

**LONG MEADOW, HUGMORE LANE,
WREXHAM**

**GREAT CRESTED NEWT APPRAISAL &
MITIGATION MEASURES (2014)**



ces ecology
consultant ecologists

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1.0 EXECUTIVE SUMMARY

- 1.1 Cheshire Ecological Services Ltd (CES) was commissioned to undertake a great crested newt (GCN) aquatic & terrestrial appraisal, assess the predicted development effect and formulate appropriate and proportionate GCN and other amphibian mitigation and habitat compensation measures in connection with proposed development involving the construction of two residential properties and associated infrastructure/landscaping on land adjacent Hugmore Lane, Wrexham, North Wales.
- 1.2 The CES 2014 appraisal has incorporated historical information relating to the presence of GCN and other amphibians sourced from the CES 2012 GCN Survey and Reasonable Avoidance Measures Method Statement (undertaken/produced in relation to previously consented residential development at the site) and data provided by Cofnod and Countryside Council for Wales (now Natural Resources Wales) relating to the presence of GCN within approximately 1km of the site.
- 1.3 The proposed development site extends to approximately 0.2 hectares. At the time of the appraisal terrestrial habitat to be directly impacted by the proposed development works comprised predominantly short semi-improved grassland and bare ground currently used by poultry. The proposed development site is bounded by hedgerows and/or fencing, with Hugmore Lane to the east, adjacent gardens to the north and south, and a garden centre to the west.
- 1.4 No water bodies were identified as extant at the proposed development site.
- 1.5 All water bodies identified on OS and aerial mapping of the area as potentially extant within 500 metres of the proposed development site boundary were considered as part of the GCN appraisal effort.
- 1.6 A review of OS mapping, aerial imaging, relevant historic survey data and a walkover inspection of the proposed working area by CES ecologists on 10th November 2014 established that seven ponds (Ponds 1, 2, 3, 4, 5, 6 & 7) offering GCN and other amphibians with potential aquatic/breeding habitat were extant at distances of up to 250 metres from the site boundary.
- 1.7 The review of OS and aerial mapping/imaging, relevant historic survey data and the walkover inspection visit established that six other ponds/water bodies (Ponds A, B, WB C, Ponds D, E & WB F) offering GCN and other amphibians with potential aquatic/breeding habitat were extant at distances of over 250 metres up to 500 metres from the site boundary.

- 1.8 Based on the terrestrial range of individual GCN (generally <250 metres, occasionally 250 metres up to >500 metres, rarely >1 kilometre from their breeding sites) and given the availability of potential dispersal habitat it was considered that Ponds 1, 3 & 4 were relevant to the appraisal. However, access permission could not be obtained to inspect Ponds 3 & 4.
- 1.9 Ponds 2, 5, 6, 7, A, B, D, E and WB C & F were not considered relevant to the appraisal on the grounds that they are effectively isolated from the development site by distance and/or, barriers to dispersal, i.e. roads and/or built environs, and/or restricted habitat connectivity and/or were not considered to offer GCN with suitable breeding habitat (shallow/fast flowing water).
- 1.10 The CES 2012 GCN Survey and Reasonable Avoidance Measures Method Statement established GCN likely absence at Pond 1. The survey established that Pond 1 contained fish and supported common frog and smooth newt.
- 1.11 Cofnod and CCW provided historical records of GCN occurring within approximately 1km of the proposed development site.
- 1.12 The methods employed by CES during the 2014 appraisal walk over inspection visit included a combination of visual inspection & refugia search as appropriate to the conditions encountered. As part of the appraisal effort a GCN 'Habitat Suitability Index' (HSI) score & categorisation was calculated for Pond 1. The HSI score calculated by CES for Pond 1 indicated 'Poor' suitability for GCN.
- 1.13 The terrestrial refugia search carried out by CES ecologists as part of the 2014 appraisal did not result in the discovery of any sheltering GCN or other amphibians within or neighbouring the development site boundary.
- 1.14 The CES 2014 appraisal and discussions with the landowner confirmed the continued presence of fish, common frog and smooth newt at Pond 1.
- 1.15 At the time of the appraisal the area to be directly impacted by the proposed development was assessed and found to offer GCN and other amphibians with few terrestrial shelter opportunities and foraging and dispersal habitat, categorised by CES, as predominantly 'Below Average'.
- 1.16 Based on the appraisal findings, the terrestrial range of the species and few terrestrial shelter opportunities within the proposed area of works it was concluded that GCN are reasonably unlikely to be present or dependent, in any way, on the habitat to be impacted by the development.

