
Woodlands Farm

on behalf of Wales and West Housing Association

Condition 9: Great Crested Newt Mitigation Strategy



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1 INTRODUCTION

1.1 Background

- 1.1.1 This Great Crested Newt (GCN) Mitigation Strategy has been prepared in relation to the proposed residential development of land at Woodlands Farm, Dodds Lane, Gwersyllt, Wrexham (hereafter referred to as the 'Site') on behalf of Wales and West Housing Association. The proposed development comprises the delivery of 23 affordable residential homes with associated parking, landscaping and ancillary works.
- 1.1.2 Due to the confirmed presence of GCN within the wider landscape, the development is required to provide habitat provision for GCN and long term management, in accordance with Condition 9 of the planning consent (Application Ref.: P/2018/0997).

Condition 9 – No development shall commence until the following have been submitted to and approved in writing by the Local Planning Authority:

- a) A detailed plan of the mitigation area for Great Crested Newts;*
- b) An Ecological Method Statement including a timetable for the implementation of the habitat mitigation measures;*
- c) A long-term Management and Monitoring Plan for the mitigation area; and,*
- d) A Bio-security Risk Assessment.*

Great Crested Newt mitigation shall therefore be provided and thereafter permanently retained and managed in strict accordance with the detailed as approved.

Reason: In order to protect statutory protected species in accordance with policy EC6 of the Wrexham Unitary Development Plan.

- 1.1.3 The development will affect terrestrial habitat only and is located over 220m from the nearest pond. To compensate for any potential loss of habitat; the proposed development will provide an area that will be enhanced for GCN referred to in this report as the 'GCN Habitat Area'; while this report specifically relates to GCN, these enhancements will also provide a wider benefit for other wildlife.
- 1.1.4 This report sets out habitat creation and enhancement to be delivered as part of the proposed residential development and presents a strategy for the long-term maintenance and management.
- 1.1.5 Additional information is also provided to address comments from Natural Resources Wales (NRW) in their letter dated 23/09/2020.
- 1.1.6 The habitat creation and enhancement presented within this report is designed to complement the Great Created Newt Master Plan, a strategy designed by Wrexham Borough Council for proposed future development in the wider area.
- 1.1.7 Construction Phase Reasonable Avoidance Measures (RAMs) are presented separately.

1.2 Aims and Objectives

- 1.2.1 The objectives of this Strategy are to provide habitat suitable for GCN and compensate for habitat lost to development; and provide enhanced quality terrestrial and new aquatic habitat that will benefit local amphibian populations and other wildlife.
- 1.2.2 The proposals aim to provide enhancements to increase the carrying capacity and suitability of the remaining habitats outside of the built development footprint, including the creation of new a pond

suitable for GCN and the construction of hibernacula to provide refuge habitat along with grassland habitats that will be managed specifically for GCN to provide a varied structure.

1.3 Responsibilities (tenure)

- 1.3.1 The implementation of this GCN Mitigation Strategy will be the responsibility of the Site 'Owner/Developer', the Site Manager and appointed site contractors.
- 1.3.2 Habitat management and maintenance of GCN Habitat Areas will be undertaken by an appointed management organisation (secured through legal agreement).

2 MITIGATION STRATEGY

2.1 Reasonable Avoidance Measures

- 2.1.1 Construction Phase Reasonable Avoidance Measures (RAMs) for GCN are presented in a separate report (Avian Ecology, 2020¹).

2.2 Habitat Enhancement & Creation

- 2.2.1 This Section should be read with reference to Creu Architecture, Drawing No. 002 (Rev J), included as **Figure 1** in the report.,

GCN Habitat Area

- 2.2.2 The development will include habitat creation to enhance the environs for GCN. The habitat creation and enhancement measures are proposed on land outside the development boundary but within wider landownership. This area is referred to as the '*GCN Habitat Area*' and is located to the east of the residential development as identified in **Figure 1**.
- 2.2.3 The GCN Habitat Area, which will have approximate area of 700m² will be delivered as part of the proposed residential development and will include a new pond, specifically for GCN and other wildlife, four artificial hibernacula to provide additional refuge and shelter, and grassland habitat managed favourably for amphibians. A post and rail fence will be erected around the GCN Habitat Area to define the boundaries and provide an area of relatively undisturbed habitat. Gates will be included to allow for management and maintenances activities.
- 2.2.4 The location of the pond and hibernacula have been selected with reference to a Welsh water drainage easement, so as minimise the potential for the pond and hibernacula to be disturbed should management or maintenance works be required to the easement in the future.

