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30 September 2026

Our ref: 554408sb21JulyGCN_Phases8,10-13_FV05

Dear Robert,

HIGHWOOD, HORSHAM - GCN SURVEYS (PHASES 8, AND 10 - 13)

INTRODUCTION

Greengage Environmental Ltd (Greengage) were commissioned by Berkeley Group to undertake a Great Crested Newt (GCN) *Triturus cristatus* environmental DNA (eDNA) survey to inform the development of Phases 8 - 13 of Highwood in, Horsham, RH12 1HS, hereafter referred to as 'the site'.

It is understood that the development was consented in 2014 and that Phases 1 - 7 have been built out. The proposed development of Phase 8 is due to commence build out in 2026. All Phases, including the remaining Phase 8 - 13 have Reserved Matters approval however, Berkeley Homes (Southern) Ltd are proposing submitting two Section 96a applications to make design changes to specified plots and amend the consented schemes. The two applications will be for 1) Phase 9 solely and 2) Phases 8 and 10 - 13. Each application will need to be supported by stand-alone ecology documents. The chronology of development is anticipated to be as follows:

Phase 8 → Phase 9 → Phases 10 - 13



The current document pertains to Phases 8, and 10 - 13. A separate document has been produced for Phase 9¹.

Site Context

The site extends to 10.9 hectares (ha) and is centred on Ordnance Survey National Grid Reference (OS NGR) TQ 15286 29787. The site comprised urban landscape with the updated PEA² undertaken by Greengage in 2026.

The site is located semi-rurally, to the west of the town of Horsham, West Sussex. The wider landscape comprises small villages to the north, south, and east. The wider landscape comprises pasture and arable fields, with the Warnham Local Nature Reserve, Crawley and Gatwick Airport nearby.

Ecological Context

The PEA by Greengage concluded that suitable terrestrial habitat for amphibians, including great crested newts, exists onsite in the form of tall ruderal (g4) and other neutral grassland (g3c). No waterbodies are present on site, however, there are eight waterbodies within 250m of the site, one of which is a swimming pool. There was also suitable terrestrial habitat in the form of grassland and woodland adjacent to the site to the north.

This letter report provides the results of the eDNA survey which aimed to establish the presence/likely absence of GCN at Ponds 1 - 8, of which pond maps showing locations are shown in Appendix A.

METHODOLOGY

In aquatic environments, eDNA is diluted and distributed in the water. Sources of eDNA in pond water derive from faeces, mucous, gametes, shed skin and carcasses. The eDNA survey involves the collection of water samples for laboratory analysis for the DNA of species of interest, in this case GCN. The survey requires that the water samples be taken between mid-April and end-June.

¹ Greengage Environmental Ltd (2026) Highwood, Horsham - GCN surveys (Phase 9) (ref:554408sb21JulGCN_Phase9_FV01)

² Greengage Environmental Ltd (2026) Preliminary Ecological Appraisal: Highwood, Horsham (ref: 554408kzm08JulyPEA_DV01)

A total of 20 samples of water were taken from each waterbody by Mary Haine, in accordance with standard protocol³ as approved by Department for Environment, Food & Rural Affairs (DEFRA) and Natural England⁴.

The 20 samples were subsequently mixed and stored in six tubes of ethanol for eDNA preservation. Appropriate measures were undertaken to avoid cross-contamination, e.g. the use of sterile gloves and avoidance of heavy rain conditions when eDNA may inadvertently splash into the samples. The 20 samples per pond of pond water were taken from suitable areas at evenly spread locations around the perimeter of the ponds and care was taken to sample towards the base of the water column (eDNA tends to sink over time), both in areas of open water (potential GCN display areas) and from areas of potentially suitable GCN egg-laying vegetation.

The samples were subsequently labelled and refrigerated as per the approved protocol prior to being sent by courier for laboratory analysis by SureScreen Scientifics Ltd, a Natural England approved agency, on the next working day after the water samples were collected.

The eDNA survey technique was approved by the DEFRA and Natural England in 2014 as an alternative method for surveying for GCN. Natural England advises that 'the results [of the testing of the method in 2013] show that the test can be more effective in confirming the presence or absence of GCN than a combination of conventional survey techniques.

The laboratory testing was conducted in two phases. The samples first went through an extraction process where all six tubes were pooled together to acquire as much eDNA as possible. The pooled sample was then tested via real time Polymerase Chain Reaction (or q-PCR). This process amplifies the selected part of DNA allowing it to be detected and measured. All controls were acceptable. The eDNA Technical Reports from SureScreen Scientifics are provided at Appendix A.

