Landscape Architecture
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PADNELL GRANGE, WATERLOOVILLE

GREAT CRESTED NEWT HSI & eDNA SURVEY REPORT

Prepared for Stonebond Properties (Guildford) Ltd and the Borrow Foundation

by

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1 INTRODUCTION

1.1 Site location and summary description

1.1.1 This report describes a Great Crested Newt Habitat Suitability Index (HSI) assessment and eDNA sampling survey of waterbodies in the vicinity of approximately 2.82ha of land off Padnell Road, Cowplain hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference SU 698 110. The study was commissioned by Stonebond Properties (Guildford) Ltd in March 2025.

1.1.2 The site is located on the eastern edge of the settlement of Cowplain in southern Hampshire and forms the grounds of Padnell Grange which comprises a number of buildings in residential and commercial use together with associated hardstanding and formally landscape grounds.

1.1.3 The location and boundary of the site are shown in *Appendix A*. A more detailed description of the habitats present, and plans showing the distribution of habitats across the site, are given in the Ecological Appraisal (HDA, 2026).

1.2 Background and legislative context

1.2.1 Five native species of amphibian are relatively common and widespread in England: Common Frog *Rana temporaria*, Common Toad *Bufo bufo*; Smooth Newt *Lissotriton vulgaris*; Palmate Newt *Lissotriton helveticus*; and Great Crested Newt *Triturus cristatus*. Two further native species occur in the UK, namely the Natterjack Toad *Bufo calamita*, which has special habitat requirements that limit its range to certain sand dune and heathland sites, and the Pool Frog *Pelophylax lessonae* which is restricted to a limited number of sites in East Anglia.

1.2.2 Amphibians require aquatic habitat within which to breed and suitable terrestrial habitat to forage and hibernate. Suitable breeding ponds are usually well vegetated with still, shallow water that is not heavily shaded or very exposed. Terrestrial habitat includes woodland, scrub, field edges and gardens. Hibernation can occur under stone or log piles, in crevices or leaf litter and under the soil. Occasionally amphibians may be found hibernating in their breeding pools.

1.2.3 Over the last few decades all amphibians have suffered a decline in numbers. This is due to a combination of many factors, which include habitat destruction and fragmentation, loss of breeding pools through unsympathetic management and neglect, introduction of fish (which eat amphibian larvae) and pollution.

1.2.4 The Great Crested Newt is protected as a 'European Protected Species' (EPS) under the 2017 Conservation of Habitats and Species Regulations (as amended). In relation to an EPS, the 2017 Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of an EPS;
- Deliberately disturb wild animals of any such species, in particular any disturbance which is likely to: (i) impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or to hibernate or migrate; (ii) affect significantly the local distribution or abundance of the species to which they belong;
- Damage or destroy a breeding site or resting place of such an animal; and/or
- To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.

1.2.5 In addition, Great Crested Newts are protected under the 1981 Wildlife and Countryside Act (as amended). The Great Crested Newt is listed on Schedule 5 of the Act and is subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:

- Intentionally or recklessly disturb a Great Crested Newt while it is occupying a structure or place which it uses for shelter or protection; and/or
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a Great Crested Newt.

1.2.6 Where works are planned that may result in an offence under the legislation then works should be carried out under an appropriate licence from Natural England.

1.2.7 Great Crested Newts and Common Toads are also identified as a Species of Principal Importance under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Section 40 of the Act requires that these species are a material consideration in the planning process.

1.3 Development proposals

1.3.1 The site is to be the subject of a full planning application for the demolition of existing buildings and the erection of 90 residential dwellings with upgraded access to Padnell Road, associated landscaping and other works.

1.4 Scope and purpose of the report

1.4.1 A desk study of the site and its surrounds identified records of Great Crested Newts occurring within 2km of the site. In addition, a Great Crested Newt HSI, eDNA and population estimate survey of the site was previously conducted between June 2017 and June 2018. This survey recorded the presence of a low population of Great Crested Newts in a pond approximately 70m to the east of the site (HDA, 2018).

1.4.2 Great Crested Newts are known to use terrestrial habitats in the vicinity of ponds outside of the breeding season, with a routine maximum migratory range of 250m from breeding ponds being identified for Great Crested Newts outside the breeding season (Cresswell and Whitworth, 2004). More recent studies suggest that 95% of newt summer refuges are within 63m of breeding ponds. A review of the OS 1:10,000 scale map and aerial photographs of the site's surrounds suggests that there are potentially suitable waterbodies located within 300m of the site, the closest of which is an artificial pond located with Waterlooville Golf Club approximately 70m from the eastern site boundary.

1.4.2 In view of the presence of suitable habitat within the site for Great Crested Newts, the age of the previous Great Crested Newt data and within the legislative context set out in *Section 1.2*, a series of updated Great Crested Newt surveys were subsequently undertaken in order to:

i. To establish the suitability of waterbodies within 300m of the site for Great Crested Newts;
ii. To establish the likely presence/absence of Great Crested Newts in suitable waterbodies within 300m of the site;
iii. To determine requirements for any further survey work to estimate the size of any Great Crested Newt population potentially associated with the site; and
iv. To predict likely impacts of the proposed development on Great Crested Newts and give recommendations for impact avoidance, minimisation and/or mitigation.