Pond Creation

- 2.2.5 A new pond will be constructed to provide aquatic habitat for GCN and other amphibian species; the pond will measure approximately 150m². The pond will be constructed to provide a range of depths (maximum depth between 1.5 - 2m) and will have an irregular shape. A shallow wetland shelf of less than 30cm will encourage a diversity of pond plants which in turn provides for invertebrates and egg

¹ Avian Ecology (2020). *Method Statement: Great Crested New Reasonable Avoidance Measures*

laying substrate for newts. A bentonite liner will be used to provide a permanent waterbody, if required. An indicative pond design is illustrated in **Diagram 1**.

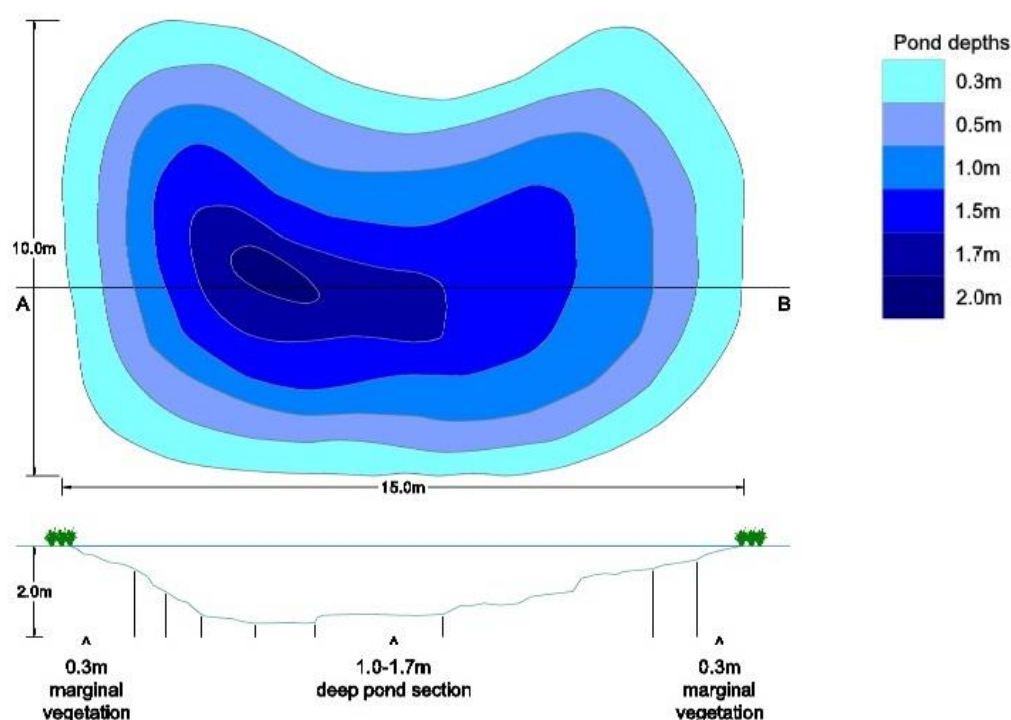


Diagram 1. Indicative pond design

- 2.2.6 The pond could either be allowed to vegetate naturally or planted with aquatic and marginal species to provide shelter and egg laying substrate within and around the waterbody. Suitable species include water forget-me-not *Myosotis scorpioides*, Kingcup *Caltha palustris*, meadowsweet *Filipendula ulmaria*, purple loosestrife *Lythrum salicaria*, floating sweetgrass *Glyceria fluitans*, branched bur-weed *Sparganium erectum* and water mint *Mentha aquatic*.