Surveyors/competencies

Mary Haine, Assistant Consultant, has a BSc (Hons) in Ecology and Conservation, and is a Qualifying member of CIEEM, with over two years' experience in ecological survey and assessment. Mary has experience in conducting and assisting with protected species surveys, data analysis, and reporting including PEAs, and Biodiversity Net Gain (BNG).

Mark Wingrove, Associate, has a Bachelor's degree in Biology (BSc Hons), is a Chartered Environmentalist and Full Member of the Chartered Institute of Ecology and Environmental

³ BIGGS, J. et al. (2015). Using eDNA to develop a national citizen science-based monitoring programme for the great crested newt (*Triturus cristatus*). *Biological Conservation*, 183, 19-28.

<https://doi.org/10.1016/j.biocon.2014.11.029>

⁴ Natural England (2023) An evidence review for great crested newt eDNA monitoring protocols. Natural England Commissioned Report NECR476

Management (CIEEM), has over 19 years' experience undertaking habitat suitability assessments and is registered to use the level 1 class survey licence for great crested newts.

Kezia Myles, Seasonal Ecologist, has a BSc (Hons) in Environmental Science and Sustainability, has experience assisting with bat, badger, and newt surveys, QGIS mapping, and report writing.

Sharna Broadhurst, Seasonal Ecologist, has a BSc (Hons) in Forensic Science and a MSc in Entomology and assists with report writing, surveys, and data analysis.

Charlotte Hammond, Associate, has an undergraduate degree in Geography (BSc Hons), two postgraduate degrees in Environmental Bioscience in a Changing Climate (MSc) and Landscape Architecture (MA). Charlotte is an Associate member of CIEEM and the Landscape Institute and holds a Natural England bat and Great Crested Newt Licence. Charlotte has over 12 years' experience in ecological surveys and consultancy.

The surveys were undertaken by Mary Haine and assisted by Austin Thomas. Mary was accredited on Mark Wingrove's licence. This letter was prepared by Kezia Myles and Sharna Broadhurst, reviewed by Mark Wingrove and authorised by Charlotte Hammond, who confirms that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

Limitations

Several ponds could not be surveyed. Pond 1 was inaccessible, and Pond 3 was a well-maintained swimming pool, assessed as unsuitable for GCN.

Pond 5 and Pond 7 were recorded as dry. It is generally accepted that as great crested newts cannot complete their life cycle from larvae to adults within a given year in the absence of water, a dry waterbody is therefore considered unviable to support a breeding population. However, given that great crested newts take 16 weeks to complete their life cycle, a waterbody that held water through February to May could have supported an early breeding population, with new emerging adults dispersing from a shrinking pond or suitable in years of greater spring rainfall. Pond 4, which was returned positive for eDNA, may also be available as an alternative breeding waterbody. However, connectivity to the site to both of these ponds is restricted by part of the River Arun running north, and an urban area (Phases 1-7). Additionally, Pond 6 may be a potential alternative breeding waterbody for Pond 7, however it was returned negative for eDNA. It should be noted that some dry waterbodies may become viable to breeding GCN populations in future years.

RESULTS

The eDNA laboratory results are attached within Appendix A, with a single positive test result returned for Pond 4 only.

The samples passed the sample integrity, degradation, and inhibition checks. In addition, conditions during the survey and in the preceding days were considered suitable for eDNA sampling, providing a high degree of confidence in the results.

A summary of the results has been included in the Table 1.1 below:

Table 1.1 A summary of eDNA results

Pond	eDNA result	Likely presence/absence	Comments
Pond 1	None	Unknown	This pond was inaccessible. A small pond bordered by small areas of woodland, with a main road immediately north and large patches of modified grassland to the south.
Pond 2	Negative	Likely absent	A small pond surrounded by patches of modified grassland, with corridors of woodland.
Pond 3	None	Likely absent	A swimming pool which are not suitable for GCN.
Pond 4	Positive	Present	A small pond located north of site and north of the River Arun, adjacent to a large tree and dense scrub to the east, Horsham Fire Station and Training Centre to the west (these areas meet at the north), and neutral grassland to the south. The river will provide a physical barrier to movement.
Pond 5	None	Likely absent	A medium pond surrounded by dense scrubland, located in between Horsham Fire Station and Training Centre to the north, and Highwood BMX Track to the south. The A24 is present to the west of

Pond	eDNA result	Likely presence/absence	Comments
			the pond. This pond was dry thus preventing GCN populations from establishing.
Pond 6	Negative	Likely absent	A slender pond, located north of the housing estate built during Phases 1-7, south of the River Arun.
Pond 7	None	Likely absent	A small pond directly east of Pond 6. This pond was dry thus preventing GCN populations from establishing.
Pond 8	Negative	Likely absent	A medium sized pond located just north of a playing park and football pitch, and south of the River Arun. It is surrounded by woodland and grassland.

