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# Environmental DNA (eDNA) Survey Results for Great Crested Newt (GCN)

July 2025

**Project Reference:** PR-0427-24

**Pickhill Farm**
Cross Lanes
Wrexham
LL13 0UL

**National Grid Reference**: SJ 3916 4779



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| Document Title | Environmental DNA (eDNA) Survey Results for Great Crested Newt (GCN) |
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| Prepared for | Blueprint Architectural Services |
| Prepared by | Tyrer Ecological Consultants Ltd |

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|---|---|
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| Survey Date | 06/06/2025 |
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| Review Date | 17/07/2025 |
| Approved by | Mrs. K. Wilding CEnv MIEMA ACIEEM |
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## 1.0 Background & Introduction

1.1 As part of a proposed application at Pickhill Farm, Tyrer Ecological Consultants carried out a Preliminary Ecological Appraisal (PEA) in February 2025 (see **Appendices I – II**).

1.2 The PEA was commissioned by Blueprint Architectural Services; proposals were initially understood to involve the demolition of an existing building followed by the subsequent construction of a new residential dwelling. However, recent developments to the proposals mean that the building will now be retained and improved with extensive refurbishment.

1.3 As part of the PEA, four ponds were identified within a 250m buffer of the site, with one pond within the land of wider ownership. However, the closest mapped pond (within the red line boundary) was found not to exist during ground truthing and was therefore discounted from the assessment. For contextual reasons, this pond has been mapped within this report. Additionally, a further waterbody was identified approximately 60m west of the site boundary during the field survey (**P5**). Due to the suitability of **P4** it was recommended that an Environmental DNA (eDNA) survey should be undertaken (subject to its presence) to reasonably ascertain presence / absence of GCN within the pond.

1.4 Following the recommendations within the PEA, Tyrer Ecological Consultants Ltd were commissioned by Blueprint Architectural Services to undertake the eDNA survey at **P4** on 6th June 2025, thus during an optimum time of year (eDNA surveys can be undertaken without temporal limitations at any point between April 15th – June 30th).

1.5 This report details the methodology used in accordance with best practice, will outline the survey results, and present conclusions derived from the survey efforts. This report will present any further recommendations, including any avoidance, mitigation or intervention measures required to protect the favourable conservation status of great crested newts, where applicable, and will include suitable information to inform a licence application to Natural England, if necessary.

1.6 The eDNA survey aims to determine presence or reasonably conclude absence of great crested newts at the ponds.

1.7 If GCN were detected during the survey and / or may be affected by the development proposals, then a Mitigation Licence may be required to proceed with the development.

1.8 This report should be read, understood and presented to the local authority in conjunction with **Appendices I – II** (see contents page).

1.9 **Figure 1.1** overleaf shows ponds within 250m of the site boundary including the surveyed ponds.