Grassland Enhancement

- 2.2.7 Enhancement of grassland habitat within the GCN Habitat Area will be provided largely through the management of the existing grassland. However, some areas may require seeding to re-establish grassland cover; this will be implemented using seed mixes appropriate to the soil type and native to the UK. The management objective for grassland habitat is to encourage both species and structural diversity over time, benefitting a range of species including invertebrates, amphibians, birds and small mammals.
- 2.2.8 Where re-seeding is required the ground will be prepared and sown with a neutral grassland seed mix such as Emorsgate EN1 special pollen and nectar meadow mixture (or similar) and areas around created waterbodies will be sown with a suitable wetland grass mixture such as Emorsgate EP1 pond edge mixture (or similar).
- 2.2.9 Where re-seeding is required, this should be undertaken in accordance with BS 4428:1989 Code of Practice for general landscape operations (excluding hard surfaces), or the most up to date and current British Standard.

Hibernacula Construction

- 2.2.10 Four artificial hibernacula will be constructed within the GCN Habitat Area close to the newly created pond; these will provide safe refuge for amphibian species. These will follow the standard design as detailed in the Great Crested Newt Mitigation Guidelines (English nature 2001) and reproduced in **Diagram 2**.
- 2.2.11 The hibernacula will be set near the created pond but in areas that will remain dry or on slightly raised mounds. Each will comprise a mound of brick rubble, boulders and logs capped with topsoil and turf. Margins will be left exposed allowing amphibians to access the feature.

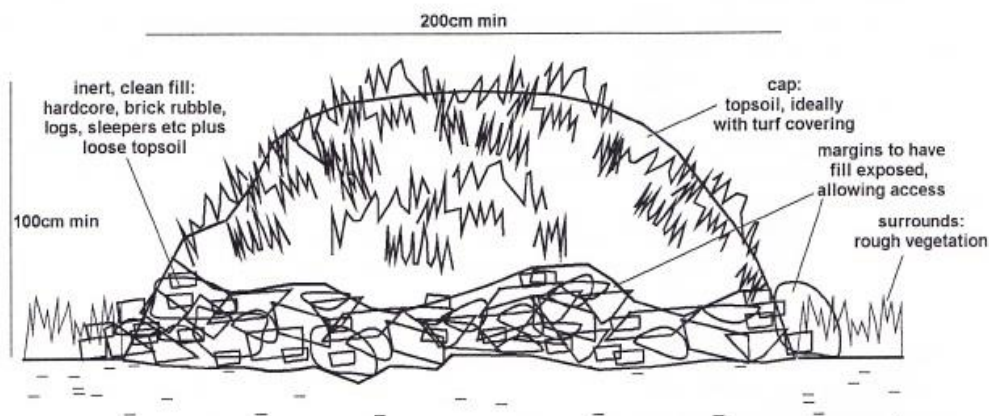


Diagram 2 Hibernacula design taken from the Great Crested Newt Mitigation Guidelines (English Nature 2001).

Integration with the Development

- 2.2.12 The internal road scheme will be developed so as to avoid hard landscaping and infrastructure creating dispersal barriers or trapping amphibian or other wildlife. Dropped kerbs and raised road levels will be used on Site to ensure GCN and other amphibians do not become trapped within the internal roads. The drainage strategy will incorporate set back gully pots or wildlife kerbs along roads which are located adjacent to habitats which amphibians and other wildlife are likely to use.

2.3 Wrexham Borough Council GCN Master Plan

- 2.3.1 The GCN Habitat Area is located close (and connected) to land that has been separately identified in Wrexham Borough Council's *Great Crested Newt Master Plan* (Wrexham Borough Council, 2013) as a proposed Newt Mitigation Site for future development (see **Appendix 1**).
- 2.3.2 The enhancement measures to be delivered with the GCN Habitat Area will complement these proposed Mitigation Sites, as and when they come forward. Collectively, this provision will benefit GCN by providing additional favourable breeding, refuge and foraging habitat and strengthening habitat linkages within the surrounding landscape. Existing boundary features provide a habitat corridor, connecting the GCN Habitat Area with the Mitigation Site to the south as identified on the Wrexham Borough Council's *Great Crested Newt Master Plan* (identified by the orange dashed line in **Figure 1**).