2 METHODOLOGY

2.1 Great Crested Newt Habitat Suitability Index (HSI) Assessment

2.1.1 HSI assessments provide a mechanism by which the suitability of a pond to support Great Crested Newts can be objectively assessed in order to assist in the identification of ponds potentially supporting this species (Oldham *et al*., 2000).

2.1.2 For the HSI assessment the locations of waterbodies within a 300m radius of the site were identified from online aerial photographs, a 1:10,000 scale Ordnance Survey map and from other waterbodies encountered during the survey. Where necessary, relevant landowners were contacted in advance of the survey in order to gain access to off-site waterbodies. Use of a 300m radius reflects the findings of studies into the movement of Great Crested Newts during terrestrial phases which indicate that the maximum routine migratory distance of Great Crested Newts away from breeding ponds during terrestrial phases is less than 250m (Cresswell and Whitworth, 2004).

2.1.3 The HSI assessment was conducted by Filippo Faraone and Stuart Poyser of HDA on 30th May 2025. All accessible waterbodies identified within the survey area were visited and, where appropriate, assessed against each of the following ten suitability indices:

i. Geographic location;
ii. Pond area;
iii. Pond permanence;
iv. Water quality;
v. Shading;
vi. Presence of waterfowl;
vii. Presence of fish;
viii. Pond density in the area;
ix. Terrestrial habitat quality; and
x. Macrophyte cover in pond.

2.1.4 Details of the pond characteristics (depth, margin profile, etc.) and bankside, marginal and aquatic vegetation were also recorded during the assessment.

2.2 Great Crested Newt Environmental DNA (eDNA) Survey

2.2.1 Great Crested Newt eDNA sampling surveys were conducted on all accessible waterbodies that had been identified as having suitability to support Great Crested Newts during the HSI survey. The eDNA survey methodology is recognised by Natural England as a reliable technique for determining the presence/ likely absence of Great Crested Newts within a pond through detection of traces of Great Crested Newt DNA within the water.

2.2.2 The eDNA sampling survey was conducted Filippo Faraone and Stuart Poyser of HDA on the 30th May 2025. The field survey involved taking samples of pond water at each of the surveyed waterbodies in line with the recognised methodology established by Biggs *et. al.* (2014). The samples were then despatched to a recognised laboratory for polymerase chain reaction (qPCR) analysis.

3 RESULTS

3.1 Desk Study

3.1.1 The desk study indicated the presence of seven waterbodies within 300m of the site potentially suitable for supporting Great Crested Newts. The location of the waterbodies identified within 300m of the site are shown in *Appendix A*.

3.2 Field Surveys

3.2.1 The results of the HSI assessment and eDNA survey, together with descriptions of the surveyed waterbodies are summarised below. Full findings of the HSI and the laboratory results from the eDNA analysis are given in *Appendices B* and *C* respectively.

Waterbody 1

Location: Located approximately 70m to the east of the site.

HSI assessment: 0.759

3.2.2 Waterbody 1 comprises a medium-sized pond within Waterlooville Golf Course located approximately 70m to the east of the site. The waterbody has a silt base with shallow earth banks. The pond supports marginal, submerged and floating aquatic species including waterlilies, reeds, rushes and Waterweed *Elodea* sp.. The pond is bordered by well managed grassland and scattered trees which result in shading of approximately 70% of the perimeter of the waterbody. The water quality was assessed as good and it is assumed that the waterbody rarely dries.

3.2.3 The HSI score for Waterbody 1 was calculated as 0.759, which indicates that the pond has 'good' suitability for Great Crested Newts.

3.2.4 An eDNA sampling survey of Waterbody 1 was subsequently carried out and the samples were sent to the SureScreen Scientifics laboratory for analysis. The analysis returned a positive result for Great Crested Newt eDNA which indicates that Great Crested Newts are highly likely to have been present within the waterbody at the time of survey. The results of the eDNA analysis are provided in *Appendix C.*

3.2.5 No limitations were encountered during the survey of Waterbody 1.

Waterbody 2

Location: Located approximately 300m south-east of the site boundary.

HSI assessment: 0.687

3.2.6 Waterbody 2 comprises a medium-sized pond within Waterlooville Golf Course, located approximately 300m to the south-east of the site. The waterbody has a silt base with shallow earth banks to the east and steep earth banks to the west. The pond supports marginal, submerged and floating aquatic species including waterlilies, iris, reeds, rushes and Waterweed *Elodea* sp. The pond is bordered by well managed grassland and scattered trees which result in shading of approximately 20% of the perimeter of the waterbody. At the time of the survey, the water level was low with much of the ponds area dry. The water quality was assessed as moderate and it appears that the waterbody sometimes dries.

3.2.7 The HSI score for Waterbody 2 was calculated as 0.687, which indicates that the pond has 'average' suitability for Great Crested Newts.

3.2.8 An eDNA sampling survey of Waterbody 2 was subsequently carried out and the samples were sent to the SureScreen Scientifics laboratory for analysis. The analysis returned a positive result for Great Crested Newt eDNA which indicates that Great Crested Newts are highly likely to have been present within the waterbody at the time of survey. The results of the eDNA analysis are provided in *Appendix C.*

3.2.9 No limitations were encountered during the survey of Waterbody 2.

Waterbody 3 & 4

Location: Waterbodies 3 and 4 are located approximately 140m and 80m to the east of the site, respectively.