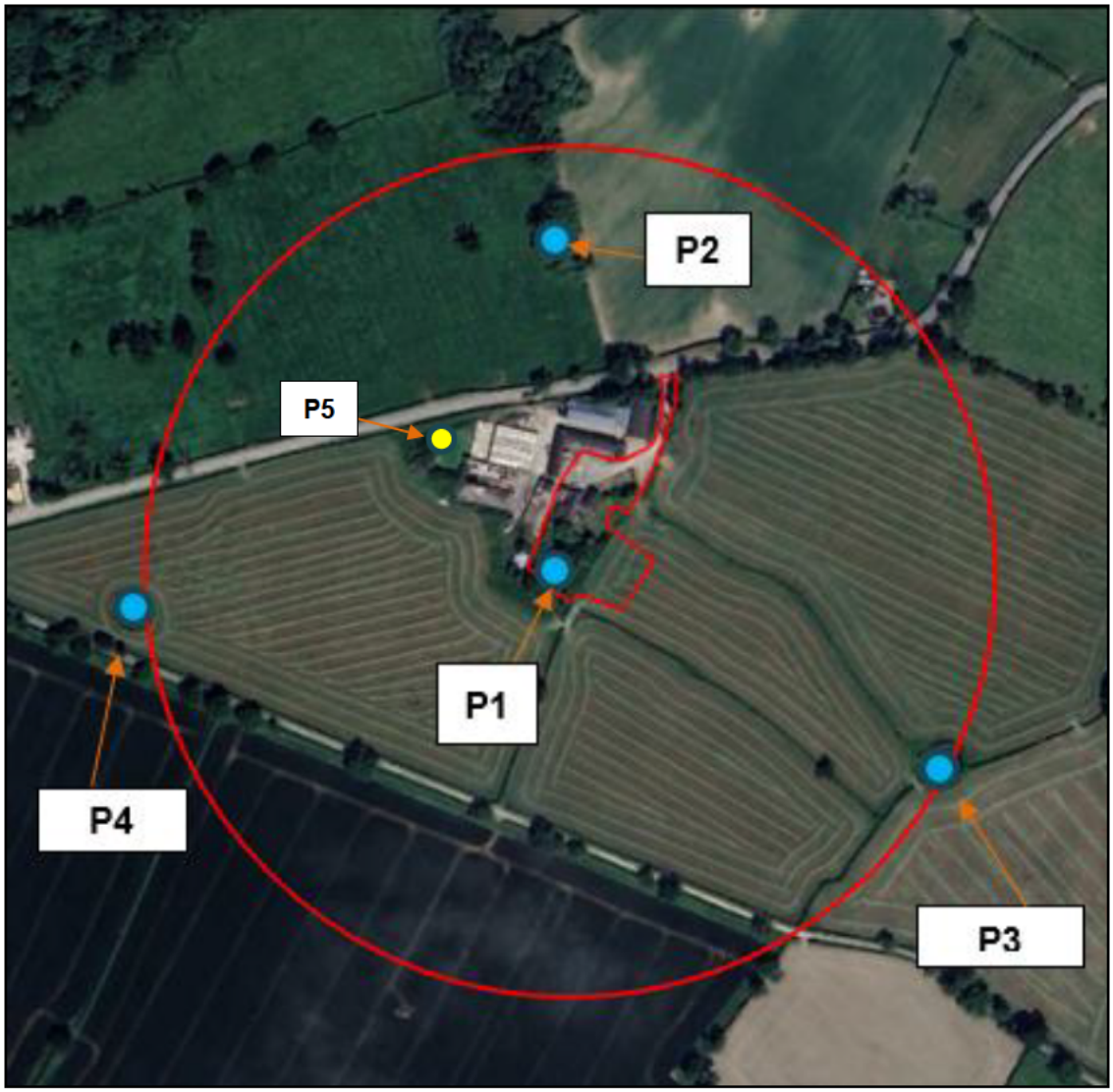



**Figure 1.1** - *Location of waterbodies identified in desk study (blue points) and waterbodies identified during onsite survey (yellow points) within a 250m radial buffer of the site (© Google Earth Pro 2024/25).*

## 2.0 Great Crested Newt (GCN) – Legislation & Policy

2.1 GCN are fully protected in all life stages by Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), the Wildlife and Countryside Act (1981) (as amended) and Section 7 of the Environment (Wales) Act 2016. They are listed a priority species under section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act) and are also listed on the UK Biodiversity Action Plan (UKBAP). The legislation makes it a punishable offence to:

- Deliberately, intentionally or recklessly kill, injure or take a GCN,
- Deliberately, intentionally or recklessly take or destroy GCN eggs,
- Possess or control any live or dead specimen, or anything derived from a GCN,
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a GCN,
- Deliberately, intentionally or recklessly disturb a GCN while it is occupying a structure or place which it uses for that purpose.

2.2 In summary, GCN are protected from disturbance, killing, injuring or possession at any life stage, whilst confirmed breeding ponds and resting places are afforded the same protection once identified. Habitat for this species is protected when within certain range of a breeding pond. This places an obligation on local authorities to fully assess the impacts of development on this species prior to determining a planning application.

2.3 GCN populations have declined within the UK over recent years due to destruction and fragmentation of breeding ponds and terrestrial habitat. They spend a high percentage of their adult life in terrestrial habitat such as woodland, and shelter in environments with piles of rubble, log piles, tree roots, miscellaneous other for safety, refuge and hibernation. In Wrexham, GCN are widespread and can be found where favourable habitat coincides with connectivity to breeding pools.

**NB**: *Research provides evidence that GCN are most likely to use terrestrial habitat within 100 metres of their breeding ponds, whilst the Great Crested Newt Method Statement for EPSML (Natural England) describes terrestrial habitat zones - the 50 metres range of any GCN pond is the 'Core' habitat zone and the area most likely to support newts in a lifetime; the area between 51-250m is the 'Intermediate' zone and 250m+ is the 'Distant' zone; impacts to these zones, from individual ponds, are considered by the ecologist; both permanent and temporary impacts are taken into account.*

2.4 More common British amphibians, such as common frog (*Rana temporaria*), common toad (*Bufo bufo*), smooth newt (*Triturus vulgaris*) and palmate newt (*Triturus helveticus*) are protected only by Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). This section prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy.

2.5 The named species are also listed as UK Species of Conservation Concern. Due to general declines in most British amphibian species in recent years, many local authorities require amphibian surveys as a planning condition, or as part of environmental information submitted as part of a planning application, even where the presence of GCN is ruled out. Water bodies that support all five (more common) species of British amphibians in high numbers, may be afforded protection in local plans, as Sites of Importance for Nature Conservation (SINC), or a similar equivalent, for sites of local importance.

