Great Crested Newt *Triturus cristatus* Mitigation Strategy for Biddlestone Orchards, Llangarron, Herefordshire

Cotswold Wildlife Surveys

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CONTENTS

1. INTRODUCTION

At Biddlestone Orchards in Llangarron, Herefordshire, a population of Great Crested Newts (GCN) has previously been recorded in ponds adjacent to the site boundary.

Surveys by Cotswold Wildlife Surveys (CWS) in April and May 2011 confirmed the presence of a high population of Great Crested and Smooth Newts *Lissotriton vulgaris* in the shallow pond (Pond 2) in the village near the current main entrance to the orchards.

Within the application site there was just one pond (Pond 1) which permanently held water. In 2011 this was found to contain GCN, with a maximum count of 12 animals, along with small numbers of Smooth Newts.

All other ponds in the area, excluding Pond 1, were either dry throughout the survey period, or were unsuitable for amphibians due to large numbers of coarse fish and wildfowl (e.g. the fishing lake to the south of the site – Pond 4).

The dry pond on site (Pond 3) was not investigated for newts, as the first time it was found to contain water was in March 2013 after it had been used to store run-off from the fields during 2012.

A small pond in Upper Heath Wood Special Wildlife Site (SWS) was not investigated, as any GCN present would either stay within the woodland or migrate to rough ground to the south and west. Animals would not move east, as the land adjacent to the woodland was managed intensively for potatoes.

In 2015 there were 25 GCN in pond 1, but just two GCN in pond 2. The water quality in Pond 2 had significantly deteriorated since the previous surveys in 2011, and this was thought to be the cause for the decline in the population size of Great Crested and Smooth Newts.

The current planning application has been submitted as a group of interrelated applications (Planning Ref. Nos. 173774-173780) as follows:

- 173774 – To erect up to 28 hectares of fixed (i.e. non-rotating) 'Spanish' polytunnels over arable (soft fruit) crops;
- 173775 – Excavation and ground profiling to form 3 no. surface water balancing ponds;
- 173776 – The retention of 6 existing caravans/replacement residential demountable modular 'pods' and the installation of 6 demountable modular welfare (on-residential) buildings (toilets, mess etc.);
- 173777 – Erection of profiled-steel-clad portal frame pumphouse building and 2 no. water tanks;
- 173778 – Erection of profiled-steel-clad portal frame general purpose agricultural building;

- 173779 – Covered elevated lorry dock/loading platform;

- 173780 – Upgrading existing vehicular access/egress to/from the A4137 Garrenhill Road and laying out of upgraded access track.

In all cases, the County Ecologist has stated, "*Ideally, further information, in the form of a site wide Great Crested Newt Mitigation Strategy, is needed to assess impacts and identify areas for protection and proposed mitigation.*

Updated Great Crested Newt surveys are also required – to inform a Natural England Great Crested Newt mitigation licence required for works to proceed. This further information is required prior to determination, in order to demonstrate that the application will result in No Likely Significant impacts on the Great Crested Newt population. (This is the 'third test' in relation to European Protected Species licensing).

NB. In the absence of 2019 survey data, the GCN Mitigation Strategy could be informed by an updated site walkover and habitat suitability assessment, including terrestrial and aquatic habitats, and assessment of how the site is being used by Great Crested Newts, ahead of detailed survey data being obtained. (However full detailed survey information may still be required)".

This report provides details of a site-wide mitigation strategy to allow the applications to be determined favourably with respect to Great Crested Newts.

2. ECOLOGICAL FEATURES

2.1 Site description

The site is very large in extent (c53 ha), and comprises a series of fields bordered by native mixed species hedgerows and lines of trees (Figs. 1 and 2).


Figs. 1 & 2 Boundary hedgerows and trees

Some of the hedgerows contain mature broadleaved trees including Pedunculate Oak, Alder *Alnus glutinosa* and Ash *Fraxinus excelsior*, whilst the hedgerows themselves consist predominantly of Hawthorn *Crataegus monogyna*, Hazel *Corylus avellana*, Blackthorn *Prunus spinosa*, and Elder *Sambucus nigra*, with some Holly *Ilex aquifolium*, Wych Elm *Ulmus glabra*, Field Maple *Acer campestre* and Goat Willow *Salix caprea.* The lines of trees are mostly single species, including Silver Birch *Betula pendula*, Alder, and conifers such as Leyland Cypress *Cuprocyparis leylandii.*

The fields are currently under continuous cultivation for root crops (potatoes), and have been for several years (Figs. 3 and 4), although one narrow field previously contained lines of polytunnels producing soft fruit.


Figs. 3 & 4 Fields in September 2019

Around some of the fields there are grass margins, and under the old cherry orchard at the centre of the site, there is improved or poor, semi-improved grassland (Fig. 5).

Between the cherry orchard and the pond there is a group of worker's caravans, these no longer in use (Fig. 6).