- 1.17 No GCN/amphibian breeding sites or other aquatic habitat will be lost or negatively impacted as a consequence of the proposed works.
- 1.18 The development will result in some limited; temporary disturbance and/or temporary destruction followed by reinstatement of a relatively small area, of immediate (<50 metres) intermediate (>50 metres to <250 metres) and distant (>250 metres) terrestrial habitat associated with Ponds 1, 3 & 4 and/or other water bodies in the local area (defined by Natural England as within 10km).
- 1.19 The development will not significantly increase the historic and existing level of habitat fragmentation at the site level and will not isolate any known GCN or other amphibian populations or negatively impact on their ability to migrate and reach their breeding sites.
- 1.20 The development will not significantly increase (from current and historic levels) the risk of post-development human interference impacts on aquatic and terrestrial habitats associated with Ponds 1, 3 & 4 and/or other water bodies in the local area.
- 1.21 The predicted development effect and scale of impact has been assessed, with reference to the English Nature Great Crested Newt Mitigation Guidelines 2001 and, in the absence of appropriate mitigation measures, a 'low' negative impact is predicted for GCN population/s associated with the local area.
- 1.22 The proposed development is considered unlikely to result in a significant negative impact on the favourable conservation status of any known GCN population/s or result in a breach of current wildlife legislation and Natural Resources Wales guidance relating to the species.
- 1.23 However, the unmitigated commencement of development at the site could potentially have a negative impact on individual GCN and/or other amphibians in the event that they are present or inadvertently stray into the working area following the commencement of development and take cover under/within temporary shelter habitat incidentally created as a consequence of the works, i.e. disturbed ground, excavations, spoil mounds and/or stored materials.
- 1.24 Following careful consideration of the appraisal findings, the relatively limited scale of the works proposed, the predicted 'low' development impacts, the legal protection afforded to the species and current guidance issued by Natural Resources Wales in relation to low impact works, it was deemed appropriate to recommend the implementation of non-licensed GCN/amphibian reasonable avoidance and habitat compensation measures in respect of the proposed development.

2.0 INTRODUCTION

- 2.1 Cheshire Ecological Services Ltd (CES) was commissioned to undertake a great crested newt (GCN) aquatic & terrestrial appraisal, assess the predicted development effect and formulate appropriate and proportionate GCN and other amphibian mitigation and habitat compensation measures in connection with proposed development involving the construction of two residential properties and associated infrastructure/landscaping on land adjacent Hugmore Lane, Wrexham, North Wales (refer to Appendix A(i): Site Location Map (OS) & Appendix A(ii): Site Location Map (Aerial).
- 2.2 The appraisal was carried out by James Grundy ACIEEM (Principal Ecologist). James holds a Natural Resources Wales GCN survey licence (Ref Number 57882;OTH:SA:2014) and is fully conversant with the English Nature Great Crested Newt Mitigation Guidelines 2001, Technical Advice Note (TAN) 5 and GCN guidance issued by Natural Resources Wales. He has extensive experience gained as the Appointed Ecologist on development related GCN licensed and non-licensed mitigation and protected species projects over the past thirty years (refer to Appendix B: Principal Ecologist's Experience & Appendix C: Protected Species Legislation).
- 2.3 The CES 2014 appraisal has incorporated historical information relating to the presence of GCN and other amphibians sourced from the CES 2012 GCN Survey and Reasonable Avoidance Measures Method Statement (undertaken/produced in relation to previously consented residential development at the site) and data provided by Cofnod and Countryside Council for Wales (now Natural Resources Wales) relating to the presence of GCN within approximately 1km of the site (refer to Appendix D: CES 2012 GCN Survey and Reasonable Avoidance Measures Method Statement).
- 2.4 The objective of the CES appraisal was to establish:
- The extent, status and relevance of aquatic and terrestrial habitats located at and within 500 metres of the proposed development site;
 - GCN and other amphibian presence/likely absence and population size class at the site level and within the local area;
 - The predicted development effect and scale of impact on GCN and other amphibians;

- The likely impact of the proposed development on the favourable conservation status of any GCN population/s identified to be associated with the local area;
- Potential legal and licensing implications in respect of current wildlife legislation relating to GCN and other amphibians;
- Appropriate mitigation and habitat compensation measures to address the predicted development effect and level of impact on GCN and/or other amphibians.