## Policy

2.6 The Environment (Wales) Act 2016 ("the Act") – requires local planning authorities to have regard to area statements in the development of Local Development Plans. The Act introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around objectives for habitats and species.

2.7 Part 1 of the Act promotes sustainable management of natural resources, and in Part 1 section 6 states:

*"A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions."*

2.8 Section 7 of the Act places a duty on Welsh Ministers to publish, review and revise lists of types of habitats and species in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must also take all reasonable steps to maintain and enhance the habitats published in these lists and encourage others to take such steps. Section 7 of 'The Act' alongside the UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance - now transposed under section 41 (s.41) of the NERC Act.

2.9 Planning Policy Wales (PPW) 11th Edition (2021) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.

2.10 PPW (2021) states:

*"The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained. Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned. An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre."*

2.11 PPW and the National Development Framework (published as Future Wales – the National Plan 2040) set out how the planning system at a national, regional and local level can assist in delivering these requirements through Strategic Development Plans (SDPs) and Local Development Plans (LDPs).

2.12 A 'Dear Heads of Planning Letter' was issued 18 October 2023 by the Minister for Climate Change – updating parts of Chapter 6 of PPW. The main changes included strengthened wording and new measures to address policy on green infrastructure, net benefit for biodiversity using the stepwise approach / Decca framework, strengthened approach to the

protection of Welsh SSSIs and improved measures to improve the planting of trees and woodlands.

2.13 Planning authorities must therefore follow a stepwise approach (see **Figure 2.1** overleaf) to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

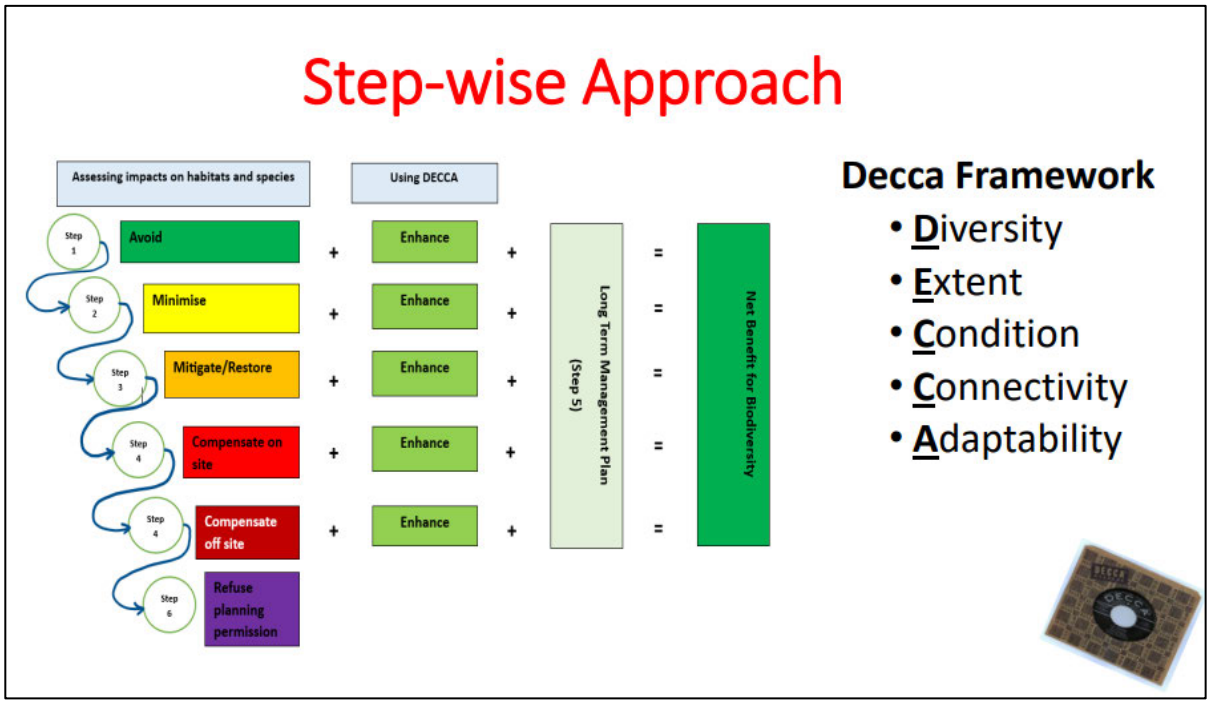



**Figure 2.1** – *The step-wise approach / DECCA framework to be adopted by authorities in Wales*

2.14 PPW also requires developments to achieve a Net Benefit for Biodiversity (NBB):

"*Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a* ***net benefit for biodiversity****. In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the follow aspects:*

- *diversity between and within ecosystems;*
- *the connections between and within ecosystems;*
- *the scale of ecosystems;*
- *the condition of ecosystems including their structure and functioning; and*
- *the adaptability of ecosystems.*"

2.15 There are several plans, strategies and national, sub-regional and local policy statements which provide a framework for development in the Plan area. The Planning and Compulsory Purchase Act (2004) makes it a requirement for local planning authorities in Wales to prepare a Local Development Plan (LDP) for their areas.