Figs. 5 & 6 Old cherry orchard and workers' caravans

The swards are dominated by Cocksfoot *Dactylis glomerata*, meadow-grasses *Poa spp.*, Perennial Ryegrass *Lolium perenne*, Creeping Fescue *Festuca rubra* and False Oatgrass *Arrhenatherum elatius*, whilst wildflowers include Creeping Buttercup *Ranunculus repens*, Red Campion *Silene dioica*, Garlic Mustard *Alliaria petiolata* Red Clover *Trifolium pratense*, White Clover *T. repens*, Black Medick *Medicago lupulina*, Common Vetch *Vicia sativa*, Hairy Tare *V. hirsuta*, Dovesfoot Cranesbill *Geranium molle*, Daisy *Bellis perennis*, Common Cleavers *Galium aparine*, and Dandelion *Taraxacum* Section *Vulgaris.*

A large block of tall ruderal vegetation also lies beneath the old cherry orchard. Species include Common Nettle *Urtica dioica*, Broad-leaved Dock *Rumex obtusifolius*, Curled Dock *R. crispus*, Cow Parsley *Anthriscus sylvestris*, Hogweed *Heracleum sphondylium*, Rosebay Willowherb *Epilobium angustifolium*, Wild Teasel *Dipsacus fullonum*, and Creeping Thistle *Cirsium arvense.*

There is no running water, just a few dry ditches, but there are two ponds, one of which only holds water during periods of heavy rain (Pond 3)

The other pond (Pond 1) is permanently wet, but is full of twigs and branches from surrounding Crack Willows *Salix fragilis*, and as the spring progresses it becomes choked with blanket weed. When the site was re-surveyed in September 2019, the pond was completely hidden by surrounding scrub which formed a dense screen around the water body (Fig. 7).

Fig. 7 Pond 1 in September 2019 **Fig. 8 Pond 2 in September 2019**

The shallow pond in the village (Pond 2) was found to be heavily overgrown and virtually dry in September 2019, demonstrating that it has continued to decline as an aquatic habitat (Fig. 8).

The Ordnance Survey Grid Reference is SO 538 234 centred on the middle of the site.

2.2 Great Crested Newts

2.2.1 Data search

The site listings supplied by Herefordshire Biological Records Centre confirmed that Biddlestone Orchards is not designated or identified as an area of wildlife importance or interest. However, within the 2.0 km search area there are three Special Wildlife Sites (SWS):

SO42/22 Garren Brook SWS
The register states: "Much of this brook has a good, wooded margin of alder and willow. The associated plants include common meadow-rue, water-crowfoot and some interesting bryophytes"
Date 1990.

SO52/04 Upper Heath and Lower Heath Woods SWS
The register states: "Both woodlands are oak dominated, with other species such as birch, hazel and willow."
Date 1990.

SO52/09 Wilson Farm Ponds SWS
The register states: "Two large ponds with open water and a good margin of trees.
Water plants include amphibious bistort and yellow iris.
Tufted duck and moorhen have been recorded."
Date 1990.

Of these, Upper Heath Wood SWS adjoins the orchards along the western boundary.

Given the nature of the proposed works, there will be no impact on the woodland.

There was no connectivity between the other SWS and the application site, and the intervening land use includes roads, rural housing and intensive arable farming.

In terms of GCN, the closest records of Great Crested Newts were in the shallow pond in the village next to the existing entrance to the orchards site. Here up to 127 animals were recorded in 2005, a high population, along with Smooth and Palmate Newts *Triturus helvetica*, and Common Frog *Rana temporaria*.

Small numbers of Great Crested Newts were also found in the pond in Upper Heath Wood SWS to the west of the orchards.

2.2.2 Pre-existing survey information at the site

Prior to the survey by CWS in 2011, no surveys of the orchard site or the ponds therein had been carried out.

2.2.3 Recent surveys

On the evenings of 28th and 30th April, and 5th, 13th, 17th and 25th May 2011, 16 bottle traps were set around Pond 1. Torchlight searches were also undertaken.

In addition, torchlight searches of the other ponds within 500 m of the site boundaries (excluding the pond in the SWS) were also made. Only the shallow pond (Pond 2) in the village near the main entrance held any newts.

During the six visits there was a maximum count of 12 Great Crested Newts in Pond 1, along with small numbers of Smooth Newts. No eggs for any newt species were found during the surveys, as there were no emergent or floating plants which provided opportunities for egg laying.

In Pond 2 it was estimated that up to 150 Great Crested Newts were present, as well as similar numbers of Smooth Newts. The latter were not caught so no checks for Palmate Newts were made.

In May and June 2015, six visits were made to Pond 1 to re-survey for newts. Pond 2 was also re-surveyed, as access was granted to allow a closer inspection.

In Pond 1 the surveys revealed a maximum count of 25 Great Crested Newts by torchlight searches, and a maximum catch of nine Great Crested Newts in the bottle traps. A similar size population of Smooth Newts was also present. No eggs were found, but the vegetation was difficult to access due to the depth of water and silt on the bottom of the pond.

Six torchlight searches of Pond 2 revealed a maximum count of two Great Crested Newts, whilst no bottle traps were set due to the very shallow water. No eggs were found.

The water quality in Pond 2 had significantly deteriorated since the previous surveys in 2011, and this was thought to be the cause for the decline in the population size of Great Crested and Smooth Newts.

2.2.4 Interpretation and evaluation

The population size class assessment is determined by taking the maximum count for all those ponds within 250 m of each other during a single survey visit by a single technique (English Nature, 2001).