2.5 This report should enable the Local Planning Authority to make an informed decision as to whether or not it is possible to discharge their responsibilities under current planning guidance, in respect of GCN and biodiversity, via the implementation of planning condition/s when determining the planning application submitted in respect of the proposed development.

3.0 APPRAISAL AREA DESCRIPTION

3.1 The proposed development site extends to approximately 0.2 hectares. At the time of the appraisal terrestrial habitat to be directly impacted by the proposed development works comprised predominantly short semi-improved grassland and bare ground currently used by poultry. The proposed development site is bounded by hedgerows and/or fencing, with Hugmore Lane to the east, adjacent gardens to the north and south, and a garden centre to the west (refer to Appendix E: Photographic Plates).

3.2 No water bodies were identified as extant within the proposed development site boundary.

3.3 The terrestrial habitat types at the development site, their extent and suitability for GCN and other amphibians are detailed in Table 1 below:

Table 1: Development Site Habitat Type, Extent & GCN/Amphibian Suitability

Habitat type	Approximate Area (Ha)/length (m)	Suitability for GCN/Amphibians
Semi improved Grassland	0.16	'Below Average'
Bare ground	0.4	'Poor'
Boundary Hedgerows	300 metres	'Average'

- 3.4 At the time of the appraisal the area to be directly impacted by the proposed development works was assessed and found to offer GCN and other amphibians with few terrestrial shelter opportunities and foraging and dispersal habitat, categorised by CES, as predominantly 'Below Average'.
- 3.5 The terrestrial habitat suitability categorisations used by CES are based on the Terrestrial Habitat Suitability Index (THSI) developed by James Grundy ACIEEM (Principal Ecologist) and Faye Durkin BSc (Hons) MSc MCIEEM (Senior Ecologist). The THSI is necessarily a broad interpretative tool that can only provide general guidance when categorising the suitability of terrestrial habitat for GCN/amphibians. The THSI relies implicitly on the experience and professionalism of the ecologist using the Index for consistency and accuracy. The THSI has been developed to help standardise GCN/amphibian terrestrial habitat assessments/categorisations and provide more accurate and consistent data to help inform the decision-making process relating to GCN/amphibian mitigation projects (refer to Appendix F: Terrestrial Habitat Suitability Index).
- 3.6 All water bodies identified on OS and aerial mapping of the area as potentially extant within 500 metres of the proposed development site boundary were considered as part of the GCN appraisal effort.
- 3.7 A review of OS mapping, aerial imaging, relevant historic survey data and a walkover inspection of the proposed working area by CES ecologists on 10th November 2014 established that seven ponds (Ponds 1, 2, 3, 4, 5, 6 & 7) offering GCN and other amphibians with potential aquatic/breeding habitat were extant at distances of up to 250 metres from the site boundary.
- 3.8 The review of OS and aerial mapping/imaging, relevant historic survey data and the walkover inspection visit established that six other ponds/water bodies (Ponds A, B, WB C, Ponds D, E & WB F) offering GCN and other amphibians with potential aquatic/breeding habitat were extant at distances of over 250 metres up to 500 metres from the site boundary.
- 3.9 Based on the terrestrial range of individual GCN (generally <250 metres, occasionally 250 metres up to >500 metres, rarely >1 kilometre from their breeding sites) and given the availability of potential dispersal habitat it was

considered that Ponds 1, 3 & 4 were relevant to the appraisal. However, access permission could not be obtained to inspect Ponds 3 & 4.

