



NEWHALL BUNGALOW, RUABON:

GCN REASONABLE AVOIDANCE MEASURES AND BIOSECURITY RISK ASSESSMENT

DATE	ECOLOGIST	APPROVED	VERSION	COMMENTS
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1.0 Introduction

- 1.1 Enfys Ecology Limited were commissioned by homeowners Steven Woods and Caroline Prew, to detail Reasonable Avoidance Measures (RAMs) and a Biosecurity Risk Assessment for proposed works at Newhall Bungalow, Ruabon, LL14 6HB.
- 1.2 The proposed works include the construction of a detached garage adjacent to the existing house and the installation of a new septic tank, which has been granted planning permission (REF:P/2021/0998). Ecological planning conditions include the requirement for Amphibian Reasonable Avoidance Measures (Planning Condition 5) and a Biosecurity Risk Assessment (Planning Condition 6). Other proposed works include the removal of an existing septic tank and the removal of a redundant outside swimming pool.
- 1.3 Enfys Ecology carried out a site visit to inform the RAMs and a desk study examining local ecological records held for the area by Cofnod, the local environmental record centre for North Wales.

2.0 Site Description

2.1 *Surrounding habitats and features*

- 2.1.1 The immediate area surrounding the site is rural, with the towns of Johnstown, approx. 0.5km to the north west and Ruabon, approx. 200m to the south (Figures 2.1 & 2.2). Habitats to the north of the site include broadleaved woodland and fields of pasture/improved grassland and scattered mature trees. The tree lined Afon Goch, runs along the western boundary of the site and New Hall Road along the southern boundary.
- 2.1.2 Apart from the small garden pond within the site, the next nearest pond is a large pond within the grounds of New Hall Independent Hospital, approx. 50m to the north.



FIGURE 2.1. SITE LOCATION – SITE BOUNDARY IS SHOWN IN RED. BASE IMAGE © GOOGLE 2022



FIGURE 2.2. WIDER SITE LOCATION – THE SITE BOUNDARY IS SHOWN IN RED. BASE IMAGE © GOOGLE 2022

2.2 Site Description

- 2.2.1 The site comprised a residential garden, with unmanaged improved grassland, hardstanding, scattered trees and a small garden pond (Table 2.1).

TABLE 2.1. SITE DESCRIPTION

Description	Photo
This area of hardstanding is a former greenhouse base, at the centre of the site, which will form the footprint of the proposed new garage. There are numerous piles of bricks and rubble here and in other areas of the garden.	
Within this area of unmanaged improved grassland, a new septic tank (underground) will be dug and an old one in a different location will be removed. Some drainage pipes will need to be installed across the site. Small machinery will need to track across the grassland.	

Redundant outside swimming pool, along the western boundary, to be removed.	
Garden area to the east of the site, will not be affected by the proposed works (outside of proposed newt fencing).	

Small garden pond located at the far south eastern corner of the site and will not be affected by the proposed works (outside of proposed newt fencing).



2.3 Statutory Designated Sites

- 2.3.1 Johnstown Newt Sites Special Area of Conservation (SAC) and Stryt Las a'r Hafod Site of Special Scientific Interest (SSSI) (covering the same area), are both designated for great crested newts, and are located 200m to the north west of the site, with pasture/improved grassland and broadleaved woodland between.