2.16 Wrexham County Borough Council prepared a Local Development Plan which was formally adopted in December 2023 and covers between 2013 and 2028 and supersedes any previous development plans for the area.

2.17 Policy SP14 of the Wrexham County Borough Council Adopted Local Development Plan 2013 – 2028, titled 'Natural Environment, states:

*"Developers should consider the natural environment at the pre application stage and must seek to avoid impacting on wildlife features in line with the relevant statutory and non-statutory provisions, including maintaining or helping to achieve a protected species' favourable conservation status. Developments should also seek to provide biodiversity enhancement, whatever the current level."*

## 3.0 Survey Results

### Survey Methodology

3.1 An eDNA survey was undertaken on 6th June 2025 as per the recommendations of the Preliminary Ecological Appraisal (PEA) – see **Appendices I – II** for details.

3.2 To carry out the eDNA survey, a total of 20 water samples were taken from the pond to form the basis of a DNA sample. The samples were taken using a sterile ladle and emptied into a sterile self-supporting Whirl-Pak bag. All samples were taken from locations around the margins of each pond in areas which could be utilised by GCN for egg laying or displaying. Once all 20 samples were collected, the sterile self-supporting bag was shaken to mix any DNA across the whole pond sample. A sterile plastic pipette was used to transfer approximately 15.0 ml of the mixed pond sample water into a sterile conical tube. This was undertaken for each of the six sterile conical tubes in the kits. Each sterile conical tube(s) contained 35.0 ml of ethanol to preserve any DNA within the samples. The boxes of six sterile conical tubes were returned within 48 hours at ambient air temperature to the ADAS eDNA testing service for laboratory analysis. eDNA analysis by ADAS was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

### Survey Results

3.3 See below for surveyor credentials, **Table 3.1** for climatic conditions on the date of survey, and **Table 3.2** for survey results and any constraints encountered during the survey effort. **Figure 3.1** shows the eDNA results following assessment of **Pond 1**. The raw data returned by ADAS is also provided as **Appendix II**.

3.4 The survey was conducted by Wildbanks Conservation Ltd, who offer a variety of skills and wide experiences in all protected species surveys, including GCN, with several members of their staff holding suitable GCN licenses for NRW that allow for eDNA to be conducted.

**Table 3.1** – Survey dates, times and weather conditions

| Survey Number | Date | Weather Conditions |
|---|---|---|
| Survey 1<br>Pond 4 | 06/06/2025 | **Survey time: 10:00:** Acceptable surveying conditions |

**Table 3.2** – Summary data from the survey with constraints

| **Pond 4** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Results** | | | | | | | |
| Great Crested Newt (GCN) | Smooth Newt (SN) | Palmate Newt (PN) | SN / PN Female / Juvenile | GCN Egg(s) | Common Toad (CT) | Common Frog (CF) | GCN Present / Absent |
| **0** | **0** | **0** | **0** | **0** | **0** | **0** | **Present** |
| **Constraints / Incidental Observations** | | | | | | | |
| The surveyors were able to access 80% of the margin of the pond, and access was therefore not considered a limitation. | | | | | | | |

| | | | |
|---|---|---|---|
| Sample ID: ADAS-9613 | | | |
| Client Identifier: Pond4 | | Grid references/coordinates: SJ3890247734 | |
| Description: pond water samples in preservative | | Condition on Receipt: Low Sediment | |
| Date of Receipt : 10/06/2025 | | Volume: Passed | |
| **Determinant** | **Result** | **Method** | **Date of Analysis** |
| Inhibition Control† | 2 of 2 | Real Time PCR | 13/06/2025 |
| Degradation Control§ | Within limits | Real Time PCR | 13/06/2025 |
| Great Crested Newt* | 8 of 12 (positive) | Real Time PCR | 13/06/2025 |
| Negative PCR Control (Nuclease Free Water) | 0 of 4 | Real Time PCR | As above for GCN |
| Positive PCR Control (GCN DNA $10^{-4}$ ng/µL)# | 4 of 4 | Real Time PCR | As above for GCN |
| Report Prepared by: | Dr Helen Rees | Report Issued by: | Dr Ben Maddison |
| Signed: | [redacted] | Signed: | [redacted] |
| Position: | Director: Biotechnology | Position: | MD: Biotechnology |
| Date of preparation: | 10/07/2025 | Date of issue: | 10/07/2025 |

**Figure 3.1** – *Pond 4 eDNA results – 'positive'*

## 4.0 Impact Assessment

Summary

4.1 The DNA analysis of **Pond 4** within the radial boundary of Pickhill Farm found evidence of GCN, with a '**Positive**' result returned, thus indicating the presence of this species within this pond. See **Figure 4.1** below for the location of the 'GCN Present' pond in relation to the red line boundary.