DISCUSSION

Evaluation

The eDNA results for Pond 4 were returned as positive, and therefore GCN should be considered likely present in this pond. However, the River Arun present to the south of these ponds and the heavily urbanised area further south of this provides a sufficient dispersion barrier⁵ to restrict access for GCN into the site, since larger, fast flowing rivers are not suitable for GCN. Given that it is unlikely for any potential GCN to cross onto site, no further surveys are required.

The status of GCN within Pond 1 could not be established due to inaccessibility. However, the railway track which borders the southern boundary of the site presents a partial dispersion barrier for GCN preventing access onto the site, therefore it is unlikely that any GCN established at Pond 1 would be found on site. Pond 7 was found to be dry and unsuitable for great crested newt, however, could be suitable for GCN in subsequent wetter years.

The eDNA results for Pond 2, Pond 6, and Pond 8 were returned as negative, indicating that no GCN were present within any of the eDNA sampled ponds and therefore GCN should be considered likely absent from these ponds.

⁵ Langton, T.E.S., Beckett, C.L. and Foster, J.P. (2001) Great Crested Newt Conservation Handbook. Halesworth: Froglife.

While great crested newt has been assessed as likely absent from the site, precautionary methods of working should still be followed to mitigate for the risk of 'last minute discoveries' and address survey limitations in respect of Pond 1 and Pond 7.

Recommendations

It is recommended that as a precaution and to avoid harm to GCN if present, a Reasonable Avoidance Method Statement (RAMS) is adopted and secured within a Construction Ecological Management Plan (CEMP).

As a minimum, the following should be adopted on site regarding any suitable terrestrial habitat (inclusive of actively managed arable) within the site:

- A toolbox talk should be given during the induction for employees to have a clear understanding of what a GCN looks like, appropriate methods of working, legislations protecting GCN, and what to do under the circumstances of identifying one;
- All vegetation arisings should be removed from the application site straight after being cut to avoid creating hibernating/ sheltering opportunities for amphibians, or other small animals;
- Once cleared, the application site should be kept free of vegetation to ensure that suitable habitat does not re-establish prior to the main construction commencing. · If amphibians, or other small animals, are encountered works in that location should cease and allow the animal to move away of its own accord. Alternatively, if an SQE is not present, then works should pause until after they have been contacted to mediate translocation; and
- If GCN are encountered, works should cease immediately and advice must be sought by a Suitably Qualified Ecologist (SQE).

Where habitats of greater suitability (i.e. grassland, scrub or arable allowed to go fallow / no longer managed) are to be removed, additional measures under a RAMS will be required:

- Vegetation to be cut, to a height of ~150mm in a slow, systematic manner. After a period of 25-48 hours, a second cut will be conducted, to take the vegetation down to ground level. This should be first checked by a qualified ecologist, and then again between cuts; and
- Any vegetation on the site should be removed in a directional manner during periods when wildlife is most active (typically March to September/October, on dry days, when the temperature is over 9°C), and commence from the north working towards the south away from the urban areas where more suitable habitat in the form of grassland, scrub and waterbodies is present, which individuals, if present on the day of vegetation clearance, could move into.

General good environmental construction practice should also be employed within the site to reduce the risk of harm to GCN and other wildlife:

- Adequately store materials to prevent harmful materials from contaminating the environment
- Ensure any trenches are covered overnight to prevent any animals from becoming trapped

The landscape proposals for Phases 8, 10 - 13 were approved at the Reserved Matters Approval stage and are still to be implemented as planned, these include extensive native planting.