FIGURE 2.3. JOHNSTOWN NEWT SITES SAC AND STRYT LAS A'R HAFOD SSSI 200M TO THE NORTH WEST OF THE SITE. COFNOD © BING 2022

3.0 Great Crested Newts and other Amphibians

- 3.1 Given the proximity to Johnstown Newt Sites Special Area of Conservation (SAC) and Stryt Las a'r Hafod Site of Special Scientific Interest (SSSI) and as the site itself contains highly suitable habitats for foraging, resting and for hibernation, it is highly likely that GCN will be present within the site at certain times of the year. This has been confirmed by the homeowners, who have said that smooth and palmate newts are present within the garden pond with low numbers of GCN occasionally seen.
- 3.2 *Short-term impacts: disturbance*
- 3.2.1 Without mitigation, works that are likely to cause short-term disturbance to GCN, include the dismantling of brick and rubble piles, digging of trenches for drainage and for the installation and removal of septic tanks, temporary loss of some grassland habitat from the septic tank areas and from the tracking of small machinery across the site itself.
- 3.2.2 To mitigate, the site will be fenced and GCN removed from the site by trapping and destructive searches. This will cause short-term disturbance to any GCN relocated, however there are large areas of suitable habitat in the surrounding area and all breeding ponds will still be accessible.
- 3.3 *Long-term impacts: site modification*
- 3.3.1 The new garage is going to be sited on the footing of a former greenhouse structure (currently hardstanding/bricks) and access to it is already hardstanding. Where there will be works to install drainage, a new septic tank and remove an old one and the removal of the swimming pool will result in the temporary loss of small areas of unmanaged improved grassland. This grassland will be replaced once the works are completed and the site enhanced for GCN. Therefore, the works will not have a detrimental long-term impact on GCN habitat or GCN at the site.
- 3.4 *Long-term impacts: site loss*
- 3.4.1 Once the works are complete and the grassland has recovered/been re-sown, there will be no net loss of grassland and the creation of refugia will ensure the site is enhanced for GCN in the long-term.
- 3.5 *Long-term impacts: fragmentation and isolation*
- 3.5.1 The proposed works will not cause fragmentation or isolation for GCN and the habitats present will be retained and enhanced. During the works and when the site has been fenced, there will still be large areas of highly suitable habitat available and breeding ponds will still be accessible.
- 3.6 *Post-development interference impacts*

3.6.1 The construction of the new garage, on a current area of hardstanding, will not have a detrimental impact on GCN after the works are completed. With enhancements measures put in place including the replacement of lost grassland and the creation of refugia, the site will be enhanced for GCN.

3.7 *Predicted scale of impact*

3.7.1 There will be no detrimental impact on the favourable conservation status of GCN at the site or at a local, county or regional level.

4.0 Great Crested Newt Mitigation

4.1 **As GCN are highly likely to be disturbed, injured or killed by the proposed works and habitat used as a resting place, shelter or protection will be destroyed, no works must commence until a licence has been obtained from NRW. A licence can only be applied for following the granting of planning permission and the discharge of any ecology related conditions. Once submitted the licence application takes 40 working days to be processed (or more if any there are any queries).**

4.2 *Great Crested Newt capture and exclusion*

4.2.1 To prevent GCN from being harmed during the proposed works, exclusion fencing will be erected around the site, to capture GCN and to then translocate them to the area of woodland just to the north of the site (receptor site) (Figure 4.1).

4.2.2 The points below detail the methodology that will be followed to exclude GCN from the site, under the NRW licence.

- The fencing along the northern boundary will be one-way fencing, at an angle of between 45° and 40°, to allow GCN to move into further suitable habitat in the surrounding area of their own accord.
- The fencing should be erected by professional fencing contractors who are either licenced or are supervised by a licenced ecologist, to the specifications detailed in Figure 4.2.
- Pitfall traps will be placed at 5m intervals along the fencing, with refugia mats placed between.
- The refugia mats and pitfall traps will be set flush to the fences. The rims of the pitfall traps will be at ground level and abut the newt fencing in order to maximise capture rate. A mammal ladder will be provided within traps to allow for shrews and other

small mammals to escape. The floor of the traps will contain appropriate materials to protect captured animals.

- The traps and mats will be checked daily before 10am, for a minimum of 30 days, stopping only when there has been 5 clear days. Depending on the numbers of GCN being caught, it may be possible to reduce the number of trapping days, however this will need to be with agreement from NRW.
- Trapping operations will cease, with pitfalls closed by a close-fitting lid, if weather conditions are unsuitable. A survey night is considered unsuitable if the dusk temperature is below 5°C. This work should commence between mid-march and mid-September.
- Due to the high suitability of the habitat and to ensure the capture of GCN, hand searches, including the dismantling of refuges such as brash piles, piles of rubble and bricks and some vegetation clearance may also be needed (under supervision by licenced ecologist) and will take place during the trapping process. This will then encourage any GCN remaining to move across the site and enter the traps/leave the area via the one-way fencing.
- Depending on the numbers of GCN being found, Approx. 10 days before the end of trapping, the grassland will be strimmed to 10cm and then strimmed to ground level 1 – 2 days after.
- A daily log of all captures will be kept by surveyors visiting the site and the fence will be checked daily during the capture period.
- Newts will be captured in a small plastic bucket and will be relocated to the area of woodland to the north of the site, which will be the receptor site. Separate buckets will be marked and used for each species captured or a compartmentalised container will be used for capture.