The ponds surveyed in this assessment can therefore be considered as one group (A).

The results from the assessment are presented in Table 1 below.

Pond group	Maximum GCN count (using a single survey technique)	Population size
A	27	Medium

Table 1 Great Crested Newt population size class assessment for surveyed ponds

Site Status Assessment

Natural England has developed methodology for determining a site status assessment using English Nature guidelines (Great Crested Newt Mitigation Guidelines, English Nature 2001).

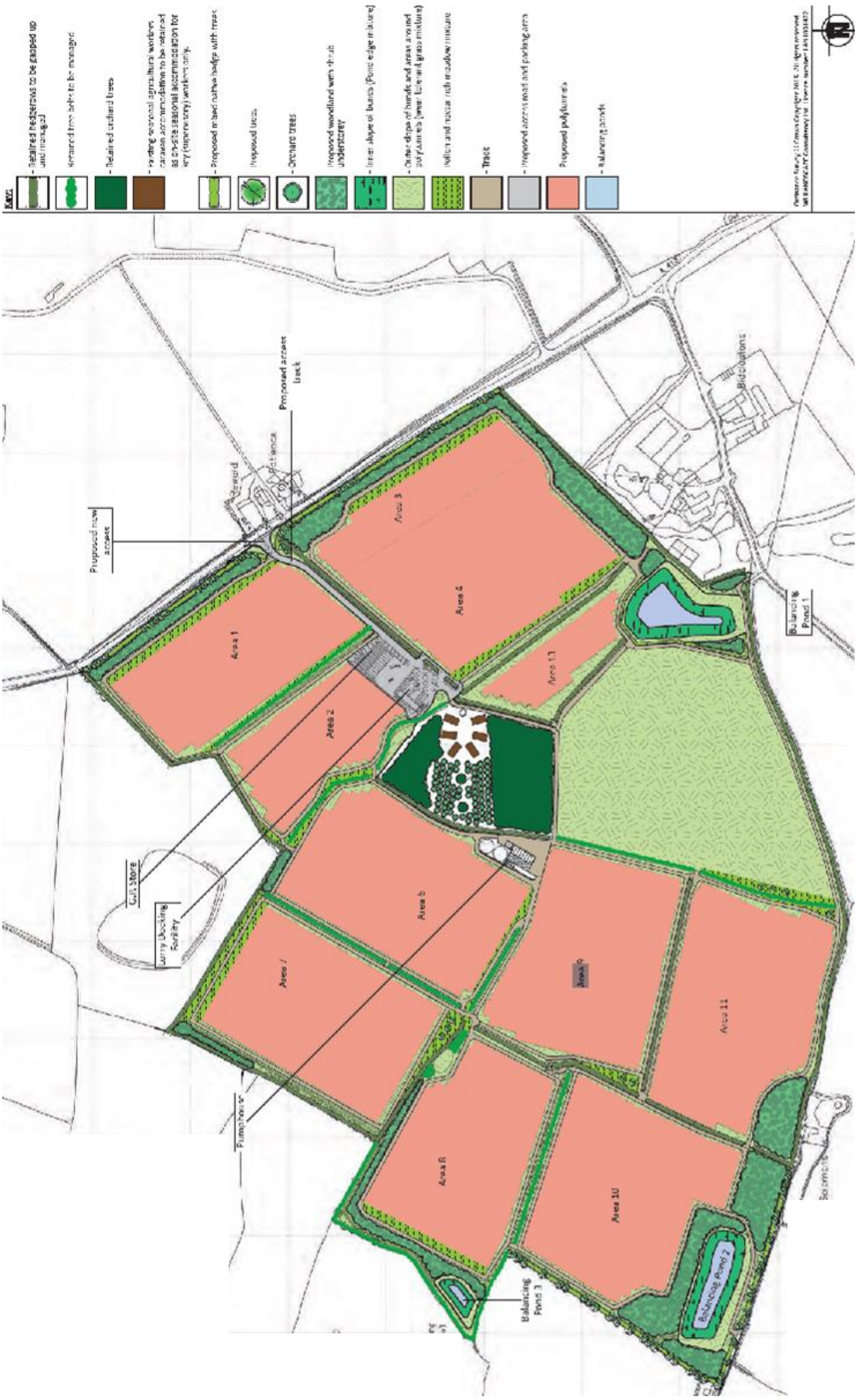
Assessment results are provided in Table 2.

Factor	**Assessment**
Quantitative	Minor importance – medium population, but at smaller end of population size
Qualitative	Minor – although breeding on site, habitats are sub-optimal
Functional	Minor importance – probably some dispersal to/from nearby populations
Contextual	Minor importance – population size typical of surrounding area

Table 2 Site status assessment

The landscape on site is typical of the local area, in that is under continuous cultivation. However, this is sub-optimal for GCN, and it is only the woodland blocks, pasture and connecting hedgerows which allow the population of animals in the locality to survive.

The current proposals for the site (Plan 1 overleaf) do not significantly fragment or disconnect the existing population, and the enhancements proposed should lead to an increase in the GCN population, as well as benefitting a wide variety of other wildlife.