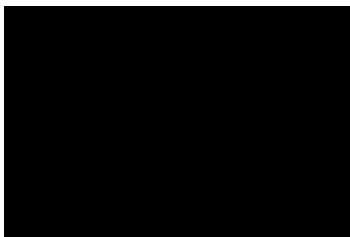
CONCLUSION

From review of the eDNA results obtained from SureScreen Scientifics and assessment from Greengage, it has been decided that GCN are not a constraint to the proposed Phases 8 and 10-13 of the development.

Based on the results, GCN were found to be present in Pond 4. However, due to the presence of the River Arun and the heavily urbanised area in between this pond and the site, GCN are unlikely to be able to commute on to the site.

It can be concluded that GCN are likely absent from Pond 2, Pond 3, Pond 5, Pond 6, Pond 7, and Pond 8, but survey data is unavailable from Pond 1. As such, a RAMS must be followed to mitigate against any impacts on GCN and other amphibians as part of the development proposals.

Yours sincerely,



Mike Harris

Director

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For and on behalf of Greengage Environmental Ltd

APPENDIX A POND MAPS

Plate A.1 Ponds 1-3 south of railway line, provided by the client

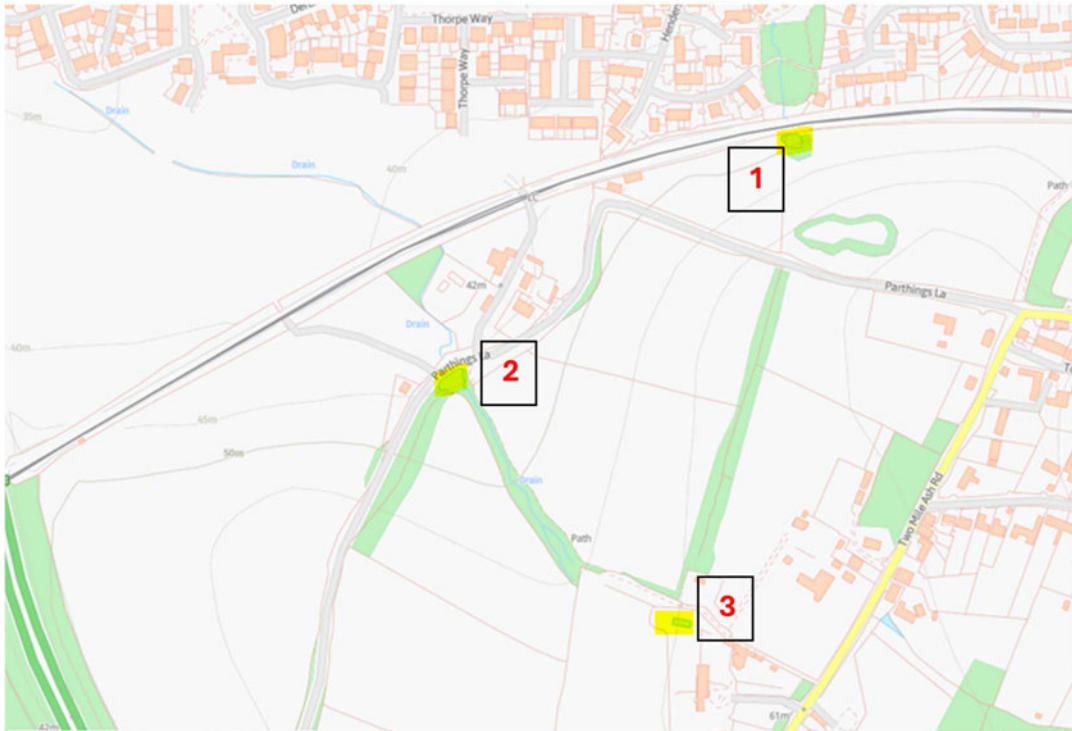


Plate A.2 Ponds 4-7 to the north of the site, and the River Arun, provided by the client

