsfleet and historic data from Swanscombe, Springhead, and Northfleet Marshes.

4.2.2 Kent Reptile and Amphibian Group (KRAG)

KRAG is one of the primary data holders for reptiles and amphibians in Kent (including areas of former West Kent now included in Greater London). Information supplied by KRAG indicates that smooth newt and great crested newt have been recorded within 1 km of the application area. The closest validated great crested newt record was a historical observation reported from a site located 100 m to the north (Appendix VII).

Viviparous lizard, slow-worm and grass snake have also been recorded within 1 km of the application area. The closest reptile observation was for viviparous lizard, recorded 220 m to the south west.

KRAG has prepared a summary risk assessment that describes the likely presence of herpetofauna (Table 4.1). The risk assessment is based on statistical analysis of available distribution data but does not take into consideration the quality of habitat available within the proposed development site.

Species	Likelihood of Presence
<i>Amphibians</i>	
Common Frog	Likely
Common Toad	Possible
Natterjack	<i>n/a</i>
Smooth Newt	Likely
Palmate Newt	Possible
Great Crested Newt	Possible
<i>Reptiles</i>	
Viviparous Lizard	High
Slow-worm	Likely
Sand Lizard	Unlikely
Grass Snake	High
Adder	Unlikely
Smooth Snake	<i>n/a</i>

Table 4.1. Herpetofauna risk assessment prepared by Kent Reptile and Amphibian Group.

5. Survey Methods

5.1 Site Assessment

A walkover survey was undertaken during the PEA on 1st July 2025 to assess the site’s potential for supporting populations of different herpetofauna species and to identify areas where such species were most likely to be found (Calumma E.S., 2025).

5.2 Reptile Presence/Likely Absence Survey

Reptile survey work undertaken during 2025 included direct visual searching for basking animals and examination of any available ‘in-situ’ refugia (e.g. stones, wood etc). Artificial cover objects (ACOs) were also deployed in suitable habitat. ACOs consisted of 0.5 m² mats constructed from roofing felt that were placed in areas offering potential habitat for basking animals. A total of 40 ACOs were deployed.

Following the PEA, the site was visited on a total of 8 occasions to visually survey for reptiles and to allow the monitoring of all cover objects. See Table 5.1 for reptile survey dates. Distribution of cover objects is illustrated in Fig. 5.1.

Date	Survey Period (GMT)
24/7/2025	09:00 – 13:00
31/7/2025	09:00 – 12:00
8/8/2025	08:00 – 09:00
19/8/2025	16:00 – 17:00
28/8/2025	09:00 – 10:00
29/8/2025	15:00 – 16:00
2/9/2025	09:00 – 10:00
12/9/2025	10:00 – 11:00

Table 5.1. Dates for reptile survey visits during 2025. Survey periods are ranked by hour.

5.2.1 Weather Conditions

Survey work was undertaken during appropriate survey conditions wherever possible. Meteorological data is summarised in Table 4.2.

Date	Max. Air Temperature (°C)	Cloud Cover (%)	Wind Speed	Wind Direction	Precipitation	Ground Conditions
24/7/2025	20.0	90	Light	NNW	None	Dry
31/7/2025	19.0	100	Light	W	None	Damp
8/8/2025	19.0	40	Light	W	None	Dry
19/8/2025	20.0	80	Fresh	NE	None	Dry
28/8/2025	18.0	15	Light	SW	None	Dry
29/8/2025	20.0	90	Light	WSW	None	Damp
2/9/2025	18.0	60	Light	S	None	Damp
12/9/2025	17.0	50	Fresh	WSW	None	Damp

Table 5.2. Meteorological data for terrestrial survey visits during 2025.

5.3 Personnel

All survey work was undertaken by Dr. Lee Brady (PhD, BSc honours, MCIEEM), a qualified ecologist with over 30 years experience of field surveying.