HSI assessment: N/A

3.2.10 Waterbodies 3 and 4 comprise dry drains within Waterlooville Golf Course and are bordered by areas of managed grassland and woodland.

3.2.11 It was not possible to conduct an HSI assessment or eDNA survey on Waterbodies 3 or 4 due to the absence of water. In view of the absence of standing water, it is considered that these waterbodies are highly unlikely to support Great Crested Newts.

Waterbody 5

Location: Approximately 200m to the north-east of the site.

HSI assessment: N/A

3.2.12 Waterbody 5 comprises a flowing, steep-sided ditch that connects to two large ponds beyond the survey area. The ditch is located within the grounds of Waterlooville Golf Course and is surrounded by well managed grassland and scattered trees.

3.2.13 A HSI assessment was not carried out as the methodology is not recommended for ditches.

3.2.14 Although flowing water is generally considered unsuitable for breeding Great Crested Newts on a precautionary basis an eDNA sampling survey of Waterbody 5 was carried out and the samples were sent to the Surescreen Scientifics laboratory for analysis. The analysis returned a negative result for Great Crested Newt eDNA which indicates that Great Crested Newts are highly unlikely to have been present within the waterbody at the time of survey. The results of the eDNA analysis are provided in *Appendix C*.

3.2.15 No limitations were encountered during the survey of Waterbody 5.

Waterbody 6

Location: On site.

HSI assessment: N/A

3.2.16 Waterbody 6 comprises a small steep-sided dry ditch within managed amenity grassland in the north-west of the site. The ditch was dry during surveys of the site undertaken in 2017, 2018 (HDA, 2018) and 2025. The ditch is bordered by scattered trees and shrubs, which result in shading of approximately 40% of the perimeter of the waterbody.

3.2.17 It was not possible to conduct an HSI assessment or eDNA survey on Waterbody 6 due to the absence of water. In view of the absence of standing water, it is considered that this waterbody is highly unlikely to support Great Crested Newts.

Waterbody 7

Location: On site.

HSI assessment: N/A

3.2.18 Waterbody 7 comprises a small, low lying ornamental pond located within well-managed amenity grassland, with no shading of the pond perimeter. The waterbody was dry at the time of the survey and was fully overgrown with Pendulous Sedge forming more of a flowerbed than a pond.

3.2.19 It was not possible to conduct an HSI assessment or eDNA survey on Waterbody 7 due to the absence of water. In view of the absence of standing water, it is considered that this waterbody is highly unlikely to support Great Crested Newts.

4 SUMMARY OF FINDINGS

4.1 The HSI and eDNA survey undertaken by HDA identified seven waterbodies located within 300m of the site boundary:

- Two waterbodies, namely Waterbody 1 and 2, located 70m and 300m to the east of the site respectively, returned positive eDNA results which indicates that Great Crested Newts are highly likely to have been present within these waterbodies at the time of survey.
- Five waterbodies were found to be unsuitable for Great Crested Newts at the time of the survey as they were either dry waterbodies (Waterbodies 3, 4, 6, and 7) or unsuitable habitat in the form of flowing water (Waterbody 5). As these waterbodies were either dry or unsuitable, Great Crested Newts are highly likely to have been absent from these waterbodies at the time of survey.

5 EVALUATION

5.1 Great Crested Newts were determined to be present within two waterbodies within the survey area (Waterbodies 1 and 2) and were likely to have been absent from five waterbodies within the survey area (Waterbodies 3, 4, 5, 6, and 7).

5.2 A maximum routine migratory range of 250m from breeding ponds has been estimated for Great Crested Newts during terrestrial phases, and more recent studies suggest that 95% of newt summer refuges are within 63m of breeding ponds (Cresswell and Whitworth, 2004). Waterbodies 1 and 2 are located approximately 70m and 300m to the east and south-east of the site respectively, and the site largely comprises unsuitable terrestrial habitat for Great Crested Newts during terrestrial phases in the form of well managed

grassland with some more suitable areas of habitat including tall ruderals, hedgerow bases and scrub.

5.3 In view of the known presence of Great Crested Newts within Waterbodies 1 and 2, of which Waterbody 1 is the closest waterbody to the site, and the presence of suitable, albeit limited, terrestrial habitat within the site, it is conceivable that the site is used by Great Crested Newts during terrestrial phases on at least an occasional basis.

5.4 The development proposals indicate that suitable terrestrial habitat will be lost as a result of the proposed development in the form of tall ruderal, hedgerow and scrub habitats (OSP Architecture, 2026). In the absence of mitigation, the proposed works therefore have potential to conflict with the nature conservation legislation afforded to Great Crested Newts (set out in *Section 1.2*) including killing, injury and disturbance of individual newts and impacts on associated habitats during the construction phase of the proposed development. In view of this either: i) a full European Protected Species (EPS) licence would need to be applied for from Natural England, and granted, prior to the development works taking place; or ii) the work would need to be carried out under a Natural England District Licence such as that administered in Hampshire by Naturespace.

5.5 Whichever licensing route is taken, unless otherwise agreed with Natural England, this would require implementation of measures to protect individual Great Crested Newts during construction and maintenance of opportunities at the site and/or its surrounds for this species in the long-term in accordance with the 2024 National Planning Policy Framework (NPPF) and 2006 NERC Act. Suitable outline measures to achieve these requirements within the scheme and ensure that the favourable conservation status of the local Great Crested Newt population is maintained are therefore provided in *Section 6* below.