Plan 1 Proposed works and site layout

3. PROPOSED WORKS

3.1 Planning applications

The proposed works are listed below, along with the respective comments (in italics) from the County Ecologist:

Erection of up to 28 hectares of fixed (i.e. non-rotating) 'Spanish' polytunnels over arable (soft fruit) crops (173774)

The potential impacts of the construction of polytunnels will not directly affect the Great Crested Newt breeding ponds, but installation of tunnel framework should consider potential for causing harm to Great Crested Newts present within terrestrial habitats such as hedgerows and rough grass field margins. (GCN licence method statement Rapid Risk Assessment Tool: Green – Offence Highly Unlikely).

An approved Construction Environment Plan/Ecological Working Method Statement is requested, detailing precautionary working methods to avoid harm to GCN during installation and operational phases of the polytunnel/ tabletop fruit growing scheme.

Excavation and ground profiling to form 3 no. surface water balancing ponds (173775)

The drainage report indicates:

SUDs pond no. 1 will outfall to Biddlestone pond (Pond 2 – a GCN breeding pond).
SUDs pond no. 2 will outfall to land drains to the south, and
SUDs pond no. 3 will outfall to SUDs pond 2.

The applicant must demonstrate that the drainage outfalls of each SUDs pond will not result in nutrient enrichment (e.g. phosphates, nitrates, etc.) of any proposed outfall to water course or adjacent water body.

For example, a filtration system with means of removing any residual nutrients prior to discharge of water will be required. It may be preferable for the SUDs lagoons to function as a 'sealed system', and alternative means of drainage be provided to allow clean water in/outs sufficient to maintain the existing water bodies Biddlestone pond and the pond at Upper Heath Wood.

Further conditions relating to site ecology (separate to drainage) are subject to confirmation of the following ecological information:

NB. Ecologist survey to confirm of whether the pond within Upper Heath Wood supports GCN/breeding GCN is needed, in order to inform how the impacts of this proposal (in relation to SUDs pond no.3) should be assessed in relation to Great Crested Newts.

NB. The ecology report proposed that the SUDs ponds will be enhanced to support GCN with appropriate aquatic planting, etc.

This principle may be questionable if the water is a) nutrient-enriched from crop-watering, and b) pumped water systems may result in dense vegetation or newts potentially becoming trapped in filters.

NB. Great Crested Newts are a standing water species and will not tolerate environments with flowing water. As previously suggested, it may be preferable to view the SUDs lagoons as a closed system, and to mitigate for nearby GCN breeding ponds separately.

The ecologist report (Cotswold Ecology Surveys, dated 2016) indicates that Pond 1 and Pond 2 supported Medium and Small populations of Great Crested Newts respectively, in 2015. At present there is no survey data provided for the pond within Upper Heath Wood. Terrestrial habitat for GCN is present on site.

An assessment of impacts of each SUDs pond application on Great Crested Newts is considered below:

SUDs pond no. 1: The applicant site (is 0.76 ha), located (within 50 m) from a Great Crested Newt breeding pond (Biddlestone pond – Pond 2) and an associated hedgerow/and ditch providing GCN terrestrial habitat. The Natural England GCN licence Method Statement Rapid Risk Assessment Tool, states Red – Offence Highly Likely.

Therefore a GCN mitigation licence is required for works to proceed, in order to demonstrate how this work can be undertaken with No Likely Significant Effects to Great Crested Newts. Trapping and exclusion of Great Crested Newts (using Temporary Amphibian Fencing) will need to be considered prior to works commencing, either permanently or for the duration of the construction works.

Mature trees bordering Biddlestone pond should be protected by a tree Root Protection Area, in accordance with BS5837:2012, to ensure that construction of the water feature would not impact on the root systems of trees on the margin of the existing pond.

SUDs pond no. 2: The applicant site (is 1.4 ha), located greater than 500 m from a Great Crested Newt breeding pond (Biddlestone pond and Pond 1). This pond is 184 m from the pond at Upper Heath Wood – further surveys are required to determine whether there would be impacts to Great Crested Newts here.

NB. If no GCN are found within the Upper Heath Wood pond, a CEMP/Ecological Working Method Statement may be sufficient prior to works starting, as long grass at field margins and below trees may provide terrestrial habitat for GCN. A tree Root Protection Area as per BS5837:2012 would be required to show construction of the water feature would not impact on the root systems of nearby retained trees.

SUDs pond no. 3: The applicant site (is 0.27 ha), located approx. 60 m from a pond within Upper Heath Wood. Ecological surveys are required to determine whether GCN are present/breeding in this pond – further assessment of impacts cannot be made until this information is supplied.

NB. The woodland will likely provide refuge/winter hibernation sites for terrestrial Great Crested Newts. The proposed lagoon is located immediately adjacent to the woodland edge. A tree Root Protection Area should be established, in accordance with BS5837:2012, to ensure that construction of the water feature would not impact on the root system of trees on the margin of the woodland.

In summary:

A GCN mitigation licence is required for proposed works to construct SUDs pond no. 1.

*Following further surveys for great crested newts, if GCN are **not** found to be present in the pond at Upper Heath Wood, works could proceed with the following conditions:*

Submission of a Construction Environmental Management Plan (CEMP), and an Ecological Working Method Statement (EWMS).