3 HABITAT MANAGEMENT

- 3.1.1 Management of the GCN Habitat Area will consist of low intensity grassland management (implementing a cutting regime typical of traditional hay meadow management) and selective pond management to maintain favourable conditions for GCN. The pond and associated terrestrial habitat will be monitored annually for condition and management and maintenance practices adapted if required.
- 3.1.2 Any remedial actions required (e.g. the removal of any introduced fish from the pond, desilting etc.) will be undertaken with appropriate safeguards in place and under licence, if required. The management organisation should first consult with Wrexham Borough Council prior to undertaken any such remedial actions.
- 3.1.3 The long-term management of GCN Habitat Area will be secured through legal agreement.

General Management Activities

- 3.1.4 The on-site management will include litter picking from both terrestrial and aquatic habitats.
- 3.1.5 The post and rail fence / access gates around the perimeter of the GCN Habitat Area will be monitored and repaired as required.

Pond Management

- 3.1.6 The pond will be subject to annual routine management to maintain open water habitat with marginal vegetation.
- 3.1.7 Overly vigorous or invasive plant species may need to be cut back or removed from the pond. Management of aquatic vegetation should be undertaken annually (little and often) with vegetation thinned rather than removed. Removed vegetation should be hand sorted to ensure no animals are caught up in the vegetation and left at the pond edge for at least 24 hours before it is removed from Site.
- 3.1.8 Herbicides should not be used within close proximity to ponds.
- 3.1.9 If fish are found to be present, appropriate remedial actions should be taken to remove fish from the pond.
- 3.1.10 Should water levels within the deepest area of the pond fall below half a metre, de-silting will be required. Where de-silting works require the use of a long-armed excavator, entry and access to the pond should be limited to one point or section of bank (avoiding hibernacula and potential places of shelter).
- 3.1.11 Pond management work should be carried out from autumn through winter period, typically 01st November to 31st January, when GCN are unlikely to be present in ponds.
- 3.1.12 Pond management work is designed to improve the breeding site and therefore there is little risk of damage or destruction occurring, as the features will be enhanced. Where work is carried out with sensible precautions, then the risk of deliberate killing, injuring or disturbing GCN and other wildlife can be greatly minimised and it is highly unlikely to result in offences, and therefore would not normally require a licence for such works. However, where significant management works are proposed (e.g. de-silting) or works are required outside the late autumn / winter period, it is advised that Wrexham Borough Council and / or National Resources Wales (NRW) be contacted prior to any such works commencing.

Grassland Management

- 3.1.13 Grassland will be managed to establish meadow type grassland with a varied structure, of higher value to wildlife, including great crested newts.
- 3.1.14 The grassland will generally be managed with a single cut (reducing sward height to approximately 150mm) late in the season, between August and September. The late cuts will allow the seeds of the later flowering species to fall prior to the cut. An additional early cut may occasionally be required to prevent encroachment of weeds or overly-competitive species.
- 3.1.15 Cutting should commence starting from the centre of the GCN Habitat Area, working outwards towards the boundaries or areas that will remain uncut. This systematic cutting will allow fauna such as birds and small mammals to safely vacate the area temporarily.
- 3.1.16 The management of the grassland within the GCN Habitat Area will take a flexible approach and the exact dates will be dependent upon weather conditions. A phased (rotational) cutting regime is recommended (i.e. ideally the entire area should not be cut at the same time) in order to allow for more structured grassland and to provide some areas of refuge for amphibians and other wildlife at all times.