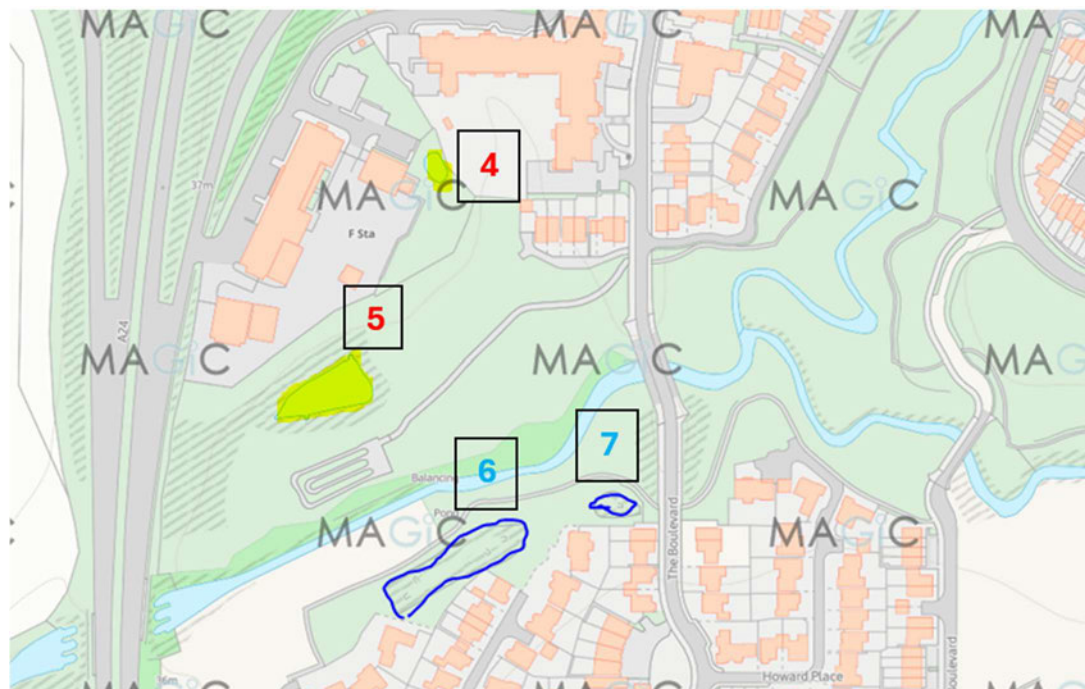


Plate A.3 Pond 8 as indicated by the dark blue circle, provided by the client



APPENDIX B SURESCREEN SCIENTIFIC EDNA RESULTS

Folio No: 3325-2026
Purchase Order: 554408
Contact: Greengage
Environmental
Issue Date: 14.07.2026
Received Date: 30.06.2026

GCN Report

Technical Report



SureScreen Scientifics

Folio No: 3325-2026
Purchase Order: 554408
Contact: Greengage Environmental
Issue Date: 14.07.2026
Received Date: 30.06.2026

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
GCN26 10121	Highwood Pond 2	TQ15590 29657	Pass	Pass	Negative	0/12
GCN26 10188	Highwood Pond 6	TQ15284 30098	Pass	Pass	Negative	0/12
GCN26 10192	Highwood Pond 4	TQ15294 30296	Pass	Pass	Positive	5/12

Matters affecting result: none

Reported by: Jennifer Higginbottom

Approved by: Alice Cunningham



Methodology

The samples detailed above have been analyzed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample tube which then undergoes DNA extraction. The extracted sample is then analyzed using real-time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded. Analysis of eDNA requires attention to detail to prevent the risk of contamination. True positive controls, negative controls, and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added analytical security.

SureScreen Scientifics Ltd is ISO9001 accredited and participates in Natural England's proficiency testing scheme for GCN eDNA testing.

Interpretation of Results

Sample Integrity Check:

When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results. Any samples which fail this test are rejected and eliminated before analysis.

Degradation Check:

Pass/Fail. Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.

Inhibition Check:

Pass/Fail. The presence of inhibitors within a sample is assessed using a DNA marker. If inhibition is detected, samples are purified and re-analyzed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.

Result:

Presence of GCN eDNA (Positive/Negative/Inconclusive)

Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.

Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with the WC1067 Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.

Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.

Inconclusive: Controls indicate inhibition or degradation of the sample, resulting in the inability to provide conclusive evidence for GCN presence or absence.



Folio No: 3619-2026
Purchase Order: 554408
Contact: Greengage
Environmental
Issue Date: 16.07.2026
Received Date: 02.07.2026

GCN Report

Technical Report



SureScreen Scientifics

Folio No: 3619-2026
Purchase Order: 554408
Contact: Greengage Environmental
Issue Date: 16.07.2026
Received Date: 02.07.2026

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Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN26 10191	Highwood, Horsham - Pond 8	TQ 15604 30114	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Vanessa Hind

Approved by: Alice Cunningham



Methodology

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Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.

Inconclusive: Controls indicate inhibition or degradation of the sample, resulting in the inability to provide conclusive evidence for GCN presence or absence.