3.10 Ponds 2, 5, 6, 7, A, B, D, E and WB C & F were not considered relevant to the appraisal on the grounds that they are effectively isolated from the development site by distance and/or, barriers to dispersal, i.e. roads and/or built environs, and/or restricted habitat connectivity and/or were not considered to offer GCN with suitable breeding habitat (shallow/fast flowing water).

3.11 Additional information relating to the water bodies excluded from the appraisal is detailed below in Table 2.

Table 2: Water bodies excluded from appraisal

Ponds/ Water bodies	Distance from proposed development site boundary (metres)	Location/setting	Barriers/constraints to GCN/amphibian dispersal	Other reason/s for exclusion
2	130m to the south east	Pond set within farmland	Barriers to dispersal: Limited habitat connectivity;	No access permission
5	230m to the north west	Pond set within farmland	Barriers to dispersal (A534); lack of habitat connectivity;	No access permission
6	230m to the north west	Pond set within farmland	Barriers to dispersal (A534); lack of habitat connectivity;	No access permission
7	250m to the north west	Pond set within farmland	Barriers to dispersal (A534); lack of habitat connectivity;	No access permission
A	480m to the north h east	Pond set within farmland	Distance from the site; lack of habitat connectivity	No access permission
B	350m to east	Pond set within farmland	Distance from the site; lack of habitat connectivity	No access permission
C	480m to south east	Stream/flowing ditch set within farmland	Flowing water unsuitable for GCN breeding	No access permission
D	420m to the west	Part of a pond cluster	Distance from the site; lack of habitat connectivity	No access permission
E	400m to south east	Pond set within farmland	Distance from the site; lack of habitat connectivity	No access permission
F	400m to south west	Stream/flowing ditch set within farmland	Flowing water unsuitable for GCN breeding	No access permission

Additional information relating to Ponds 1, 3 & 4 considered relevant to the appraisal has been provided below for clarity.

Pond 1: Grid Ref:

Approximate area >0.01ha with a water/silt depth >1m. A small ornamental garden fish pond located approximately 40 metres to the west of the proposed development site and set within a managed garden. The pond supported a variety of aquatic vegetation and a moderate diversity of aquatic invertebrates. High-density ornamental fish presence was established and limited/no waterfowl impacts were observed. It was concluded that Pond 1 never dries.

Pond 3: (No access permission).

Approximate area >0.03ha The pond was located approximately 120 metres to the west of the proposed development site and set within mixed use farmland with some limited habitat connectivity to the proposed development site

Pond 4: (No access permission).

Approximate area >0.03ha The pond was located approximately 130 metres to the west of the proposed development site and set within mixed use farmland with some limited habitat connectivity to the proposed development site.

- 3.12 During the assessment of aerial mapping and the walkover inspection visit, it was noted that several, private gardens were located within 500 metres of the working area. It was considered possible that some of these gardens may contain ornamental ponds or water features potentially used by GCN and/or other amphibians. However, given the extensive experience of CES with similar projects, it was not considered logistically achievable to establish the presence of and/or incorporate ornamental ponds or water features within private gardens into the appraisal effort.
- 3.13 The potential presence of GCN and other amphibians within private gardens and their use of ornamental ponds or water features (as detailed in the publication 'Newts in your Pond and Garden', Grundy 2007) was fully considered when assessing the predicted development effect and scale of impact, and formulating appropriate mitigation and habitat compensation measures to address such impacts.