6 MITIGATION AND SITE SAFEGUARDING

6.1 This section identifies measures to be implemented during development of the site to avoid and mitigate potential impacts on Great Crested Newts and ensure compliance with nature conservation legislation. These will be implemented unless otherwise agreed with the planning authority and/ or Natural England. In addition, measures for maintenance of opportunities at the site for Great Crested Newts are given in accordance with the 2024 NPPF and the 2006 NERC Act.

6.2 As discussed above, the findings of the Great Crested Newt survey work confirm the presence of this species in Waterbody 1 and 2, located approximately 70m and 300m east and south-east of the site respectively. This is within the typical routine maximum migratory range of Great Crested Newts outside the breeding season. Although these ponds are located outside of the site boundary and will therefore be retained, it is conceivable that Great Crested Newts associated with these ponds use terrestrial habitat within the site on

at least an occasional basis and could therefore be directly affected by the proposed works. In view of this the proposed development works will need to be covered by an appropriate Natural England licence, comprising either:

i) A NatureSpace District Licence such as that administered in Hampshire; or
ii) A full European Protected Species (EPS) licence specific to the site.

6.3 **District Licence approach**

6.3.1 District Licensing involves subscription to a wider NatureSpace licence covering the entire district, which allows impacts on Great Crested Newts within a development site to be compensated through creation and long-term management of breeding and terrestrial habitats in the wider landscape. It should be noted however that even where this approach is taken, measures to protect individual newts may be required during construction of the site albeit at a substantially lower level of effort than that which may be required under a full EPS licence (see below). Notwithstanding the focus of the District Licensing approach being on off-site habitat creation, where possible consideration should still be given to the retention of opportunities for Great Crested Newts within the site itself in accordance with the mitigation hierarchy, planning policy and the 2006 NERC Act. This is also likely to reduce costs associated with entering the District Licence.

6.3.2 It is understood that the applicant intends to take the District Licensing approach in respect of the proposed development. Notwithstanding this, the approach required under a full European Protected licence is also detailed below.

6.4 **Full European Protected Species Licence approach**

6.4.1 In the event that it is preferred to carry out works under a bespoke European Protected Species (EPS) licence specific to the site, then it would be necessary to accompany any licence application made to Natural England with a method statement detailing measures to:

- Protect individual Great Crested Newts through removal and exclusion from areas of works prior to and during construction; and
- Provide replacement habitat within the landscape scheme of the proposed development to ensure that opportunities remain at the site for Great Crested Newts following development, thereby protecting the favourable conservation status of the local population in the long-term.

6.4.2 The detailed method statement would need to be informed by a full population estimate survey to provide an indication of the number of Great Crested Newts using the site and inform proportionate levels of capture effort and habitat provision and therefore a full population estimate survey would need to be carried out prior to the application being made. It should also be noted that the population estimate survey would likely be required prior to

determination of a planning application if the EPS licensing route is to be taken[1]. A mitigation strategy is described below which takes a precautionary approach assuming that a large metapopulation of Great Crested Newts is identified in association with the off-site waterbodies. This demonstrates that the development proposals are able to protect any individual newts present during construction works and can maintain the favourable conservation status of any local Great Crested Newt population should a bespoke European Protected Species (EPS) licence specific to the site be pursued[2].

EPS Licence approach: Protection of Great Crested Newts during construction

6.4.3 Proposals for the site are expected to result in loss/disturbance of a proportion of the suitable Great Crested Newt terrestrial habitat from the proposed development areas, including semi-improved grassland habitats and areas of rough grassland, scrub and tall ruderal habitats.

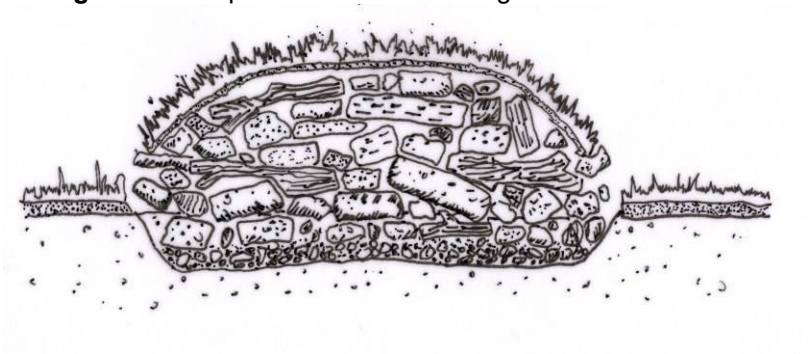
6.4.4 In order to protect individual Great Crested Newts in accordance with nature conservation legislation, should an EPS licence be pursued, it would therefore be necessary to translocate Great Crested Newts from the affected areas within the site to an unaffected receptor area(s) prior to the commencement of works. The approach to translocation of newts from affected habitat is described below.