Hibernacula Management

- 3.1.17 Monitoring of the hibernacula will be undertaken annually (July - September) following creation and will be repaired or built-up as and when required prior to the winter hibernation / dormancy period which is generally considered November to February inclusive. Management will also include the removal of any barriers that may hinder GCN movements.
- 3.1.18 A licence from NRW or the presence of a licensed ecologist may be required, if hibernacula are required to be dismantled or moved for any reason. NRW and Wrexham Borough Council should be contacted prior to any such works commencing.

4 BIO-SECURITY

- 4.1.1 Certain activities will require supervision by a licensed ecologist who will liaise as necessary with the client team and site contractors. Supervision and monitoring will be set out in detail in the RAMs and Construction Environment Management Plan (CEMP) Method Statement. As part of this, site staff will be informed via Tool Box Talks of the measures in place to safeguard GCN, and alerted to the requirement to avoid defined exclusion zones outside the construction area (e.g., retained habitats). Exclusion zones will be clearly identified on Site with fencing and signage and monitored as necessary by the licensed ecologist.
- 4.1.2 Site contractors will be required to comply with bio-security measures whilst undertaking construction. Tools and vehicles have the potential to transfer pests and disease from site to site and suitable bio-security measures will be included in the CEMP. Subsequent ongoing management and maintenance, particularly where this is associated with the GCN Habitat Area will also include similar biosecurity measures as a contractual responsibility.
- 4.1.3 If any invasive plant species are discovered on Site (such as Himalayan balsam *Impatiens glandulifera* or Japanese knotweed *Reynoutria japonica*), any works at this location will cease and the project ecologist will be contacted immediately and specialist advice obtained in order to prevent the accidental spread of invasive species. The potential presence of invasive non-native species will be addressed as part of the induction tool box talk delivered to all site-based operatives immediately prior to the commencement of site works.

- 4.1.4 Plant material brought on to Site as part of the landscape scheme and pond planting (if undertaken), will be checked and certified as part of the contractual responsibility of the Landscaping Contractor as being free of pests and disease or invasive species.
- 4.1.5 Where monitoring and management requires access to the pond or core terrestrial habitat around the pond, biosecurity measures are proposed with reference to Amphibian and Reptile Conservation - *Technical Advice Note 4 – Amphibian Disease Precautions: A Guide for UK Fieldworker*². General guidance to be adapted include:
- Handle amphibians only when necessary;
 - If handling amphibians, or if contact with pond water is necessary, wear powder-free disposable vinyl gloves which you rinse before contact with the amphibians. Use vinyl rather than latex or nitrile because the latter two may be harmful to amphibians;
 - Use a fresh pair of gloves for each site visited. For higher risk activities, it may be appropriate to change gloves between handling individual amphibians, even within the same site;
 - Disinfect survey equipment or containers used to hold amphibians between each site visited (see disinfection procedures below, paragraph 4.4.6);
 - If entering the water, footwear should be washed and disinfected (see disinfection procedures below) immediately after the site visit. If you do not enter the water, there is no need to disinfect footwear unless visiting a high-risk site;
 - Wash all clothing on a 40°C cycle with biological detergent, after exposure to amphibians or pond water. If visiting several sites bring a change of clothes. Use a lower temperature wash if care instructions indicate this may be harmful to your clothing, and take additional precautions such as washing twice or spraying with disinfectant before next use;
 - Do not release amphibians anywhere except at the place of capture;
 - If travelling by vehicle, park on hard standing (rather than vegetated areas) and walk to the pond;
 - Treat dead or sick amphibians as a high infection risk and do not handle unless necessary.
- 4.1.6 Disinfect all field equipment that has come into contact with amphibians or pond water. This includes footwear (boots or waders) and any other equipment. Disinfection solutions include bleach (diluted with water to produce a 4% solution), Virkon (10mg/ml, as per supplier's instructions) or V Virkon-S (licensed for veterinary/animal livestock applications but not human use) can also be purchased in tablet form. One 5mg tablet can be dissolved in 500ml of water. The following disinfection procedures should be adopted:
1. Use brush to scrub off any debris, plant fragments, mud etc;
 2. Rinse with water (pond water will suffice);
 3. Soak in bleach solution for at least 5 minutes, or Virkon for at least one minute (but recommended for 5 minutes as a precaution for *B. salamandrivorans*);
 4. Rinse with clean water;
 5. If possible, allow to dry for before next use;
 6. Keep field equipment inside plastic bags during transit and storage (after thorough drying) to reduce the chance of transmitting pathogens.