**Figure 4.1** – *Location of positive GCN eDNA pond in relation to the proposed works area*

4.2 **Pond 4** is located approximately 240m from the red line boundary; as such, the site is considered to be located within the 'Intermediate' habitat zone of the positive eDNA at P4. This indicates that the site lies within an area which could feasibly be used by GCN, but which is outside of the 'Core' habitat zone.

**NB***: Research provides evidence that GCN are most likely to use terrestrial habitat within 100 metres of their breeding ponds, whilst the Great Crested Newt Method Statement for EPSML (Natural England) describes terrestrial habitat zones - the 50 metres range of any GCN pond is the 'Core' habitat zone and the area most likely to support newts in a lifetime; the area between 51-250m is the 'Intermediate' zone and 250m+ is the 'Distant' zone; impacts to these zones, from individual ponds, are considered by the ecologist; both permanent and temporary impacts are taken into account.*

Impact Assessment

4.3 Proposals involve the retention of a currently existing building with extensive modifications and repairs, with some surrounding private garden and possibly modified grassland loss. From analysis of the proposals, a small area of the site (approximately 0.02ha) falls within the

'Intermediate' GCN zone. See **Figure 4.2** below for a visual aid indicating the red line boundary in relation to buffer zones from the pond confirmed to host GCN.