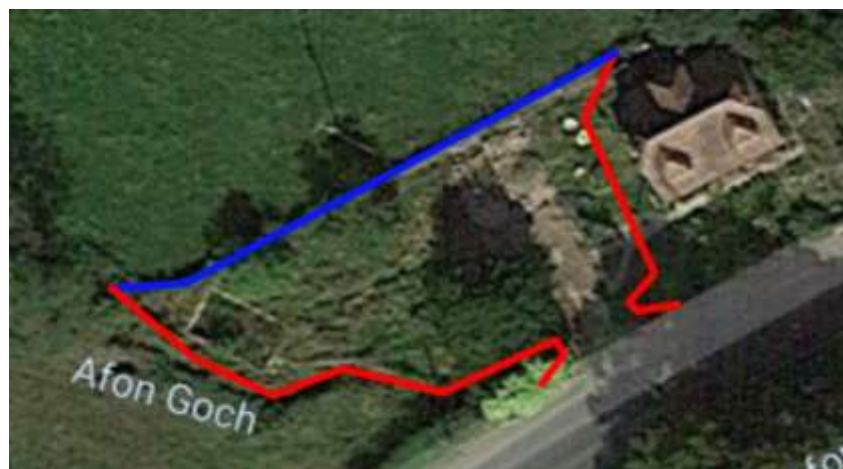


FIGURE 4.1. INDICATIVE NEWT FENCE OUTLINE. BLUE LINE IS ONE-WAY FENCING.

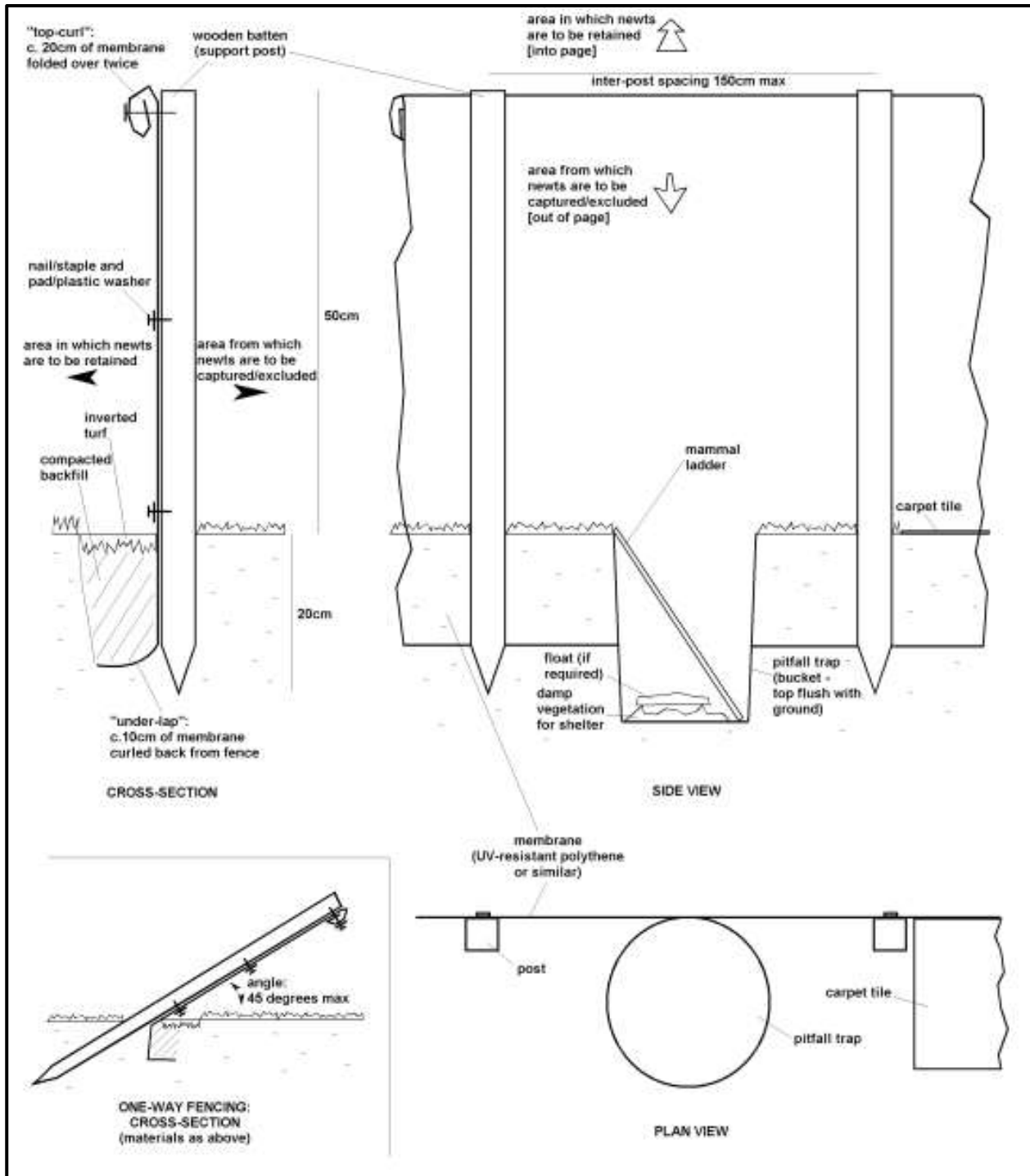


FIGURE 4.2. DESIGN FOR EXCLUSION FENCE AND PITFALL TRAP PLACEMENT (ENGLISH NATURE, 2001)

