

Great Crested Newt eDNA Sampling

Survey site:

Cedar Cottage, Sandygate Lane, Lower Beeding, Horsham, West Sussex, RH13 6LR

Client:

BlackOnyx Becketts Ltd.

Survey date:

6th June 2025

Project:

This report is prepared to inform a planning application with the Horsham District Council. The proposal is described as:

The construction of ~25 dwellings.

Survey methodology and legislation can be found in Appendix 6

The site survey was undertaken by Romany Poole BSc (Hons) MSc, Consultant Ecologist, Accredited on a Level 2 Natural England Bat Licence (Number available on request).					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
06/06/2025	17	60	10	13	None

Ecological Survey Factor	Detailed using desk study and site survey carried out under good weather conditions. Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.				
Conclusion, Impact or Recommendations	See pond map in appendix 1, location plan in appendix 2, proposal plans in appendix 3, eDNA results in appendix 4 and Legislation and planning policy in appendix 5.				
<i>Scope of report</i>	This report describes the suitability of the habitats on the site and any surveyed ponds for GCN and identifies the presence or absence of GCN in these ponds. It identifies possible constraints in relation to GCN as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation. To achieve this, the following steps have been taken: • A field survey has been undertaken, including an assessment of the suitability of the site and any ponds within influencing distance of the site for GCN. • An outline of potential impacts on GCN has been provided, based on the proposed development. • Recommendations for further surveys and mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) for GCN if appropriate. Opportunities for the enhancement of the site for GCN have been set out.				
<i>Site location and context</i>	The site is located in Lower Beeding, Horsham at the National Grid Reference TQ 21872 27174 and has an area of approximately 0.9ha, comprising one building, hardstanding, an artificial access road and a field of modified grassland with scattered trees. The site is surrounded by residential dwellings, pockets of woodland and arable land. The wider landscape includes further woodland, arable land and watercourses. A site location plan is provided in appendix 2.				

Field survey results	Pond descriptions		
	A review of Ordnance Survey mapping and aerial imagery identified four ponds within 250 m of the site.		
	Full pond descriptions are provided in table 1 below. <i>Table 1: Surveyed Ponds</i>		
	Pond Ref	Description	Photograph
	1	There is one pond present on site (P1). Pond P1 is present within the vegetated garden, decorated with surrounding stones. It was heavily shaded by offsite and onsite trees. P1 covers an approximate area of 20m ² .	

	2	P2 is located 45m east of the site. At the time of survey, the pond was found to be dry and therefore unsuitable for supporting great crested newts. As a result, eDNA sampling could not be undertaken in accordance with standard survey methodology. In the absence of standing water, the habitat is considered to have negligible suitability for great crested newts during the survey period, and no further presence/likely absence conclusions can be drawn from eDNA analysis.	
	Habitat Suitability Index (HSI) Assessment Ponds were assessed for their suitability to support GCN using the Habitat Suitability Index (HSI) Assessment Methodology (Oldham et al, 2000). HSI is a standard measure of calculating the suitability of a pond to support breeding great crested newts, based on an assessment of 10 characteristics (indices), including size, shading, depth and vegetation profile. The assessment generates a number between 0 and 1 for each of the indices which are combined to provide an overall assessment of a pond's suitability to support GCN on a categorical scale (Table 2). The assessment has not been designed for or tested on other waterbodies such as ditches. HSI assessment results are provided in Table 3 below.		