Retention of 6 existing caravans/replacement residential demountable modular 'pods' and the installation of 6 demountable modular welfare (on-residential) buildings (toilets, mess, etc.) (173776)

The applicant site comprises 1.87 ha of old traditional orchard and rough grass. It is located immediately adjacent Pond 1 (northern boundary), which has been shown to support a Medium population of Great Crested Newts in 2015 (Cotswold Ecology Surveys, dated 2016).

The orchard area is a Priority Habitat and will provide terrestrial habitat and refuge for Great Crested Newts. All works in this area, however 'temporary' in construction, will potentially impact on the GCN population.

Over 50% (0.9 ha) of the site is within 100 m of Pond 1, and all of the site is within 250 m of Pond 1. In terms of disturbance or habitat loss of this area, the Natural England GCN licence Method Statement Rapid Risk Assessment Tool, states Red – Offence Highly Likely.

The application site is also within 500 m of Pond 2, a Great Crested Newt breeding pond, (small population) (Cotswold Ecology Surveys, dated 2016). The two areas are well connected in terms of Great Crested Newt terrestrial habitat by a mature hedgerow and ditch. Potential for terrestrial GCN presence in this area will need to be taken into consideration. (NB. Significant disturbance is proposed by construction of package treatment plant in this area).

A GCN mitigation licence will be required to demonstrate how this work can be undertaken with No Likely Significant Effects to Great crested Newts.

Trapping and exclusion of Great Crested Newts (using Temporary Amphibian Fencing) will need to be considered prior to works commencing, either permanently or for the duration of the construction works.

Although the proposed application has been amended from the original plans to indicate a significantly reduced worker's village area, potential for conflict/disturbance to terrestrial GCN will need to be considered.

It may be necessary to permanently exclude newts (GCN) from the proposed dwelling (and industrial areas) where vehicle traffic would risk newt mortalities, in particular during periods of high rainfall, during periods of newt movement (at times of year and when newts would return to the ponds to breed, and on leaving ponds after breeding during spring and summer).

As a minimum, temporary exclusion of newts during construction could be considered, such that newts are not at risk during installation of cabins etc. A Great Crested Newt mitigation licence is required to demonstrate No likely significant impacts to great crested newts.

Traditional orchard – It appears now that the plan is to retain most of the orchard area. An orchard management plan should be provided to show long term management and replacement tree planting plan. Compensation planting of new traditional orchard/fruit tree varieties should be included. Any trees proposed to be removed should be assessed for bat roosts and presence of Noble Chafer beetle by appropriately licenced ecologist prior to felling.

NB. The Orchard management plan could be incorporated into a site wide Landscape and Ecology Management Plan.

Suggested conditions:

Orchard Management Plan and Landscape/Ecology - Hedgerow enhancement & Landscape & ecology management plan.

Erection of profiled-steel-clad portal frame pumphouse building and 2 no. water tanks (173777)

The ecologist report (Cotswold Ecology Surveys, dated 2016) indicates that Pond 1 supported a Medium population of Great Crested Newts in 2015.

The proposed pump house is located in the south-west corner of an arable field, and is immediately adjacent to a hedgerow and orchard/rough grassland habitat that provides terrestrial habitat for newt foraging and shelter/resting sites.

The pump house building and tanks – applicant site 0.25 ha – are located within 115 m of a Great Crested Newt breeding pond (Pond 1). Using the Natural England GCN licence Method Statement Rapid Risk Assessment Tool, the proposed works would result in: Amber - Offence Likely.

A GCN mitigation licence is required as works are within 250 m of a GCN newt pond, and immediately adjacent to GCN terrestrial habitat, the orchard to the south.

Potential for permitting unlicensed works
NB. If sufficient detail is provided, because the application area will not result in the loss of GCN terrestrial habitat (an arable field), providing that proposed access route

for construction vehicles, materials, etc is via the existing tarmac track from the south, this application could potentially proceed, with an approved Construction Environment Plan/Ecological Working Method Statement in place, detailing precautionary working methods should GCN be found.

Suggested conditions:

Submission of a Construction Environmental Management Plan (CEMP), and an Ecological Working Method Statement (EWMS).

Erection of profiled-steel-clad portal frame general purpose agricultural building (173778)

The ecologist report (Cotswold Ecology Surveys, dated 2016) indicates that Pond 1 supported a Medium population of Great Crested Newts in 2015. The application boundary is located (< 100 m) from a Great Crested Newt breeding pond (Pond 1) and an associated hedgerow/terrestrial habitat.

Almost all of the applicant site (approx. 0.452 of 0.454 ha) is within 100 m of Pond 1, and includes an arable field which is within 50 m of a GCN breeding pond and existing hedgerow/s and terrestrial habitat for newt foraging and shelter/resting sites. The Natural England GCN licence Method Statement Rapid Risk Assessment Tool, states Amber – Offence Likely.

A GCN mitigation licence is required as works are within 50 m of a GCN newt pond, and the applicant site will result in the loss of (0.45 ha) arable land, which is also adjacent to GCN terrestrial habitat (hedgerow and rough grass and orchard). The mitigation licence is required to demonstrate how this work can be undertaken with No Likely Significant Effects to Great Crested Newts.