4.3 *During construction works*

- Works will only commence once the site has been deemed cleared of GCN and it is unlikely that GCN will be found on site during works. However, in the event of GCN being found on site during works all works must stop and the licenced ecologist called.
- If there is need for further removal of suitable habitat, this will be done under the supervision of a licenced ecologist.
- All materials brought, must be either stored within the exclusion fence or if this is not possible that they are elevated off the ground, for example, on pallets to avoid creating refugia habitat for GCN.
- The exclusion fence must remain intact for the duration of the development. The homeowners will check the exclusion fence daily during works to ensure that the fence is in a condition to prevent GCN from entering the site and maintain a log of checks. The fence must also remain clear of vegetation.
- All contractors will be given a toolbox talk before works begin. This will include information about the potential to harm great crested newts and other amphibians, and the measures to be taken to avoid this, the identification of all three newt species found in the area, smooth, palmate and great crested newts and the key identification features between them, and provide detail regarding their ecology. The toolbox talk will also provide information regarding the design of the newt fence, the importance of its integrity throughout the project, and the trapping which has taken place on site. The toolbox talk will also discuss biosecurity on the site. The toolbox talk will be provided in the first instance by the ecologist, and available on site for any further inductions which are necessary.
- The exclusion fence will be removed once all construction and mitigation works are complete under the supervision of a licenced ecologist.
- If works need to take place outside the newt fence but in suitable habitat, this must take place after a fingertip search by the ecologist (following vegetation cutting if required) and under the supervision of the ecologist.

4.4 *Mitigation and Enhancement*

- 4.4.1 The areas of grassland affected by the works, will be replaced/re-sown and the homeowners will continue to manage their garden and pond for wildlife.
- 4.4.2 A minimum of two refugia and one hibernaculum will be created to enhance the site for GCN. The hibernaculum will follow the design in the great crested newt mitigation

guidelines (English Nature, 2001) (Figure 4.3) and will be a minimum of 2m length x 1m width x 1m height and will comprise logs, bricks and rocks covered with soil/turf.

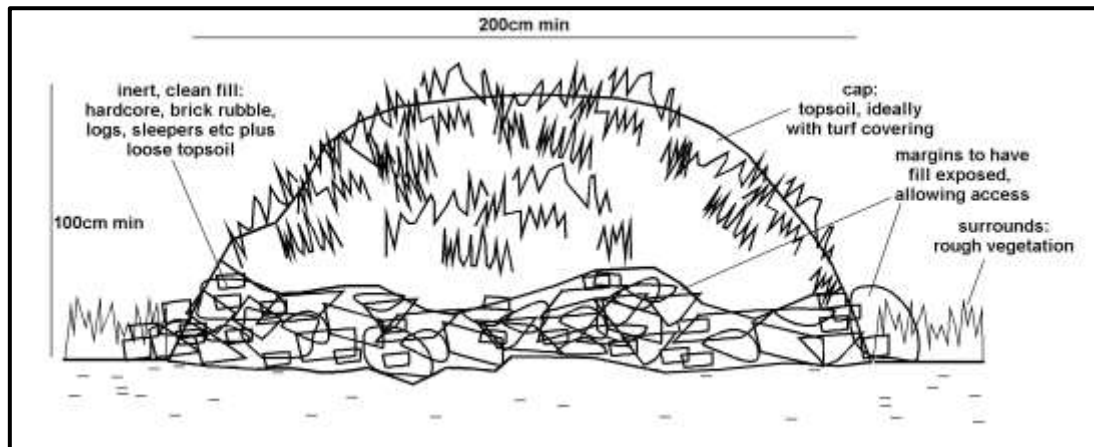


FIGURE 4.3. SUGGESTED HIBERNACULUM DESIGN (ENGLISH NATURE, 2001)

5.0 Biosecurity Risk Assessment

5.1 No invasive non-native plant species are known within the site or recorded within the immediate area. However, *Chytrid* is known in the area. This document tabulates those species that have been identified as having the potential to be imported during works and the likely pathways and operational mitigation have also been identified.