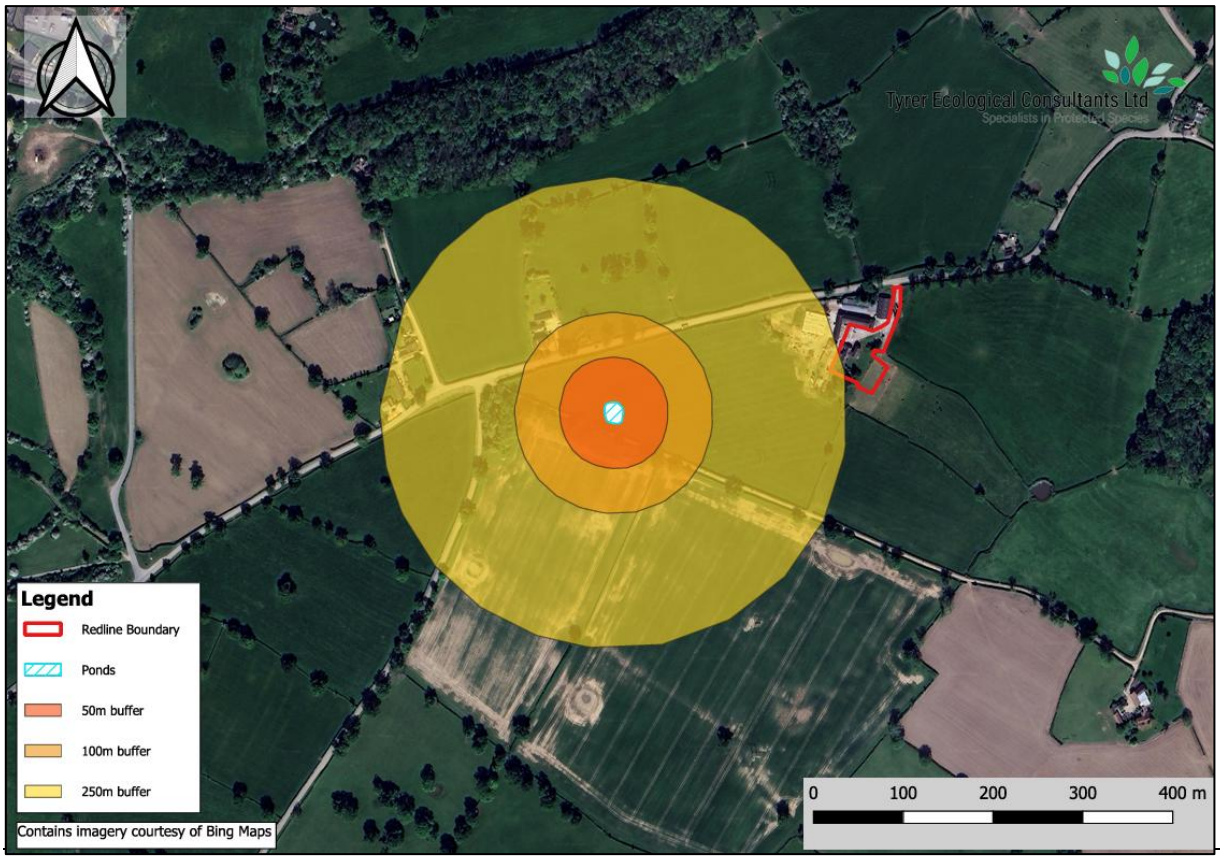



**Figure 4.2** – *Visual aid indicating the red line boundary in relation to positive eDNA pond buffer zone*

4.4 Given the potentially suitable habitat located within the intermediate zone of the GCN positive pond, it is evident that in the absence of suitable mitigation, habitat loss and construction works within the intermediate zone could pose a risk of injury or death to GCN.

4.5 Notwithstanding the above, it is considered that the risk of GCN being present on site is decreased for several reasons. The pond is located approximately 240-meters from the application site, and whilst commuting links through suitable habitat such as hedgerows and grassland are available for some of the area between the pond and application site, barriers to dispersal are also present, in the form of a large complex of farm buildings, hardstanding driveways and pastoral grassland. Given that P4 falls towards the boundary of the intermediate zone (<200-meters), the perceived risk of GCN being found within the application site is lowered, whilst considering the commuting habitat offers low – negligible opportunities resulting in a lower chance of commutability.

4.6 In the absence of distinct guidance from Natural Resources Wales, this report has utilised guidance from Natural England to aid in the impact assessment and decision making in regard to the risk posed to GCN by the development.

4.7 To help inform this decision, the Natural England Rapid Risk Assessment tool, as extracted from the Natural England Mitigation Licence Method Statement, has been applied against the proposals to help form a quantitative impact assessment. The risk assessment should be considered as indicative only and not solely relied upon, as it considers worst case scenario outcomes.

4.8 See **Table 4.1** below, which has been filled in under the assumption that the pond supports breeding populations, and no ECoW supervision and Reasonable Avoidance Measures (RAMs) taking place during the proposals or habitat management. Where this the case, individual GCN could feasibly be at risk of death during habitat clearance within the 'intermediate' zone, without appropriate supervision or RAMs.

**Table 4.1** – NE Rapid Risk Assessment tool (no ecological measures)

| **Component** | **Likely effect** | **Notional offence probability score** |
|---|---|---|
| Great crested newt breeding pond(s) | No effect | 0 |
| Land within 100m of any breeding pond(s) | No effect | 0 |
| Land 100-250m from any breeding pond(s) | 0.001 - 0.01 ha lost or damaged | 0.005 |
| Land >250m from any breeding pond(s) | No effect | 0 |
| Individual great crested newts | Minor disturbance of newts | 0.5 |
| | Maximum: | 0.5 |
| Rapid risk assessment result: | **AMBER: OFFENCE LIKELY** | |

4.9 The above indicates that, although proposals are limited to terrestrial habitat clearance within the 'intermediate' zone, in the absence of any ecological supervision they are of such a type, scale and location that an offence is likely. In this case, the GCN Method Statement tool provides the following advice:

***"Amber: offence likely"*** *indicates that the development activities are of such a type, scale and location that an offence is likely. In this case, the best option is to redesign the development (location, layout, methods, duration or timing; see Non-licensed avoidance measures tool) so that the effects are minimised. You can do this and then re-run the risk assessment to test whether the result changes, or preferably run your own detailed site-specific assessment. Bear in mind that this generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details, as mentioned in caveats above. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined. Once you have amended the scheme you will need to decide if a licence is required; this should be done if on balance you believe an offence is reasonably likely.*

4.10 Therefore, under the proposed scenario of the enactment of a robust site-specific RAMs, the risk to individual GCN would be lowered significantly; the Natural England Rapid Risk Assessment has been re-run with the changes applied and projects a different outcome (see **Table 4.2** below).