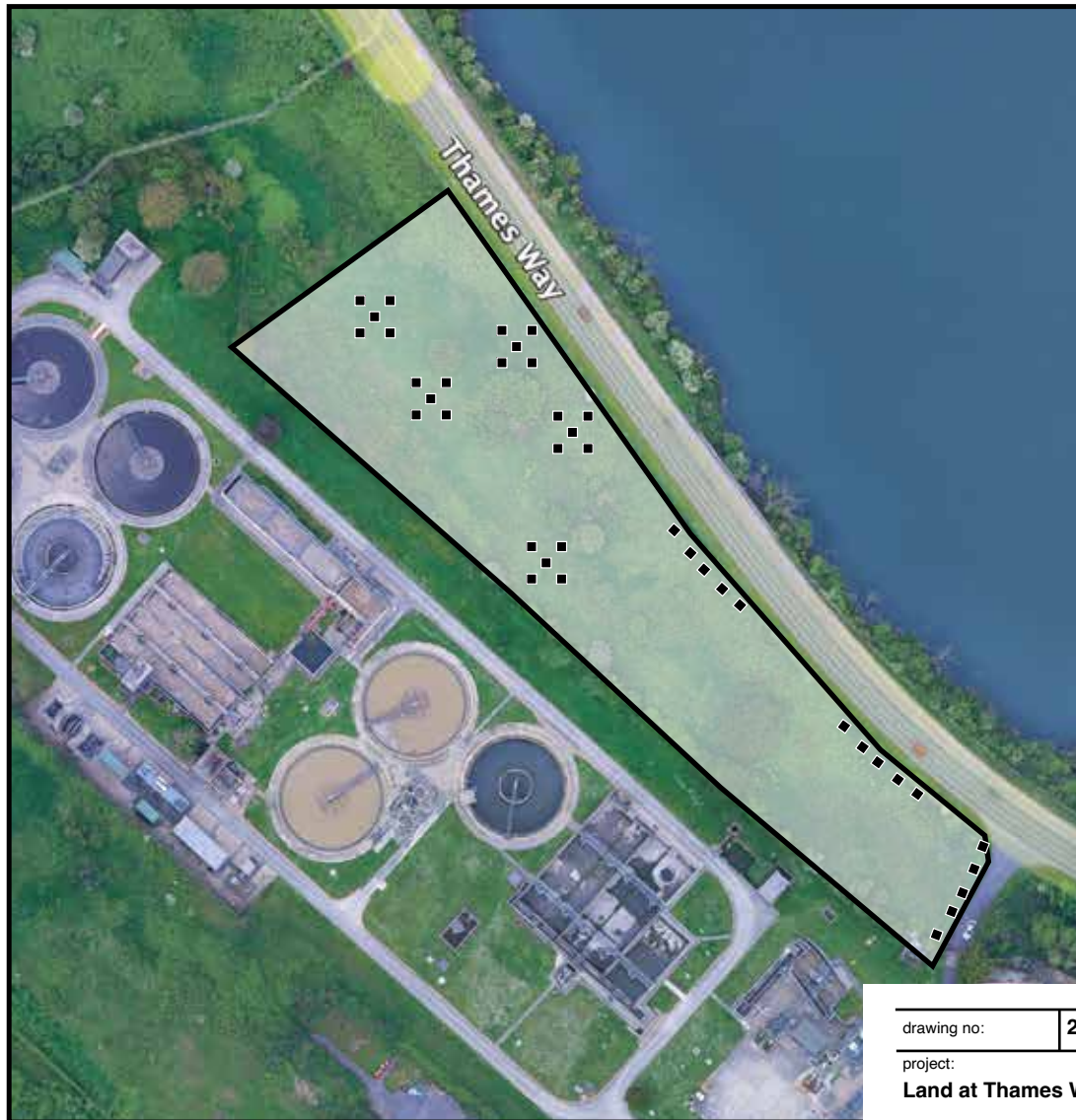
5.4 Limitations of Survey Assessment

The assessment was undertaken following good practice guidelines and according to expert opinion. There was no disturbance to cover objects during the reptile survey period.

Fig. 4.1 Artificial Cover Objects

Cover objects were placed in unshaded vegetation that was considered most suitable for reptiles. Visual surveys were also undertaken across the site.

Cover objects were not placed in areas of regularly managed, short sward grassland located alongside Thames Way.