TABLE 5.1. SPECIES IDENTIFIED AS HAVING THE POTENTIAL TO BE IMPORTED DURING WORKS

Species	Potential contamination route	Likelihood of risk	Operational Procedure
Himalayan balsam	Spread of species via construction machinery/ movement of soil. Introduction of seeds via contaminated soil.	Low. Himalayan Balsam is not known to be present on site. Low. There are no requirements to import soil.	Ensure contractors know what Himalayan Balsam looks like. If any plants are identified these should be pulled up and left to dry before the seeds set (July/ August).
Japanese knotweed	Spread of species via construction machinery/ movement of soil. Introduction of seeds via contaminated soil.	Low. Japanese knotweed is not known to be present on site. Low. There are no requirements to import soil.	Ensure contractors know what Japanese knotweed looks like. If it is identified on site, refer to the Environment Agency's Japanese knotweed Code of Practice.
Giant Hogweed	Seed being carried from site to site	Low. Giant Hogweed is not known to be present on site.	Ensure all boots, tools, tyres, plant and machinery are thoroughly cleaned before coming on site.
Invasive non-native plants	Planting	Medium	All new planting stock be to grown in an environment free from invasive non-native plants.
<i>Chytrid</i>	Transport of spores on boots or field equipment from one water body to another.	Low. No contact by personnel with other amphibian sites. High if machinery has been in contact with	Ensure all ecologists clean their footwear and survey equipment between sites. If amphibians are handled disposable vinyl gloves should be worn.

Species	Potential contamination route	Likelihood of risk	Operational Procedure
		water on an infected site, otherwise low	

5.2 *Biosecurity Procedures*

5.2.1 Prior to accessing the site, and before leaving the following procedures must be followed.

- All footwear and outerwear must be cleaned to remove any organic material, for example leaves and soil. Clean brushes to be carried for this purpose.
- Following the removal of organic material all footwear must be sprayed or dipped in disinfectant until it runs off. See disinfection procedure, below.
- Mud and other organic material to be cleaned from vehicle tyres, wheels and wheel arches prior to arrival on site.
- Clean and disinfect tools and equipment before accessing site.

5.2.2 *Disinfection Procedure:*

1. Brush off all debris, plant fragments including wood chippings, and all organic material e.g. soil.
2. Rinse with water.
3. Disinfect by spraying with a solution of Virkon disinfectant, (10mg/ml or as printed instructions, if for example using tablets) until the spray runs off. Boots should be stood in a bucket or other container of solution, especially prior to going on site. Spraying should take place away from vegetation.
4. Leave for at least 1 minute
5. Rinse with clean water, brought to site for this purpose.

5.2.3 Virkon solution should ideally be kept and flushed into a sink, or drain with water. If on site disposal is required the solution should be disposed of on a large hardstanding area away from vegetation.

6.0 Legislation

6.1 *Great Crested Newts*

GCN are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations', because it has declined throughout Europe in recent decades.

Under the Habitats Regulations, it is an offence if you:

- Deliberately capture, injure or kill any wild animal of an EPS,
- Deliberately disturb wild animals of any such species,
- Deliberately take or destroy the eggs of such an animal, or
- Damage or destroy a breeding site or resting place of such an animal

Disturbance includes, but is not limited to, any disturbance which is likely:

1. to impair their ability –

- to survive, to breed or reproduce, or to rear or nurture their young, or
- in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

2. to affect significantly the local distribution or abundance of the species to which they belong.

Under the Wildlife and Countryside Act 1981(as amended) (W&CA) it is illegal to:-

- Intentionally or recklessly disturb any great crested newt while it is occupying a structure or place which it uses for shelter or protection, 9(4)(b)
- Intentionally or recklessly obstructs access to any structure or place used by a great crested newts for shelter or protection, 9(4)(c)
- Sell, offer or expose for sale any great crested newt, 9(5)

It is, however, legal for you to tend a disabled GCN with the intention of releasing it, or to kill a GCN that cannot recover, as long as the injury was not a result of your unlawful act (Habitat Regulations 44(2); W&CA 10(3)(a)(b)).

7.0 References and Information Sources

Amphibian and Reptile conservation UK (ARG-UK) (2008). Amphibian Disease Precautions: a guide for UK fieldworkers. Version 1. February 2008. Amphibian and Reptile Conservation UK, See publications section of www.arguk.org.

English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough

Froglife (2001) Great Crested Newt Conservation Handbook