² Amphibian and Reptile Conservation (2017). *Technical Advice Note 4 – Amphibian Disease Precautions: A Guide for UK Fieldworker, Version 2, Revised March 2017*.

5 MONITORING AND REVIEW

- 5.1.1 The development of the biodiversity interest will be monitored over time; this will involve an inspection of the pond and grassland and other ecological enhancement features to ensure that they are being managed in a manner suitable for the enhancement of wildlife interest. The results of these monitoring surveys will be used to inform future changes in management (for example amendments may be made to the timing or frequency of grass cuts, or additional vegetation management in and around the pond to maintain open water).
- 5.1.2 Annual monitoring by an ecologist will be undertaken for the first four years commencing once construction and landscaping is complete
- 5.1.3 The new pond will be monitored annually for the presence of GCN through presence/absence environmental DNA (eDNA) survey for a period of four years, commencing in the second season after pond construction and landscaping is complete (the first year after construction is considered to be an establishment year to allow the pond to settle). The eDNA survey will be undertaken by suitably licensed ecologists and in accordance with the published methodology.
- 5.1.4 The key performance indicators against which monitoring and review of management practices within the GCN Habitat Area will be undertaken include are summarised in Table 1.

Table 1 - Key performance indicators to assess management within the GCN Habitat Area

Habitat Feature	Condition Indicator	
	Good	Poor - with typical rectification actions
Pond	• Pond establishing/established well, with marginal and aquatic vegetation present and water permanently present (season fluctuations in levels are acceptable). • Appropriate balance of open water, aquatic and margin cover/shade maintained.	• Pond dry or failing to hold sufficient water. <i>Design rectification required.</i> • Aquatic and marginal vegetation not present and colonisation not occurring <i>Planting required.</i> • Excessive shrub encroachment (margins) or over-growth of aquatic vegetation and loss of open water. <i>Vegetation management required to maintain proportion of cover at optimum levels for GCN and other aquatic species.</i>
Grassland	• Sward establishing / established with varied species present (or broadly reflect seed mix, if used) and demonstrably providing cover and structure suitable for foraging / sheltering GCN and other amphibians. • Bare ground less than 15% once established. • Varied or tussocky structure developing / developed. • Grass maintained over at least 150mm height throughout. • No invasive species present.	• Large areas of bare ground – grassland not established. <i>Prepare soil and re-seed.</i> • Grass too short or cut too frequently. <i>Amend cutting regime.</i> • Invasive species present. <i>Implement control measures using specialist contractor if required.</i>

Habitat Feature	Condition Indicator	
	Good	Poor - with typical rectification actions
Hibernacula	Constructed hibernacula in place with no evidence of collapse or loss of covering material.	Hibernacula showing signs of collapse and / or loss of covering material <i>Add further covering material such as turves / logs / inert rubble in line with design specification.</i>

- 5.1.5 The results of the surveys will be provided to Wrexham Borough Council and to the local biological records centre.

6 TIMETABLE FOR THE IMPLEMENTATION

KEY

	No works programmed
	Management works can be undertaken but not the preferred period
	Recommended period for undertaking management works
*	Works only required if conditions / monitoring demonstrate that management is required

The following management programme covers the first 10 years and identifies the optimum months in which activities can be undertaken (Year 1 is the year development commences).