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project:	Land at Thames Way
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title:	ACO
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scale: N.T.S.	date: Sep 2025
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6. Proposed Development and Summary Site Description

6.1 Site Location

The proposed development site is situated adjacent to a sewage treatment works within the North Kent Plain National Character Area. The site is accessed from Thames Way.

6.2 Proposed Development

Installation of battery energy storage system

The application area is 0.9908 Ha and illustrated in Fig. 5.1.

6.3 Available Habitat

Habitat within the study area was assessed during the reptile survey period.

6.3.1 Aquatic Habitat

Ponds located within the local area have been identified using the following sources:

- Ordnance Survey (<https://www.bing.com/maps>)
- MAGIC (<http://magic.defra.gov.uk>)
- Google Earth

No ponds are located within the application area. Five waterbodies are located within 500 m.

6.3.2 Terrestrial Habitat

The application area comprises previously disturbed land adjacent to Thames Way, Northfleet. Vegetation is dominated by extensive bramble (*Rubus fruticosus* agg.) scrub with scattered shrubs and young self-seeded trees (including blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna* and cherry *Prunus avium*). Areas of tall ruderal vegetation and unmanaged neutral grassland with coarse grasses such as false oat-grass (*Arrhenatherum elatius*) and a limited forb component occur in more open patches. A native hedgerow is present along the south-western boundary. Two earth bunds provide additional topographic variation.

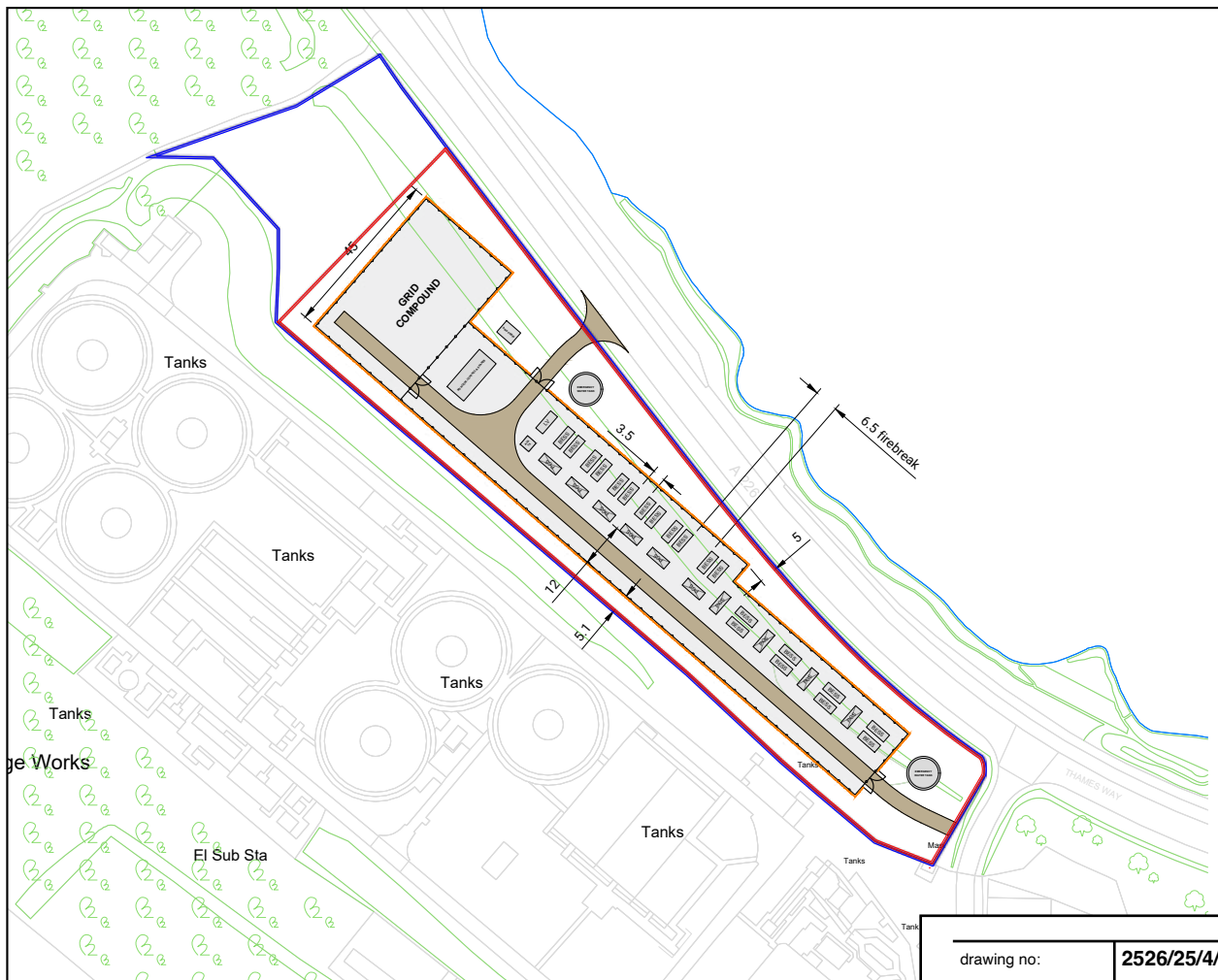
A baseline habitat condition assessment concluded that although the site has a history of disturbance and retains some areas of tall ruderal vegetation and neutral grassland, it no longer displays the structural diversity typical of open mosaic habitat on previously developed land. The vegetation is now dominated (~79%) by dense bramble and mixed scrub with self-seeded trees, with very limited bare ground or early-successional communities, meaning key criteria for open mosaic habitat are not met.