4.0 APPRAISAL METHODS

- 4.1 A GCN aquatic & terrestrial appraisal or survey undertaken in connection with proposed development/works should be carried out by a suitably licensed ecologist and employ a combination of recognised methodologies, as appropriate to the conditions encountered and in accordance with the appraisal/survey objectives.
- 4.2 The predicted development effect and scale of impact on GCN and other amphibians and their breeding, shelter, foraging and dispersal habitat should be assessed and appropriate mitigation and habitat compensation measures, to address the impacts, formulated as part of the appraisal/survey effort.
- 4.3 The English Nature Great Crested Newt Mitigation Guidelines 2001 (EN GCN MG) indicates that a GCN appraisal/survey may be necessary to check for the presence of the species if background information on distribution suggests that they may be present. Detailed indicators include:
- Any historical records for GCN on the site, or in the general area;
 - A pond on or near the site (within around 500m), even if it holds water only seasonally. Note that muddy, cattle-poached, heavily vegetated or shaded ponds, ditches and temporary flooded hollows can be used by GCN;
 - Sites with refuges (such as piles of logs or rubble), grassland, scrub, woodland, or hedgerows within five hundred metres of a pond.
- 4.4 The EN GCN MG recommend that, if access permission can be obtained, a GCN presence/likely absence aquatic survey should consist of four visits, carried out on non-consecutive nights, in appropriate weather conditions, at the appropriate time of year (mid-March to mid-June) and should ideally include all of the water bodies identified as relevant within the survey area. At least two of the survey visits should be undertaken between mid-April and mid-May.
- 4.5 The currently recommended GCN presence/likely absence aquatic survey methods include egg search, torch survey, bottle trapping and hand netting. The EN GCN MG recommend that, where practicable to do so, a combination of three of the four methods should be employed at each water body. Natural England advises that a GCN 'Habitat Suitability Index' score (Oldham et al

(2000)) is calculated for all water bodies subject to a GCN survey (refer to Appendix G: GCN Appraisal/Survey Methods).

- 4.6 The EN GCN MG indicate that four visits, resulting in consistent negative findings and undertaken in accordance with EN GCN MG aquatic survey methodology, represents sufficient effort to robustly establish GCN 'likely absence' at a water body.
- 4.7 The EN GCN MG recommend that, where access permission can be obtained, a GCN population size class assessment aquatic survey (generally required to inform a GCN mitigation licence application) should consist of six visits, carried out on non-consecutive nights, in appropriate weather conditions, at the appropriate time of year (mid-March to mid-June) to all the water bodies within the survey area where GCN presence has been established. At least three of the visits should be undertaken between mid-April and mid-May.
- 4.8 The GCN population size class is derived from the peak count. This is the combined sum of the highest number of adult GCN observed or captured during the same visit. GCN population size class based on the EN GCN MG categorisations are shown below.
- Small population size class: 1 to 10 individual adult GCN;
 - Medium population size class: 11 to 100 individual adult GCN;
 - Large population size class: 100 plus individual adult GCN.
- 4.9 However, it should be noted that establishing GCN and or amphibian presence and/or concluding GCN likely absence at a site may only require a single visit. The discovery of adult and/or sub-adult GCN/amphibians within a water body or terrestrially will confirm that they are associated with the site. The discovery of GCN/amphibian eggs, spawn, larvae or tadpoles is sufficient to confirm that a water body is a breeding site for that species. A low HSI score for a water body, historic data, unsuitable aquatic habitat, the presence of fish, limited habitat connectivity, barriers to amphibian dispersal such as roads and built environs, lack of shelter/hibernation habitat, a low pond density in the local area and a range of other factors, when interpreted by an experienced amphibian ecologist, can make it reasonable to conclude likely GCN absence at a water body or terrestrially at a site from a single visit.

- 4.10 Where access permission to inspect a water body cannot be obtained and/or it is not possible to undertake survey effort at the appropriate time of year (mid-March to mid-June) the likely GCN population size class associated with a site can generally be reliably predicted, by an experienced GCN ecologist, using historic records and/or the local status of the species combined with an assessment of the availability and suitability of aquatic and terrestrial habitats at and neighbouring the site.
- 4.11 To supplement GCN aquatic appraisal/survey efforts, terrestrial refugia searches can sometimes be employed in order to establish the presence of sheltering and/or foraging GCN at the site level. Such searches should be undertaken at the appropriate time of year, during appropriate weather conditions when GCN adults and sub-adults are likely to be active in their terrestrial phases.
- 4.12 It should be noted that findings indicating GCN likely absence, based entirely on terrestrial refugia search methods, should be interpreted with caution as GCN may avoid detection during the search period.
- 4.13 The relevance and significance of the discovery terrestrially of individual GCN at or neighbouring a site should be interpreted with careful consideration and due regard to current Natural England guidance when assessing the predicted development effect and scale of impact on the favourable conservation status of GCN population/s associated with a site and formulating appropriate and proportionate mitigation measures.
- 4.14 It is important to note that the terrestrial range of the species; generally <250 metres, occasionally 250 metres up to >500 metres, rarely >1 kilometre from their breeding site makes it possible for individual GCN to be found over a very wide area and at a considerable distance from their breeding sites. Natural England states: *'Given that great crested newts can disperse over 1km from breeding ponds, the potential for offences may seem vast, yet the probability of an offence outside the core breeding and resting area is often rather small, and even if an offence takes place, the effect on the population may be negligible'*.
- 4.15 The CES 2014 appraisal was carried out by James Grundy ACIEEM (Principal Ecologist). He holds a Natural Resources Wales GCN survey licence. The