EPS Licence approach: Identification and preparation of the receptor site(s)

- A suitable receptor area(s) would be identified to receive translocated Great Crested Newts from the development area. This receptor area(s) could be located within the proposed public open space/ buffers along the southern, western and eastern site margins which will comprise retained and newly created habitats of high value to Great Crested Newts such as scrub, rough grassland, scrub and woodland habitats as shown on the *Landscape Layout P*lan (Charnwood Landscape Design Ltd, 2026) prepared in support of the planning application. These provide habitat links to off-site habitats and retained linear habitats within and around the site boundaries.
- In addition to the creation of high-quality terrestrial habitats, a purpose-built hibernacula (see *Figure 1* below) and refuge piles should be included within the receptor area to provide opportunities for hibernating amphibians.

[1] Population estimate surveys require 6 survey visits carried out between mid-March and mid-June, with at least 3 of the visit undertaken between mid-April and mid-May.
[2] Due to the need to carry out a Great Crested Newt population estimate survey prior to applying for an EPS licence, the measures outlined assume a higher level of breeding interest associated with the waterbodies than is probable. If a lower level of breeding interest across the ponds is recorded during subsequent population estimate surveys, the approach to mitigation outlined in *Section 6.4* should be revised.

Figure 1 Example cross-section through hibernaculum



6.4.5 In order to allow for translocation of Great Crested Newts and prevent newts from dispersing into the development areas during construction, exclusion fencing would be erected around the boundaries of the development areas prior to the commencement of works. Pitfall traps would then be installed at 10m intervals along the inside of the fencing and artificial refugia placed along the fence line and within suitable terrestrial habitat (woodland, rough grass, hedgerow bases etc.) within the interior of the exclusion zones at a density of 50-100 refugia per hectare. Trapping and translocation would then follow the methodology set out below unless otherwise agreed with Natural England:

EPS Licence approach: Installation of fencing and pitfall traps

- Fencing and pitfall traps would only be installed under the supervision of a suitably qualified ecologist at a time of year when night-time temperatures are consistently above 5^{o}C, and during mild temperatures [i.e. >14^{o}C] at a suitable time of year when newts are likely to be active i.e. early March to mid October inclusive;
- The proposed fence line would first be searched and cleared of amphibians. Any amphibians found would then be translocated to the receptor site(s) outside of the exclusion area (discussed above);
- Any vegetation that requires removal for fence installation would be removed using hand tools in a two-stage cutting regime (firstly cut down to 15cm above ground level, followed by a second cut to ground level), taking care to avoid risk of injury to resting amphibians;
- Pitfall traps would be installed flush with the newt fencing, ensuring that no top lip is present;
- Each pitfall trap would remain closed until the translocation commences; and
- Pitfall traps would be complemented by installation of carpet tile refugia (or similar) along the fence lines and within the interior of the capture areas, installed at a density of 50 - 100 mats per hectare of suitable habitat.

EPS Licence approach: Translocation exercise

- Translocation works would be carried out in suitable climatic conditions between March and early November inclusive;

- Once the translocation has commenced, the pitfall traps would be opened and equipped with a mammal ramp, float and vegetation for trapped newts to hide beneath;
- Each pitfall trap would be checked daily before 11am and weather conditions monitored and traps closed if necessary;
- Refugia would be lifted and any amphibians beneath captured;
- All amphibians captured would be translocated to the pre-established receptor area(s) outside of the exclusion fencing;
- The pitfall trapping and artificial refugia searches would be undertaken for a minimum of 90[3] nights (with 5 clear days at the end of the translocation) unless trapping results suggest other as appropriate (in agreement with Natural England);
- Once capture rates decline in any given compartment, ground level vegetation would be progressively removed to encourage movement of newts and increase chances of capture; and
- Fencing would be monitored on a weekly basis and any damage repaired until all newts have been cleared from the area of search, after which any drift fencing within the interior of the capture area would be removed.

6.4.6 Once capture rates decline, the vegetation manipulation works described below would commence to encourage capture of any remaining newts. Any remaining naturally occurring refugia would also be dismantled by hand and searched for newts. In the event that vegetation clearance is likely to be counterproductive to the capture of newts (e.g. by encouraging newts to go to ground) this work would not be carried out.

EPS Licence approach: Vegetation manipulation

- Vegetation manipulation to encourage capture of newts would require clearance of remaining vegetation to no less than 100mm by hand;
- Vegetation would be cut using hand tools under the supervision of a suitably qualified ecologist;
- Again, any amphibians encountered within the area of works during vegetation clearance would be captured and moved to the receptor site(s) outside the exclusion area; and
- A further 5 days with night-time temperatures of >5^{o}C would then be allowed to elapse to enable capture of any remaining newts prior to a destructive search (see below).

[3] This assumes presence of a large Great Crested Newt metapopulation within the site. If a population estimate survey identifies a lower population size class of Great Crested Newts being associated with the off-site ponds then the number of trapping nights would be lowered to 60 days for a moderate population, or 30 nights for a low population.

EPS Licence approach: Destructive search

- To be certain that no newts are present within the area of works, once five suitable trapping nights have passed with no captures from terrestrial habitats, vegetation would be cleared from areas of suitable habitat to ground level and topsoil disturbed by scraping back to a depth of up to 10cm where the possibility of newts being present remains. This would be carried out under the direct supervision of a suitably qualified ecologist where it is expected Great Crested Newts might still remain. Topsoil would not be stripped from the root protection areas of retained trees, scrub and hedgerows, or where translocation results and vegetation clearance to ground level allow satisfactory inspection to confirm likely absence of newts.
- In the event that the destructive search is delayed following newt capture, the vegetation would be maintained at ground level until the destructive search is carried out.