Potential for permitting unlicensed works
As the application area will not result in the loss of GCN terrestrial habitat (an arable field), there is potential for this application to proceed, however because this application is linked to construction of the access track (application ref. 173780), in order to bring in construction vehicles and materials, etc, the impacts of both applications on GCN is required to be assessed.

It may be possible for part of the access track, (e.g. up to the start of application 173778) may be considered, without a licence in place, where this would not result in loss of Great Crested Newt terrestrial habitat within 100 m of Pond 1 (including hedgerows, vegetation at hedgerow bases, and rough grassland, etc), subject to an approved Construction Environment Plan/Ecological Working Method Statement in place, detailing precautionary working methods, should GCN be found.

Suggested conditions:

Submission of a Construction Environmental Management Plan (CEMP), and an Ecological Working Method Statement (EWMS).

Provision of a covered elevated lorry dock/loading platform (173779)

The ecologist report (Cotswold Ecology Surveys, dated 2016) indicates that Pond 1 supported a Medium population of Great Crested Newts in 2015.

The lorry dock, loading platform and associated works fall directly adjacent (< 50 m) to a Great Crested Newt breeding pond (Pond 1) and includes within the development boundary a hedgerow and ditch and area of rough grassland. This provides terrestrial habitat for newt foraging and shelter/resting sites.

All proposed works are within 100 m of a known GCN breeding pond, and will result in loss or destruction of approx. 0.013 ha of GCN terrestrial habitat. Using the Natural England GCN licence Method Statement Rapid Risk Assessment Tool, the proposed works would result in: Amber – Offence Likely.

A GCN mitigation licence is required as works are within 50 m of a GCN newt pond, and the applicant site will result in the loss of (0.013 ha) adjacent to GCN terrestrial habitat (hedgerow and rough grass verge). The mitigation licence is required to demonstrate how this work can be undertaken with No Likely Significant Effects to great crested newts.

Trapping and exclusion of Great Crested Newts (using Temporary Amphibian Fencing) will need to be considered prior to works commencing, either permanently or for the duration of the construction works. Mitigation should consider installation of amphibian friendly road infrastructure such as gully pots and kerbing.

As the loading bay is located so close to Pond 1 (within a few metres), potential for conflict/disturbance to terrestrial GCN will need to be considered. It may be necessary to permanently exclude newts (GCN) from the applicant boundary, where vehicle traffic would risk newt mortalities. In particular during periods of high rainfall (at times of year and when newts return to the ponds to breed, and on leaving ponds after breeding during spring and summer).

Upgrading of the existing vehicular access/egress to/from the A4137 Garrenhill Road and laying out of upgraded access track (173780)

The ecologist report (Cotswold Ecology Surveys, dated 2016) indicates that Pond 1 supported a Medium population of Great Crested Newts in 2015. The access track from A4137 is located (< 100 m) from a Great Crested Newt breeding pond (Pond 1) and an associated hedgerow/terrestrial habitat.

All of the route of the access track (0.34 ha) is within 250 m of Pond 1, and includes an existing hedgerow/s that provide terrestrial habitat for newt foraging and shelter/resting sites. Using the Natural England GCN licence Method Statement Rapid Risk Assessment Tool, states Amber – Offence Likely.

A GCN mitigation licence is required as works are within 100 m of a GCN newt pond, and the applicant site will result in the loss of (0.34 ha) adjacent to GCN terrestrial habitat (hedgerow and rough grass). The mitigation licence is required to demonstrate how this work can be undertaken with No Likely Significant Effects to great crested newts.

Trapping and exclusion of Great Crested Newts (using Temporary Amphibian Fencing) will need to be considered prior to works commencing, either permanently or for the duration of the construction works. Mitigation should consider installation of amphibian friendly road infrastructure such as gully pots and kerbing.

Potential for permitting unlicensed works
It may be possible for part of the access track, (e.g. up to the start of application 173778) may be considered, without a licence in place, where this would not result in loss of Great Crested Newt terrestrial habitat within 100 m of Pond 1 (including hedgerows, vegetation at hedgerow bases and rough grassland, etc)., subject to an approved Construction Environment Plan/Ecological Working Method Statement in place, detailing precautionary working methods, should GCN be found.

Suggested conditions:

Submission of a Construction Environmental Management Plan (CEMP), and an Ecological Working Method Statement (EWMS).

*

Notwithstanding the suggested conditions, which are considered acceptable, the issues raised by the County Ecologist for each application will be addressed as follows;

173774 – To erect up to 28 hectares of fixed (i.e. non-rotating) 'Spanish' polytunnels over arable (soft fruit) crops

The polytunnels will occupy all the areas currently used for growing potatoes and there will be no loss of terrestrial habitat suitable for GCN foraging. Although the frames will remain in place throughout the year, the polythene covers will be removed at the end of each growing season.

The management of the polytunnels is considered unlikely to affect GCN, as the polytunnels will only be used during the day, whereas GCN will tend to move around at night. The polythene covers will be stored off the ground when not in use, to prevent them being used by sheltering or hibernating newts.

173775 – Excavation and ground profiling to form 3 no. surface water balancing ponds

Pond 1 will be largely excavated in the existing potato field and bare ground, but it will require the removal of a short section of the boundary hedgerow and parts of the existing grass margins (Figs. 9 and 10).