effort deemed appropriate in respect of the development was a GCN aquatic and terrestrial habitat appraisal.

- 4.16 The CES 2014 appraisal has incorporated historical information relating to the presence of GCN and other amphibians sourced from the CES 2012 GCN Survey and Reasonable Avoidance Measures Method Statement (undertaken/produced in relation to previously consented residential development at the site) and data provided by Cofnod and Countryside Council for Wales (now Natural Resources Wales) relating to the presence of GCN within approximately 1km of the site.
- 4.17 The appraisal was undertaken in accordance with recognised methodologies and the terms and conditions of a GCN survey licence (Ref Number 57882;OTH:SA:2014). The appraisal effort included a review of OS and aerial mapping/imaging, relevant historic survey data and a walk-over inspection of the proposed development site by CES ecologists on the 10th November 2014.
- 4.18 The methods employed by CES during the 2014 appraisal walk over inspection visit included a combination of visual inspection & refugia search as appropriate to the conditions encountered. As part of the appraisal effort a GCN 'Habitat Suitability Index' (HSI) score & categorisation was calculated for Pond 1.
- 4.19 As part of the CES appraisal effort, the predicted development effect and scale of impact on GCN and their breeding, shelter, foraging and dispersal habitat was assessed and appropriate mitigation and habitat compensation measures formulated.

5.0 APPRAISAL RESULTS

- 5.1 The significant GCN appraisal/survey effort expended by ecological consultancies and various conservation groups/organisations in the Wrexham area, since the early 1980s, has robustly established that the GCN population size class associated with the majority of GCN breeding sites in the Wrexham area can be typically categorised as 'small' to 'medium'.

- 5.2 The occurrence of breeding sites supporting a 'large' GCN population size class is considered to be atypical and unusual. However, as a consequence of the widespread status of the species within the Wrexham area it is not unusual for 'small' or 'medium' GCN populations associated with a breeding site to form part of GCN 'meta-populations' associated with the local area.
- 5.3 The local status of GCN in the Wrexham area can be broadly categorised as: frequent and widespread. Historic records of GCN presence/breeding and population size class assessment/s have established that a large GCN meta-population is associated with water bodies at/neighbouring Wrexham Industrial Estate located to the south of the proposed development site.
- 5.4 The main findings of the CES 2014 GCN appraisal undertaken in relation to the proposed development are detailed below:
- 5.5 No water bodies were identified as extant on the proposed development site.
- 5.6 The CES 2012 GCN Survey and Reasonable Avoidance Measures Method Statement established GCN likely absence at Pond 1.
- 5.7 The 2012 GCN survey established that Pond 1 contained fish and supported common frog and smooth newt.
- 5.8 Cofnod and CCW provided historical records of GCN occurring within approximately 1km of the proposed development site.
- 5.9 The HSI score calculated by CES for Pond 1 indicated 'Poor' suitability for GCN.
- 5.10 The terrestrial refugia search carried out by CES ecologists as part of the 2014 appraisal did not result in the discovery of any sheltering GCN or other amphibians within or neighbouring the development site boundary.
- 5.11 The CES 2014 appraisal and discussions with the landowner confirmed the continued presence of fish, common frog and smooth newt at Pond 1. It should be noted that fish presence represents a major constraint to GCN colonisation and breeding success.