6.4.7 Once the translocation, vegetation clearance and destructive search measures have been completed within any given compartment in accordance with the methodology outlined above, development works would be able to proceed within the cleared area.

6.4.8 The exclusion fencing would be retained and maintained until completion of works within the site. The condition of the fencing would be monitored and repairs made as required. Following the completion of works within any given area the exclusion fencing would be removed allowing newts to disperse back into the retained and newly created habitats.

6.5 Habitat creation

Creation of terrestrial and breeding habitats

6.5.1 The proposals show that existing terrestrial habitats on site will be lost (OSP Architects, 2026). However, proposals outline various potential opportunities for habitat creation for Great Crested Newts and could include:

- Creation of ‘ecotone’ habitats along existing and newly created woodland/scrub edges, providing a graded transition from woodland to scrub to rough grassland. Ecotone habitats are noted for providing habitat for a wide range of species including amphibians, which favour areas with a varied mosaic of habitats;
- Retention and creation of linear terrestrial habitats (e.g. scrub lines, hedgerows, ditches etc) to improve connectivity between ponds within the site and wider area;
- Establishment of new areas of species-rich meadow and rough grassland within open space and wet grassland in association with SuDS features;
- New native tree and shrub planting;
- Provision of log, brash and grass cuttings piles within informally managed areas of the site to enhance refuge and hibernation opportunities.

6.5.2 In addition to any receptor area provision (see *Section 6.4* above), where appropriate the informal open space should comprise habitats of high value to terrestrial phase Great Crested Newts such as rough grassland, scrub and native hedgerow planting, as indicated by the landscape proposals (OSP, 2026).

6.5.3 No waterbodies are proposed (or lost) in connection with the scheme and therefore no new areas of Great Crested Newt breeding habitat would be provided.

6.5.4 The integrity of newly created areas of suitable Great Crested Newt habitat, including any receptor site provision, should be secured through ongoing management from the implementation and establishment stages right through the lifetime of the proposed development. In order to achieve this, management works should be subject of a long-term management plan, provision of which could be subject of a condition of planning consent.

Avoiding entrapment of newts

6.5.5 In addition to the measures described above to ensure the continuation and enhancement for opportunities for Great Crested Newts following development, in order to facilitate movement of newts and other wildlife across the landscape during the operational phase of the proposed development, measures should be included within the highway design to avoid entrapment within road corridors. These should be included in the detailed design of the proposed development and include a selection of:

- Dropped kerbs at locations where newts are most likely to be present e.g. where a road crosses through a hedgerow or in the vicinity of ponds;
- Design of gully pots to include a stand-off from the kerb and/or supplemented by an adjacent 'wildlife friendly' kerb'[4]; and/ or
- Fitting of gully pots with 'wildlife ladders'.

7 CONCLUSION

7.1 The results of the eDNA surveys for Great Crested Newt surveys carried out at the site indicates the presence of Great Crested Newts in off-site waterbodies, which may use scrub, hedgerow/ treeline bases, grassland and woodland edge habitats within the site during terrestrial phases.

7.2 Subject to implementation of the licensing and mitigation works described in *Section 6* above, the proposed development would be expected to maintain compliance with nature conservation legislation and planning policy and ensure that opportunities for Great Crested

[4] Wildlife friendly kerbs - www.wildlifefencing.co.uk/product.php?productid=477&cat=68&page=1

Newts are maintained at the site in the long-term thereby ensuring that the favourable conservation status of the local Great Crested Newt population is maintained[5].

8 REFERENCES

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[5] Please note that should an EPS licensing approach be taken, the approach to mitigation set out in this report, which represents a reasonable worst- case scenario, should be reviewed following a Great Crested Newt population estimate survey to confirm the mitigation is proportionate to the case in hand.

HDA Document Control and Quality Assurance Record

Project Title: Padnell Grange, Waterlooville
Project Reference: 1127.8
Document Title: Great Crested Newt HSI & eDNA Survey Report
Commissioning Party: Stonebond Properties (Guildford) Ltd & the Borrow Foundation.

Issue	Description	Date of Issue	Signed
1	Great Crested Newt HSI and eDNA Survey Report	March 2026	
2	Great Crested Newt HSI and eDNA Survey Report – Rev A	March 2026	[redacted]

	Personnel	Position
Author	Filippo Faraone	Senior Ecologist
Reviewed by	Clare Bird MCIEEM	Associate Ecologist