6.4 Buildings

No buildings are located within the application area.

Fig. 5.1 Proposed Development Area

Red line application area: 0.9908 Ha.



drawing no: **2526/25/4/5.1**

project:
Land at Thames Way

title:
Development Area

scale: **N.T.S.**

date: **Sep 2025**



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7. Survey Results

7.1 Reptile Assessment

Habitat within the site was considered to be favourable for reptiles, with some areas displaying a complex vegetation sward supporting invertebrates (including molluscs and orthoptera). Survey work confirmed the presence of viviparous lizard within the proposed development site (Appendix I).

7.1.1 Reptile Terrestrial Habitat Assessment

Apparent Shade. Much of the site is characterised by bramble scrub that creates areas of dense shade. Bund crest and slopes together with roadside margins display some open areas.

Structural Complexity. Available sward comprises false oat grass (*Arrhenatherum elatius*) and tall ruderals, with occasional tussocks. Bare ground is limited but some gaps and variation in sward density provide micro-habitats, particularly on bunds.

Vegetation Height. Approx. 30 - 90 cm, with many stems exceeding 1 m. Height is patchy, with denser taller clumps interspersed with shorter, more open grass.

Interface Habitat. Grassland abuts patches of scrub and bramble at bund edges. These transitions provide basking sites along margins, foraging opportunities within taller sward, and potential refuge under scrub. Sward also interfaces with more open ground on upper slopes, increasing habitat diversity.

Moisture Influence. Conditions generally dry; no indicators of damp or waterlogged areas visible. Vegetation shows typical drought-tolerant ruderal and grass species.

7.1.2 Reptile Observations

Viviparous lizard: A total of 17 lizards were observed during the survey period with a maximum adult count of two, indicating the presence of a 'low' breeding population. Recorded distribution is illustrated in Fig. 7.1.

Slow-worm: Not recorded within the proposed development site during the survey period.

Grass snake: Not recorded within the proposed development site during the survey period.

Adder: Not recorded within the proposed development site during the survey period.

7.1.3 Reptile Impact Assessment

A low population of viviparous lizard was found to be present on proposed development land at Thames Way and appropriate reptile mitigation works will be required.

Increasing scrub cover within the proposed development site is reducing available reptile habitat.

Data collected in 2025 suggests that whilst the site does not meet the minimum criteria necessary for reptile-based conservation designations, the proposed development will have a negative impact on the local conservation status of viviparous lizard.

Year	Maximum Adult Count			
	Viviparous Lizard	Slow-worm	Grass Snake	Adder
2025	2	0	0	0
Population Size Class:	Low	Not recorded	Not recorded	Not recorded
Population Score:	1	-	-	-
Total Key Reptile Site Score:	1			

Table 7.1. Reptile survey results for proposed development land in 2025. Figures represent maximum number of adult observations within single survey session per year. Survey work was principally aimed at determining presence and population size classes are estimated using Froglife (1999) criteria.