**Table 4.2** – NE Rapid Risk Assessment tool (with NLMS / RAMs considered)

| **Component** | **Likely effect** | **Notional offence probability score** |
|---|---|---|

| | | |
|---|---|---|
| Great crested newt breeding pond(s) | No effect | 0 |
| Land within 100m of any breeding pond(s) | No effect | 0 |
| Land 100-250m from any breeding pond(s) | 0.001 - 0.01 ha lost or damaged | 0.005 |
| Land >250m from any breeding pond(s) | No effect | 0 |
| Individual great crested newts | Minor disturbance of newts | 0.5 |
| | Maximum: | 0.5 |
| Rapid risk assessment result: | **GREEN: OFFENCE HIGHLY UNLIKELY** | |

4.11 Based on the application of a robust RAMs approach, it is considered that the maximum impact upon GCN will be minor disturbance, and thus the RRA result is decreased to Amber. In this case, the GCN Method Statement tool provides the following advice:

***"Green: offence highly unlikely"*** *indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see Non-licensed avoidance measures tool) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest.*

4.12 Given all of the above, it is considered that impacts to GCN could feasibly be negated by the implementation of a robust programme of RAMs, in accordance with guidance in relation to GCN, which states:

*"The legal protection of great crested newts means that the potential impacts of any activity, primarily (but not exclusively) development, must be considered. In the context of development, frequently this occurs at three stages:*

- *The developer (often in conjunction with an ecological consultant) will undertake an impact assessment of the project or plan upon great crested newts*
- *The Local Planning Authority will consider the potential impacts of the project or plan as part of the process of determining the planning application.*
- *Natural Resources Wales (NRW) will consider the impacts of the project or plan as part of the process of determining whether a derogation licence to allow the activity to take place can be issued."*

## 5.0 Conclusions & Recommendations

5.1 It is therefore determined that works can commence in the absence of a licence, but subject to a detailed RAMs document, which includes suitably robust protocol to minimise and mitigate any risk to GCN within the area by defining specific working procedure, including equipment use, measures for facilitating the creation of the development, whilst safeguarding GCN (and other amphibians); furthermore, as part of this strategy and in-line with the overarching principles of GCN conservation, enhancement options should be recommended to create better habitat than what is being lost to bolster the population within the area.

5.2 Likely avoidance measures have been addressed below in **Table 5.1**, with respect to varying impacts to GCN through the development stages (as extracted from the GCN Method Statement):

**Table 5.1** – Site-specific avoidance and mitigation measures in relation to specific project elements

| **Location & Layout** |
|---|
| **(a) Locate site as far as possible from potential breeding ponds and high-quality terrestrial habitat.** |
| The site is positioned 240m from the confirmed GCN pond, thus within the "Intermediate Zone" for GCN. Repositioning the site would not be possible in the context of the proposed works; the site generally consists of low-moderate quality terrestrial habitat modified. It is unknown if the hedgerows along the peripheral area of the site are indicated to be retained by the proposals, but this habitat is likely the highest value habitat on site for GCN.<br><br>The scheme therefore is considered to have satisfied this recommendation as far as is possible in the context of the proposed red line boundary. |
| **(b) Locate in areas subject to high pre-existing fragmentation.** |
| The site is enclosed to the north by Cross Lanes (B5130) and to the west and south by Watery Lane, all of which are considered to pose minor barriers to GCN and which fragment the small areas of suitable habitat within the vicinity of the application site.<br><br>The site-surrounding habitat is therefore considered to be relatively fragmented, and the scheme will have minimal impact upon the ability of GCN to traverse the surrounding landscape. |
| **(c) Locate on hard, compacted ground with few fissures.** |
| As discussed previously, the site is formed of a building on hardstanding, with some modified grassland and boundary hedgerow present. As previously discussed, it is considered that the risk of GCN being present on site is low due to distance from the pond, barriers to dispersal and low quality habitat on site.<br><br>It is considered that the low-level risk to individual GCN on site will be adequately mitigated through the RAMs. |

| |
|---|
| **d) Design layout so that any hard landscaping is as far as possible from ponds, with retained habitat and soft landscaping toward ponds.** |
| No detailed landscaping has been submitted; however, the site plans indicate that works will be of a limited nature, with the structure being retained and extensive improvements being made to the building, with retained/replaced modified grassland surrounding. |
| **Timing & Duration** |
| **(a) Restricting works to the winter period (when newts are rarely active above ground) is sensible if the project would not harm hibernation habitat. Projects with temporary habitat disruption and reinstatement, such as some pipelines, could potentially be carried out without any licensable activity in this way.** |
| Works to be restricted to the winter period as no habitat suitable for hibernation was found, and therefore potential risk to individual GCN can be greatly reduced. |
| **(b) Keep duration of groundworks as short as possible.** |
| The scheme will ensure that the duration of groundworks is minimised; see NLMS proposals below for indicative timings. |
| **(c) Undertake during the day works that might only affect newts above ground.** |
| All works likely to impact GCN will be undertaken during daylight hours and following an extensive pre-commencement check. |
| **Construction Methods & Special Precautions** |
| **(a) Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit.** |
| This approach will be followed with all trenches to be backfilled or a small ramp placed within to prevent newts from accessing and / or allowing them a means of escape; this will be outlined within the RAMs. |
| **(b) Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets.** |
| All materials will be stored responsibly, raised on pallets or a suitable alternative, on areas of previously searched and cleared bare ground that provide no terrestrial suitability for GCN to prevent GCN seeking refuge within. |
| **(c) For pipelines, use directional drilling to cross areas of core habitat and dispersal routes.** |
| N/A |
| **(d) Avoid installing structures that act as barriers close to ponds, or include gaps at ground level where walls or fences are unavoidable.** |
| The scheme will not result in reduced connectivity between the confirmed GCN pond and further ponds within the network of waterbodies, as all are located further east, away from the development and within the areas of high-quality terrestrial habitat. |