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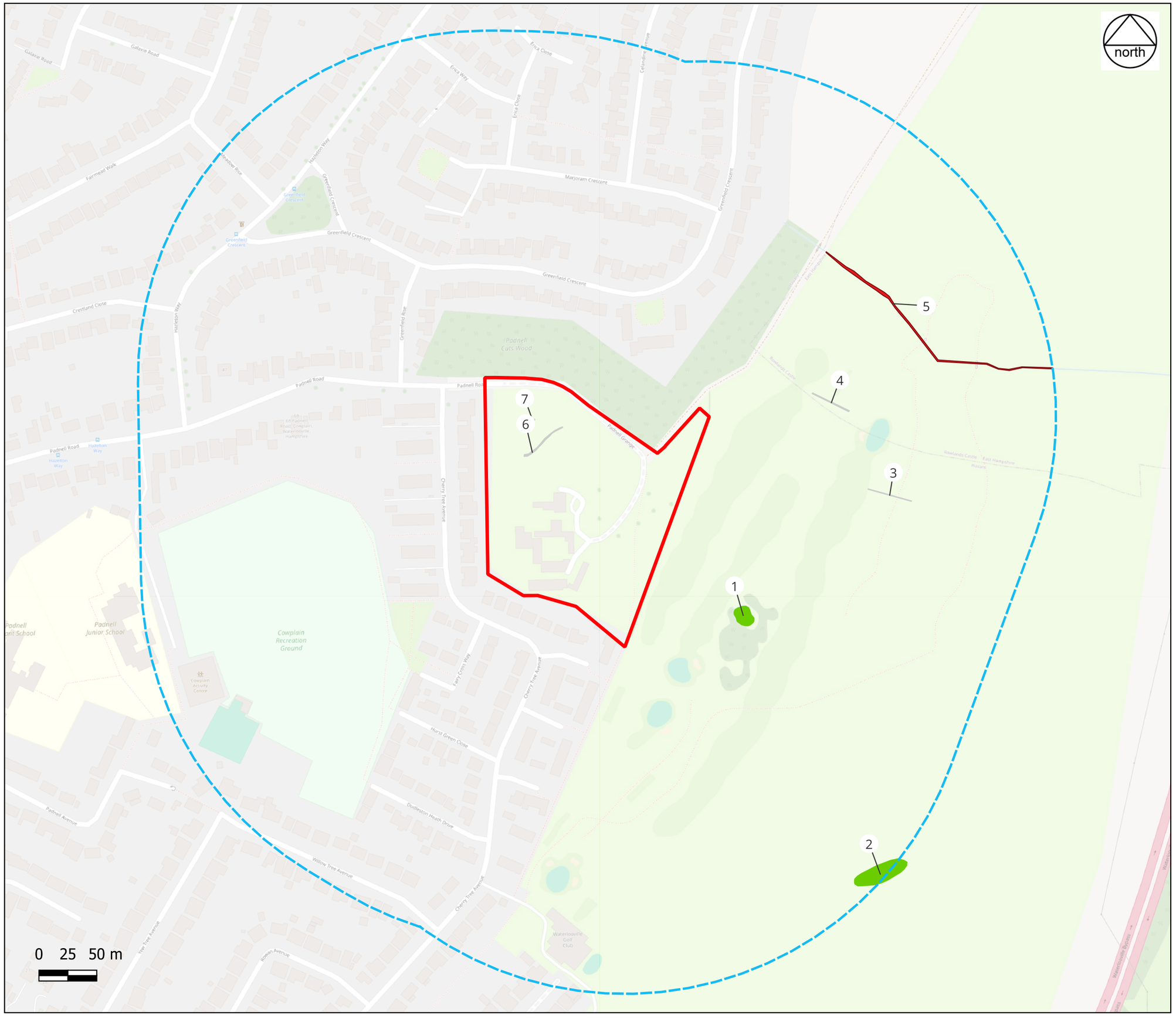
APPENDIX A

Great Crested Newt HSI and eDNA survey summary plan



KEY

- Site boundary
- 300m buffer
- Waterbody unsuitable for breeding Great Crested Newts
- Great Created Newt confirmed present through eDNA analysis
- Great Crested Newts confirmed absent through eDNA analysis

Map data from OpenStreetMap 2026-01-16

CLIENT:
Stonebond Properties (Guildford) Ltd

PROJECT:
Padnell Grange, Waterlooville

TITLE:
Great Crested Newt HSI & eDNA Survey Summary Plan

SCALE AT A3:
See Scale Bar

DATE:
March 2026

1127.8 / 07

Based on Ordnance Survey mapping with permission of Her Majesty's Stationery Office Licence no. AR187372
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Landscape Architecture
Masterplanning
Ecology

hda

APPENDIX B

Full HSI assessment results

Pond ID		Waterbody 1		Waterbody 2	
SI Ref	**Description of Index**	**Measure / Comment**	**SI score**	**Measure / Comment**	**SI score**
SI1	Geographic location	A	1	A	1
SI2	Pond area (m2)	225	0.4	300	0.6
SI3	Pond permanence	Rarely Dries	1	Sometimes dries	0.5
SI4	Water quality	Good	1	Moderate	0.67
SI5	Shading %	70%	0.8	20%	1
SI6	Presence of waterfowl	Minor	0.67	Minor	0.67
SI7	Presence of fish	Absent	1	Absent	1
SI8	Pond density in area	2.8	0.9	1.9	0.75
SI9	Terrestrial habitat quality	Poor	0.33	Poor	0.33
SI10	Macrophyte cover in pond	70%	1	40%	0.7
HSI	Overall HSI for pond:	**Good**	**0.759**	**Average**	**0.687**

APPENDIX C

eDNA sampling analysis results

Folio No:	1178-2025
Purchase Order:	Padnell Grange
Contact:	Hankinson Duckett Associates
Issue Date:	14.05.2025
Received Date:	07.05.2025