Figs. 9 & 10 Location for SUDS pond 1

This will impact on GCN commuting habitat, so the works will only be undertaken under a GCN licence. This will require the installation of Temporary Amphibian Fencing (TAF) and trapping of GCN (and/or other wildlife) from the excluded area.

The loss of hedgerow and grass margins will be offset by the creation of new grassland (at least double the amount lost), and the planting of small woodland blocks with shrub understorey.

The pond itself will connect to the existing ditch which runs from Pond 1 to Pond 2, and will therefore maintain the connectivity between the two water bodies. The sides of the new pond will be sown with a pond edge mixture to provide botanical diversity and a habitat for foraging amphibians.

SUDS pond 2 will be constructed in the existing potato field and will not affect the grass margin or boundary hedgerow (Figs. 11 and 12). As such there will be no loss of suitable GCN terrestrial habitat and no requirement for a licence.

Figs. 11 & 12 Location for SUDS pond 2

Significant biodiversity enhancements will be associated with SUDS pond 2, including 1.5 ha of new woodland and grassland. The sides of the new pond will be sown with a pond edge mixture to provide a habitat for foraging amphibians.

Pond 3 lies close to Upper Heath Wood SWS (Figs. 13 and 14). Although no GCN surveys of the pond have been undertaken in recent years, the ecological data search has confirmed it as supporting GCN.

Figs. 13 & 14 Pond in Upper Heath Wood SWS

The new SUDS pond will be created in an area of bare ground between the potato crop and the grassland at the edge of the wood (Figs. 15 and 16). This contains no features suitable for sheltering GCN and is unsuitable for GCN hibernation.

Figs. 15 & 16 Grassland at edge of wood (L) and location for pond (R)

Until the pond is excavated, the bare ground will be kept free of vegetation so that it does not become suitable for GCN foraging. As such no licence will be required, and there will be no necessity to fence off and trap the site.

As with SUDS ponds 1 and 2, there will be new woodland planting, grass margins, and a pond edge mixture sown around the sides of the new water body.

The ponds represent a significant ecological enhancement, as they will be used by a wide variety of wildlife, including GCN.

173776 – The retention of 6 existing caravans/replacement residential demountable modular 'pods' and the installation of 6 demountable modular welfare (on-residential) buildings (toilets, mess etc.)

The 12 new structures replacing the existing caravans will not require the removal of any terrestrial habitat, and will sit off the ground as the existing caravan currently do. As such, the 'pods' and welfare buildings will provide places for GCN to take shelter and potentially hibernate.

The removal and replacement of the structures will be supervised by a licensed GCN ecologist, in case a GCN is present underneath the existing caravans. However, these works will not require a development licence from Natural England, and it will not be necessary to fence off and trap the site.

Ecological enhancements include the retention of all existing cherry trees, and the planting of new orchard trees. Grassland and tall ruderal vegetation under the trees will be left uncut, but some of the grassland immediately around the 'pods' and welfare buildings will be mown.

This combination of long and short grass, tall ruderals, trees and boundary hedgerow, provide a mosaic of habitats ideal for GCN.

173777 – Erection of profiled-steel-clad portal frame pumphouse building and 2 no. water tanks

The new pumphouse and water tanks will lie in a potato field and will not affect the boundary hedgerow or grass margin.

As such there is no loss of terrestrial habitat and the crop is not suitable for GCN shelter or refuge. A licence from Natural England will therefore not be required, nor ecological supervision of the construction works, provided the grass margin is not incurred and materials are stored on pallets and/or bare ground in the potato field.

173778 – Erection of profiled-steel-clad portal frame general purpose agricultural building

The new general purpose building will lie in an area of bare ground on the edge of a potato field (Ref. Fig. 1) and will not affect the boundary hedgerows or grass margins.

As such there is no loss of terrestrial habitat and the crop/bare ground is not suitable for GCN shelter or refuge. A licence from Natural England will therefore not be required, nor ecological supervision of the construction works provided the grass margins are not incurred.

Access for construction vehicles will be along the existing tracks, and materials storage will be on pallets in the field away from the vegetated boundaries.

173779 – Covered elevated lorry dock/loading platform

Although close to Pond 1, the new lorry dock will be located in the existing potato field (Fig. 18 – circled area). Its construction will not affect the nearby boundary hedgerow, dry ditch or grass margin (Fig. 17), and there will be no loss of suitable terrestrial habitat for GCN. An existing water tank will be retained.

Figs. 17 & 18 Boundary vegetation and potato field near Pond 1

Despite the close proximity of the GCN breeding pond, the crop is not suitable for GCN shelter or refuge, and does not provide suitable foraging habitat.

Commuting animals are also highly unlikely to be present in the field, as the pond is well-connected to surrounding areas by the dry ditch and hedgerow, and the land to the south comprises the old cherry orchard, with its grassland, trees and tall ruderal vegetation.

A licence from Natural England will therefore not be required, and instead a Precautionary Method of Working will be followed, this incorporating Reasonable Avoidance Measures.

If construction takes place in winter, there will be no necessity for ecological supervision, as all GCN will be below ground or in hibernacula.

However, if the construction works take place in the amphibian active period (mid-February to mid-November inclusive), then ecological supervision will be undertaken to ensure that a commuting GCN is not harmed if it is unexpectedly encountered.