Table 2: HSI Suitability Scores

HSI Score	Suitability	Predicted GCN Occupancy of Ponds in each Category
<0.5	Poor	3%
0.5 to 0.59	Below Average	20%
0.6 to 0.69	Average	55%
0.7 to 0.79	Good	79%
>0.8	Excellent	93%

Table 3: HSI Assessment Results

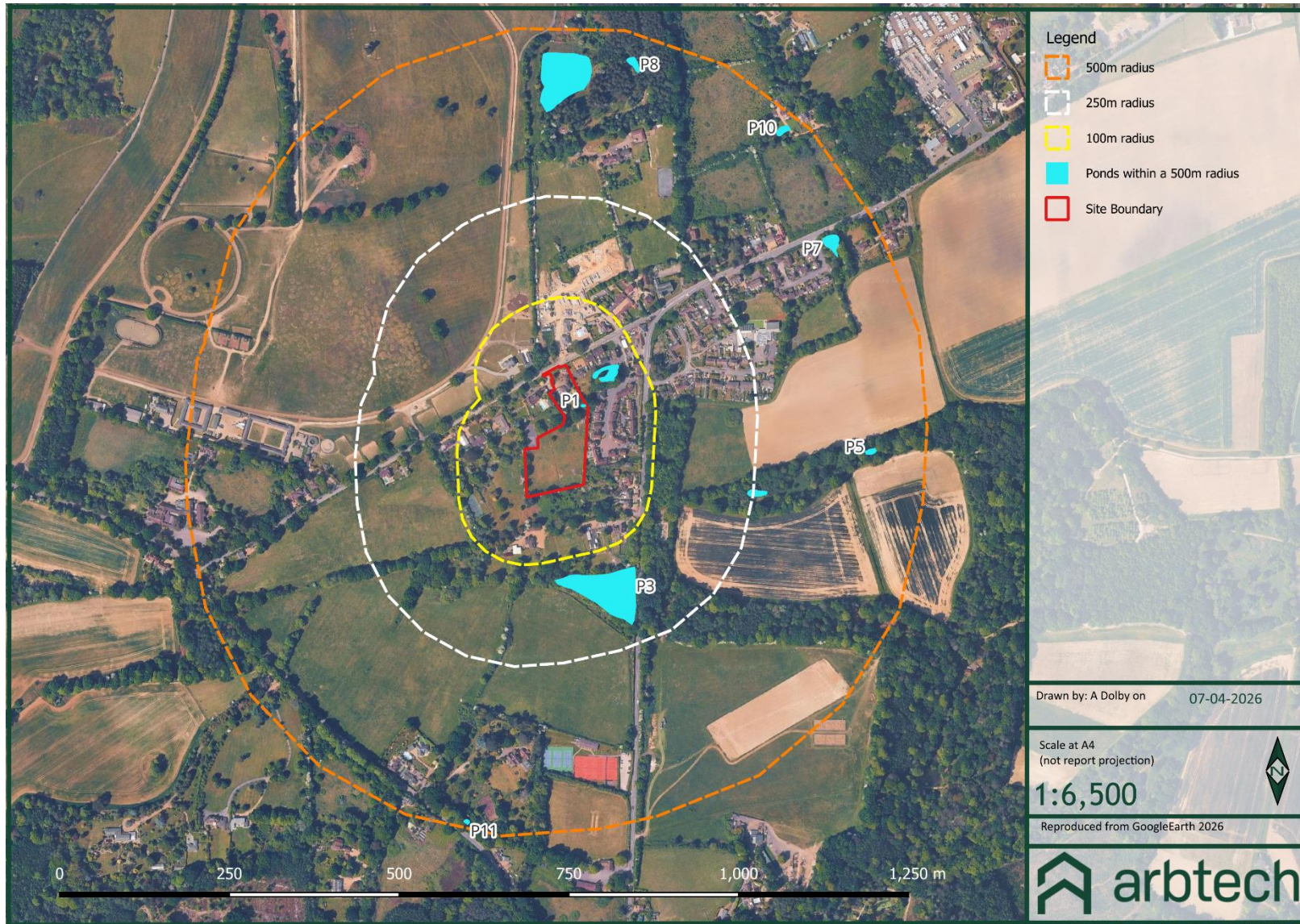
SI Description	P1	P2
Geographic location	1	1
Pond Area	0.05	0.6
Pond permanence	0.1	0.1
Water quality	0.67	0.01
Shade	0.4	0.2
Waterfowl effect	1	1
Fish presence	1	1
Pond Density	1	1
Terrestrial habitat	0.33	0.33
Macrophyte cover	0.45	0.3
HSI score	0.43	0.55
HSI category	Poor	Below average