[illegible][illegible]

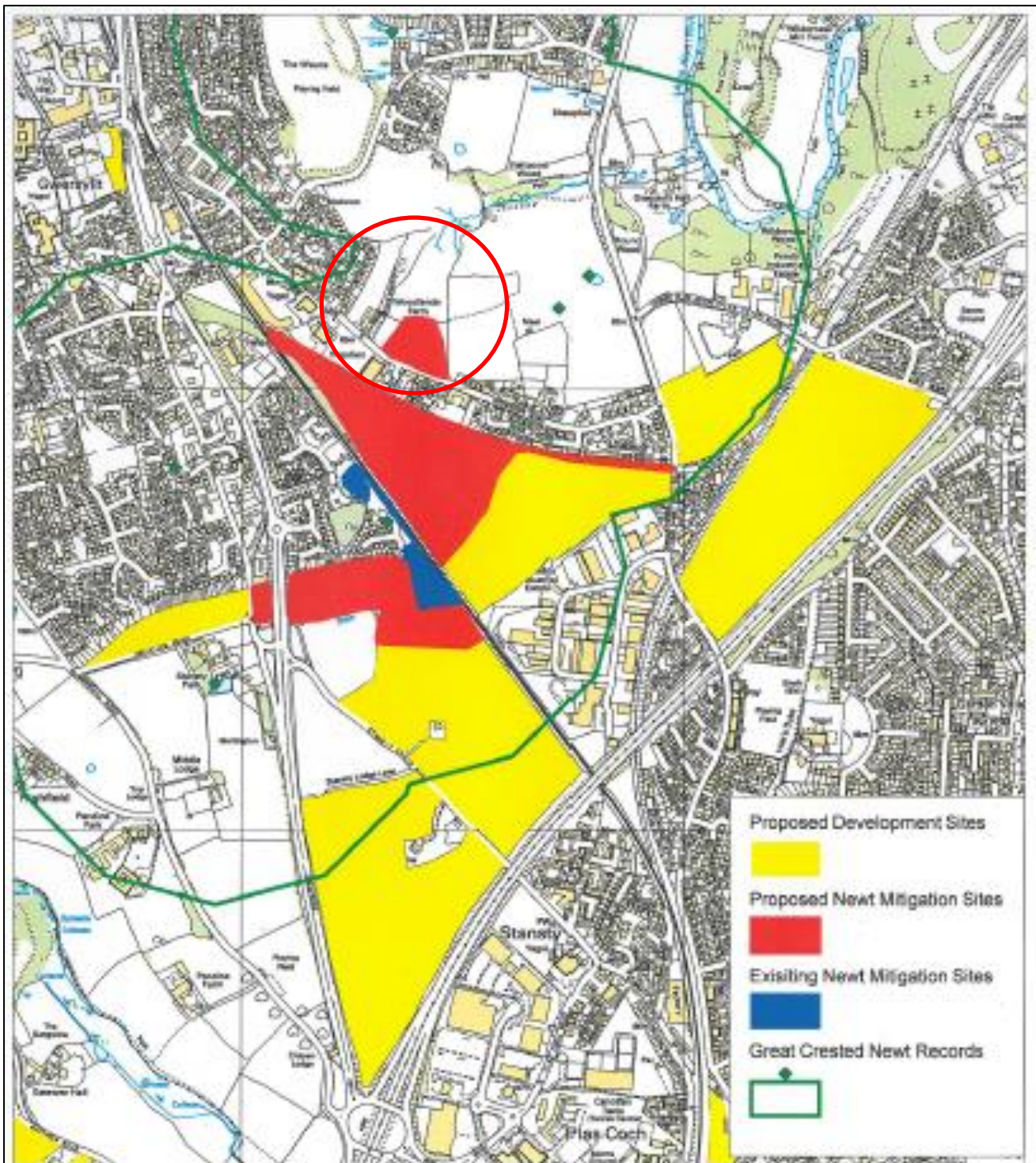
FIGURE 1

Mitigation Proposals, Creu Architecture, Drawing No. 002 (Rev P)

Appendix 1

Great crested Newt Mitigation Master Plan (Wrexham Borough Council, 2013)

Red Circle Identifies Site Location in Context of the Master Plan.



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