5.3 Other potential likely impacts have been discussed below following implementation of suitably robust and proportionate mitigation, with respect to varying impacts to GCN:

- **Kill risk, injury and disturbance risks through habitat clearance and land regrading** – Use of large machinery will be kept to a minimum within the site and will

be restricted to areas of existing hard standing where possible. The vegetation to be lost will be kept to the minimum required level and will be subject to a graded cut using hand tools, with a fingertip search by a suitably qualified Ecological Clerk of Works (ECoW) conducted prior to and between each stage of the cut. The habitat to be lost is well outside of the "Core" habitat zone, and is generally of low to moderate quality, thus does not represent a significant portion of the available foraging habitat within the context of the surrounding landscape. No potential refuge areas were identified within the area, however, should they be present, these will all be subject to careful dismantling by hand and moving of all material to areas where GCN will not be able to access (i.e. onto pallets or removed from site entirely), under the supervision of the attending ecologist. It is recommended that the vegetation removal and ground works are undertaken between February and October, when temperatures are >5°C, avoiding prolonged drought periods where activity levels reduce.

- **Long-term habitat loss** – the total footprint of the development is circa 0.35ha, located partially within the intermediate zone, and is generally formed of poor – moderate quality commuting and foraging habitat in the modified, agricultural grassland and hedgerows. In the context of the terrestrial habitat available within the intermediate zone of the pond, the site is of negligible value, being made-up of hardstanding and buildings, with very little available suitable terrestrial habitat. It is considered that the development will not result in a significant loss of valuable GCN habitat and that opportunities for GCN in the landscape will not be lost.

- **Creation of excavations that can trap newts and other small animals** – These can be back filled at the end of each day, or a ramp can be installed at the end of each working day to allow newts or small animals a means of escape. Details for other impact avoidance measures can be included in the RAMs.

- **Construction work can kill newts; it can also create temporary habitats that might lure newts only to then cause death, injury** – The proposed site lies within the 'intermediate' zone of the positive GCN pond; the on-site habitats are considered reasonably unlikely to be utilised by GCN based on the degree of spatial separation, barriers to dispersal and extensive areas of more suitable GCN habitat to the north and east of the positive pond. To avoid the creation of temporary habitats through the storage of construction materials, it is recommended that materials are stored on areas bare earth or hardstanding and are placed upon pallets to lessen the number of crevice opportunities created and reduce the potential suitability for usage as a refuge location by GCN. Mounds of soil created by excavations should be compacted at the base to prevent the formation of crevice refuge opportunities. The creation of temporary waterbodies should be avoided by filling in trenches at the end of each day where possible, and where not possible these trenches should be fitted with ramps and given a search by the ECoW at the re-commencement of works.

- **Death of animals can lead to reduced breeding / recruitment; e.g. fewer young, maturing adults** – The measures stated above are deemed to be sufficient to safeguard individual newts, where it has been deemed possible that they are present on-site. The loss of the small on-site modified grassland will have a negligible effect on the availability of suitable terrestrial habitat in the area.

- **Isolation / fragmentation** – will not occur given the degree of spatial separation, barriers to dispersal and availability of high-quality terrestrial habitat within the northern and eastern areas of the core and intermediate zones.

5.4 Any RAMs drafted should be subject to the approval of the local planning authority acting on the professional judgement of their ecological advisors - following approval, adherence to the

terms of the RAMs would be a requirement of the named authority and the applicant would be the liable party, with the Ecologist / ECoW acting for and on behalf of the applicant.

5.5 The applicant and all contractors would be aware that if at any stage GCN are encountered during works, or at any other stage of the work programme, works would be required to immediately cease and the Ecologist/ECoW be made aware as to provide further guidance if an Ecologist is not already present.

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**Appendix I:** *PR-0427-24 Pikchill Farm – Preliminary Ecological Appraisal* (Tyrer Ecological Consultants Ltd, February 2024)

**Appendix II:** *Environmental DNA (eDNA) raw data* (ADAS, Sample ID: ADAS-9613) (June 2025)