Fig. 7.1 Viviparous Lizard

Recorded distribution across site.

Viviparous lizards are likely to be encountered in all suitable habitat across the study area.



drawing no: 2526/25/4/7.1

project:
Land at Thames Way

title:
Viviparous Lizard

scale: N.T.S. date: Sep 2025



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8. Recommendations

Appropriate actions should be undertaken to ensure that there is minimal disturbance to protected species and any retained habitat. Retained habitat should be managed to promote biodiversity interest.

If any areas with potential for protected species are proposed for management or other disturbance (e.g. ground investigations or archaeological excavations), all works should first be discussed and agreed with a suitably experienced ecologist.

8.1 Reptiles

Available habitat includes features suitable for basking, sheltering and foraging reptiles. Survey work undertaken in 2025 confirmed the presence of a low population of viviparous lizard within the red line development area.

Natural England has published standing advice for suitable actions:

<https://www.gov.uk/guidance/reptiles-advice-for-making-planning-decisions#assess-the-effect-of-development-on-reptiles>

Recommendations include actions for avoidance, mitigation/compensation and translocation.

8.1.1 Avoidance

- Change the layout and avoid developing areas used by reptiles.
- Change the timing of the work.
- Change the working methods.

8.1.2 Mitigation and Compensation

- Use temporary, secure reptile fencing to prevent reptiles moving into harmful areas.
- Encourage displacement by making habitats unsuitable, for example by cutting vegetation in stages during the active season.
- Create links to other habitats.
- Create new habitat.
- Improving existing habitat.

8.1.3 Translocation

If there is no reasonable alternative habitat close by, Natural England suggests that mitigation could include capturing reptiles and moving them to a different location. The new habitat must be capable of supporting reptiles. The proposal should include evidence that

translocation would benefit reptile conservation. Translocation should be considered as a last resort.

If translocating reptiles is proposed a receptor site will be required. Natural England recommends that receptor sites should meet the following criteria:

- Located close to the development site, and within the same LPA if possible.
- At least the same size as the habitat that will be lost, and larger if the lost habitat is of high quality.
- Will serve the same function as the habitat to be lost, (e.g. hibernation features).
- Similar habitat to the area that will be lost, including waterbodies.
- Does not currently support the same species, but can be improved to make it suitable.
- Will be safe from future development and managed in the long term.

Natural England suggests that small numbers of reptiles could be introduced into an area with an existing population if the habitat is improved to support the increased numbers. However, there must be sufficient time for new habitats to become suitable for the reptiles before capturing them. Note that in some cases this can take one or more years.

8.1.4 Reptile Mitigation Strategy

A reptile mitigation method statement should be prepared and submitted to the LPA alongside the planning application. The method statement should include the location of the proposed receptor site(s), survey work (if required) to support receptor site selection, proposed habitat enhancement works, proposed capture works and proposed monitoring.

The method statement will be reviewed by the LPA and likely be conditioned if planning permission is subsequently granted.

8. References and Further Reading

- Calumma Ecological Services (2025) Preliminary Ecological Appraisal, Land at Thames Way, Northfleet, Kent DA11 8HN.
- Ecology and Land Management (2025) Biodiversity Net Gain Baseline Assessment, Land at Thamesway, Northfleet, Kent DA11 8HN.
- 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 Howarth, W. (1998) Amphibians and reptiles and the law. In: Herpetofauna Workers' Manual. Gent, A. H. & Gibson, S. D. (eds.), Joint Nature Conservation Committee, Peterborough, pp. 75 - 93.
- Griffiths, R. A. and Inns, H. (1998) Surveying. In: Herpetofauna Workers' Manual. Gent, A. H. & Gibson, S. D. (eds.), Joint Nature Conservation Committee, Peterborough, pp. 1 - 6.
- Herpetofauna Groups of Britain and Ireland (1998) Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth.

Appendix I: Reptile Survey Results

Source:

Calumma Ecological Services



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