GCN Report

Technical Report

SureScreen Scientifics

Folio No: 1178-2025
Purchase Order: Padnell Grange
Contact: Hankinson Duckett Associates
Issue Date: 14.05.2025
Received Date: 07.05.2025

SureScreen Scientifics

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
R25 0478	Padnell Grange - P1	SU 70087 11025	Pass	Pass	Positive	12/12
R25 0483	Padnell Grange - Stream	SU 70164 11333	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Amy Bermudez

Approved by: Lauryn Jewkes

Folio No:	1178-2025
Purchase Order:	Padnell Grange
Contact:	Hankinson Duckett Associates
Issue Date:	14.05.2025
Received Date:	07.05.2025

SureScreen Scientifics

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:	2134-2025
Purchase Order:	2080.6108
Contact:	Hankinson Duckett Associates
Issue Date:	12.06.2025
Received Date:	05.06.2025

GCN Report

Technical Report

SureScreen Scientifics

Folio No: 2134-2025
Purchase Order: 2080.6108
Contact: Hankinson Duckett Associates
Issue Date: 12.06.2025
Received Date: 05.06.2025

SureScreen Scientifics

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 1793	Padnell Grange - P2	SU 701108	Pass	Pass	Positive	9/12

Matters affecting result: none

Reported by: Amy Bermudez

Approved by: Lauryn Jewkes

Folio No:	2134-2025
Purchase Order:	2080.6108
Contact:	Hankinson Duckett Associates
Issue Date:	12.06.2025
Received Date:	05.06.2025

SureScreen Scientifics

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.

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

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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.

APPENDIX D

Waterbody photographs

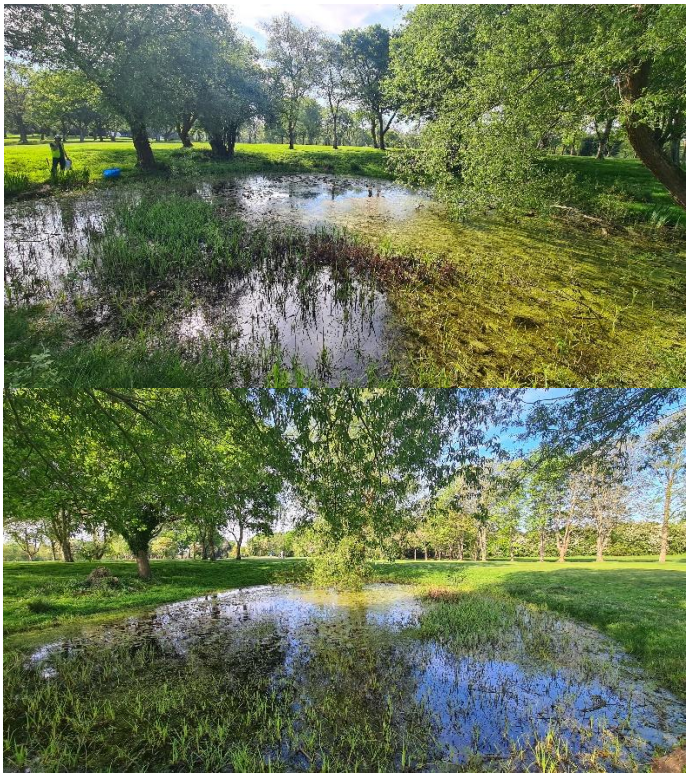

Photo 1: Waterbody 1

Photo 2: Waterbody 2

Photo 3: Waterbody 3

Photo 4: Waterbody 4

Photo 5: Waterbody 5

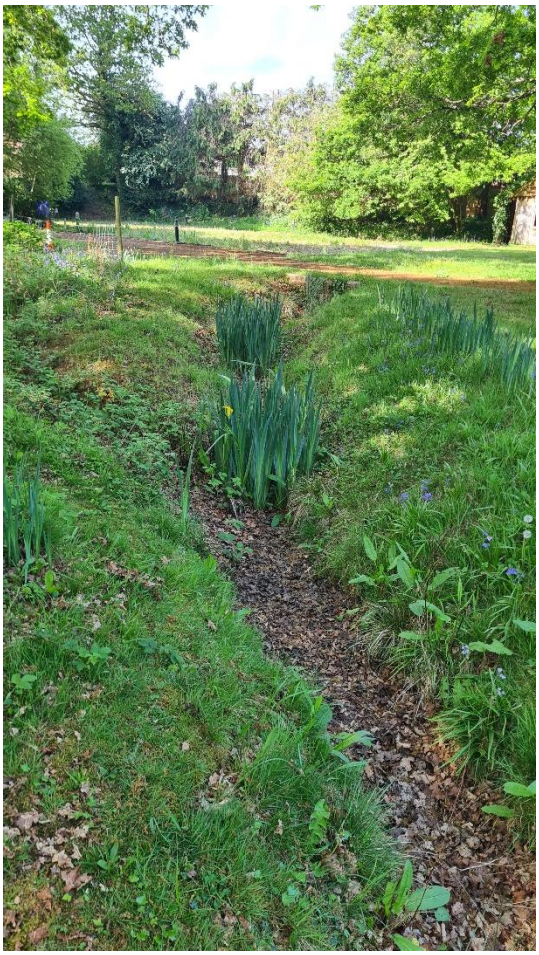

Photo 6: Waterbody 6

Photo 7: Waterbody 7