	Terrestrial habitat suitability Habitats on site provide sub-optimal terrestrial habitats for great crested newts and other common amphibians, with other suitable habitat in the locality (i.e. dense woodland). Due to frequent management and grazing, the grassland onsite is homogenous with a sward height of ~5cm, which lacks suitable refuge for commuting amphibians. When georeferencing the proposed development plans over scaled mapping of the site, If great crested newts are present within the pond 60m to the north of the development area, when completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a Red risk score, which states: Offence Highly Likely Due to this outcome on the rapid risk assessment an Environmental DNA (eDNA) survey was required of P1 and P2 to determine the presence or absence of great crested newts. At the time of the survey P2 was dry and P3 and P4 were not accessible therefore it was not possible to carry out eDNA on all three ponds. eDNA Sampling Sample kits and analysis was provided by SureScreen. Sampling followed the relevant sections of the method set out in the DEFRA funded study endorsed by Natural England (Biggs et al 2014). In summary the sampling protocol is as follows: • 20 samples were taken from around the entire perimeter of the waterbody. • The surveyor stayed out of the water while taking the samples (extension poles were used in situations where open/sufficiently deep water was at a distance from the dry banks. • Survey locations were distributed around the pond perimeter but micro-siting was used to select locations most likely to be used by GCN. • At each sample location the water column was stirred prior to taking the sample but care was taken to avoid disturbing the sediment on the base of the pond. • Once all 20 samples were taken, 15ml of the total sample were pipetted into each of the 6 sampling tubes, whilst ensuring that the water in the sample bag was mixed before taking each 15ml sample and that only one sample tube was opened at any one time.
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	At all times the surveyor ensured that the risk of contaminating the sampling equipment was minimised by avoiding the placement of the ladle or pipette on the ground or on any otherwise potentially contaminated surfaces and by changing gloves between the initial sampling stage and the pipetting stages of the method. Samples were sent to SureScreen for analysis. Full eDNA results are provided in Table 4. The SureScreen lab results are included in Appendix 4. <i>Table 4: eDNA Survey Results</i> <table> <tr> <th>Pond Ref</th><th>eDNA Result</th></tr> <tr> <td>1</td><td>Negative (0/12)</td></tr> <tr> <td>2</td><td>N/A (dry pond)</td></tr> </table>	Pond Ref	eDNA Result	1	Negative (0/12)	2	N/A (dry pond)
Pond Ref	eDNA Result						
1	Negative (0/12)						
2	N/A (dry pond)						
<i>Foreseen Impacts</i>	As Pond P1 contains a confirmed absence of great crested newts (GCN) and Pond P2 was dry at the time of the survey and will not be affected by the proposed development, it can be discounted from further consideration. Whilst it is acknowledged that there are two further ponds within 250m of the proposed development and two records of GCN presence located 320m east of the site boundary the impacts associated with the proposed development are limited to buildings and hard standing of negligible value and short modified grassland that lacks any refuge/hibernation opportunities. As a result, no habitats that represent breeding sites or resting places will be impacted, which reduces the potential risk to GCN and other common amphibians to a low level. It is therefore assessed that this risk can be suitably mitigated for through precautionary working methods to be applied during construction activity						
<i>Recommendations</i>	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: - The vegetation must be maintained at a short sward(<5cm) for the duration of construction to deter amphibians from the working area. - Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. - Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use.						

	• Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist.
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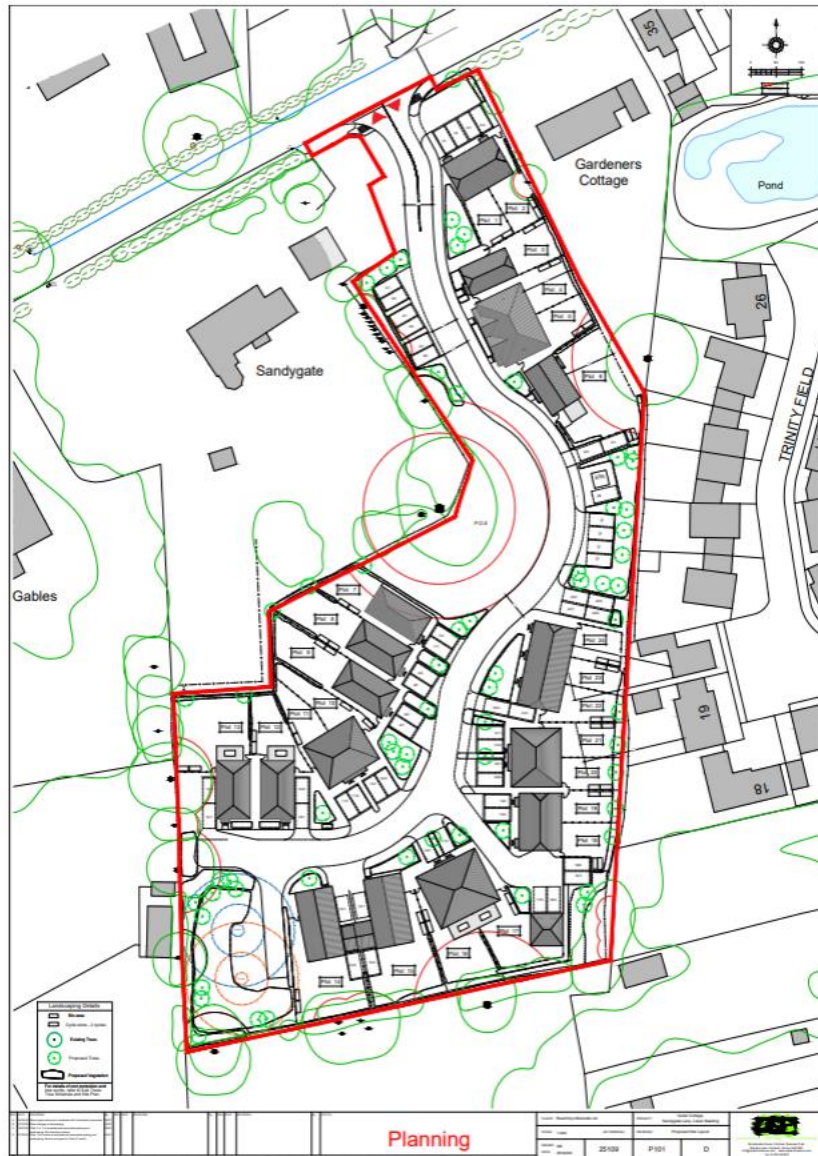
Appendix 1: Pond map



Appendix 2: Location map



Appendix 3: Proposed plan



Appendix 4: eDNA results

Folio No:
Purchase Order:
Contact:
Issue Date:
Received Date:

2969-2025
RH13 6LR
Arbtech
30.06.2025
26.06.2025



GCN eDNA Analysis

Summary

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN25 7594	Cedar Cottage - 7594	TQ 21872 27174	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Amy Bermudez

Approved by: Consuela Sopronyi

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Appendix 5: Legislation and planning policy

LEGAL PROTECTION

The great crested newt receives full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

This species are also listed on Schedule 5 of the Wildlife and Countryside Act and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

NATIONAL PLANNING POLICY

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places of great crested newts protected. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

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Version control			
Status	Issue	Name	Date
Final	1.0	Romany Poole BSc (Hons) MSc, Consultant Ecologist	28/06/2025
Amended plans	2.0	Romany Poole BSc (Hons) MSc, Consultant Ecologist	13/04/2026