This risk will be reduced if the works only take place during daylight, as GCN are primarily nocturnal.

Access for construction vehicles will be along the existing tracks, and materials storage will be on pallets in the field away from the vegetated boundaries.

173780 – Upgrading existing vehicular access/egress to/from the A4137 Garrenhill Road and laying out of upgraded access track

There is already an informal entrance point off the A4137, and this will be upgraded to allow delivery vehicles to access the lorry docking facility near Pond 1.

The new access track will run through the existing potato fields (Ref. Fig. 1) and will not affect the boundary hedgerows or grass margins.

As such there is no loss of terrestrial habitat and the crop/bare ground is not suitable for GCN shelter or refuge. A licence from Natural England will therefore not be required, nor ecological supervision of the track creation works provided the grass margins are not incurred.

4. ADDITIONAL ENHANCEMENTS

4.1 Pond 1

Pond 1 is currently overgrown with trees and scrub, although it was once much more open (Fig. 19).

Fig. 19 Pond 1 in 2011

The pond has great potential for enhancement, thus making it much more attractive to amphibians. This will be achieved by cutting back some of the overhanging branches of the trees around the pond, whilst all the twigs and branches will be removed in the winter, when no animals will be present, and as much blanket weed as possible in the summer. The weed will be raked out and left to dry at the edges of the pond so that any invertebrates present can quickly re-enter the water.

This will let in more light and will favour the growth of aquatic plants which newts will be able to lay their eggs on. There will also be an increase in aquatic invertebrates which the newts can eat.

Some broadleaved plants such as Water Forget-me-not *Myosotis scorpioides* and/or Water Speedwell *Veronica anagallis-aquatica* will be planted to provide ideal vegetation for egg laying.

As the newts will be moving along internal boundaries, these are to be retained to maintain the connectivity between the breeding ponds and the surrounding terrestrial habitat.

4.2 Pond 2

Pond 2 is in severe decline and may no longer be suitable for breeding GCN. Ideally it should be dredged to remove the growth of Greater Reedmace *Typha latifolia* and silt which has been accumulating for many years.

Such works will have to be undertaken during the winter to avoid the GCN active period. However, although no adult GCN are likely to be present, there is a possibility that over-wintering GCN larvae may be found. As such the pond clearance will be supervised by a licenced ecologist.

Any larvae discovered in Pond 2 will be carefully caught by the ecologist and relocated to Pond 1. If the pond is dry at the time of the works, this will not be an issue.

The proposed drainage associated with the scheme creates an opportunity to keep the pond filled with water throughout the year, in particular during the summer when it tends to dry out (Fig. 20).

Fig. 20 Pond 2 in July 2010

Native species planting around the edge of the pond will include emergents such as Common Reed *Phragmites australis*, Bog Bean *Menyanthes trifoliata*, Arrowhead *Sagittaria sagittifolia*, Common Water Crowfoot *Ranunculus aquatilis*, and Water Speedwell. Where possible these will be sourced locally.

4.3 Creation of refugia and hibernacula

Existing logs, bricks, rubble, pieces of concrete, etc, will be used to create a series of refugia/hibernacula in the wooded areas/hedgerows around the site. Examples of hibernacula are shown below (Fig. 21).

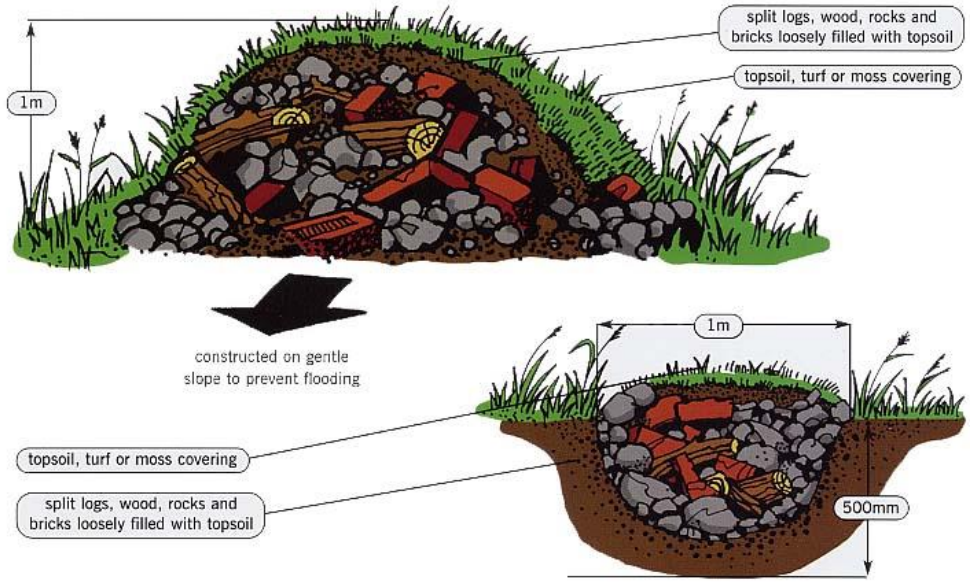


Fig. 21 Examples of hibernacula

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Biddlestone Orchards, Llangarron – Great Crested Newt Mitigation Strategy

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