- 5.12 At the time of the appraisal the area to be directly impacted by the proposed development was assessed and found to offer GCN and other amphibians with few terrestrial shelter opportunities and foraging and dispersal habitat, categorised by CES, as predominantly 'Below Average'.
- 5.13 Based on the appraisal findings, the terrestrial range of the species and few terrestrial shelter opportunities within the area of works it was concluded that GCN are reasonably unlikely to be present or dependent, in any way, on the habitat to be impacted by the proposed development.
- 5.14 Given the CES appraisal findings it was concluded that sufficient information was available to allow the predicted development effect and scale of impact on GCN to be assessed.

6.0 PREDICTED DEVELOPMENT EFFECT & SCALE OF IMPACT

- 6.1 No GCN/amphibian breeding sites or other aquatic habitat will be lost or negatively impacted as a consequence of the proposed works.
- 6.2 The development will result in some limited; partial destruction, temporary disturbance and/or temporary destruction followed by reinstatement of a relatively small area, of immediate (<50 metres) intermediate (>50 metres to <250 metres) and distant (>250 metres) terrestrial habitat associated with Ponds 1, 3 & 4 and/or other water bodies in the local area (defined by Natural England as within 10km).
- 6.3 The development will not significantly increase the historic and existing level of habitat fragmentation at the site level and will not isolate any known GCN or other amphibian populations or negatively impact on their ability to migrate and reach their breeding sites.
- 6.4 The development will not significantly increase (from current and historic levels) the risk of post-development human interference impacts on aquatic and terrestrial habitats associated with Ponds 1, 3 & 4 and/or other water bodies in the local area.

- 6.5 The predicted development effect and scale of impact has been assessed, with reference to the English Nature Great Crested Newt Mitigation Guidelines 2001 and, in the absence of appropriate mitigation measures, a 'low' negative impact is predicted for GCN population/s associated with the local area.
- 6.6 The predicted development effect and impacts are detailed/highlighted (blue) in Table 2 below (adapted from the EN GCN MG).

Table 3: Summarising the scale of main impacts on GCN at the site level

Habitat Feature	Development Effect	Scale of Impact		
		Low	Medium	High
Confirmed GCN breeding pond/water body	Destruction			P
	Isolation caused by fragmentation			P
	Partial destruction; modification		P	
	Temporary disturbance	P		
	Post-development interference			P
Other pond or water body	Destruction		P	
	Isolation caused by fragmentation		P	
	Partial destruction; modification	P		
	Temporary disturbance	P		
	Post-development interference	P		
Immediate Terrestrial Habitat (less than 50 metres from a GCN/breeding pond or other water body <u>potentially</u> used by the species)	Destruction			P
	Isolation caused by fragmentation			P
	Partial destruction		P	
	Modified management, resurfacing etc.		P	
	Temporary disturbance	P		
	Post-development interference		P	
	Temporary destruction & reinstatement	P		
Intermediate Terrestrial Habitat: (at a distance of 50 metres up to 250 metres from a GCN/breeding pond or other water body <u>potentially</u> used by the species)	Destruction		P	
	Isolation caused by fragmentation		P	
	Partial destruction	P		
	Modified management, resurfacing, etc.	P		
	Temporary disturbance	P		
	Post-development interference	P		
	Temporary destruction & reinstatement	P		
Distant Terrestrial Habitat (more than 250 metres from a GCN/breeding pond or other water body <u>potentially</u> used by the species)	Destruction	P		
	Isolation caused by fragmentation	P		
	Partial destruction	P		
	Modified management, resurfacing etc.	P		
	Temporary disturbance	P		
	Post-development interference	P		
	Temporary destruction & reinstatement	P		

- 6.7 The proposed development is considered unlikely to result in a significant negative impact on the favourable conservation status of any known GCN population/s or result in a breach of current wildlife legislation and Natural Resources Wales guidance relating to the species.

- 6.8 However, the unmitigated commencement of development at the site could potentially have a negative impact on individual GCN and/or other amphibians in the event that they are present or inadvertently stray into the working area following the commencement of development and take cover under/within temporary shelter habitat incidentally created as a consequence of the works, i.e. disturbed ground, excavations, spoil mounds and/or stored materials.
- 6.9 Following careful consideration of the appraisal findings, the relatively limited scale of the works proposed, the predicted 'low' development impacts, the legal protection afforded to the species and current guidance issued by Natural Resources Wales in relation to low impact works, it was deemed appropriate to recommend the implementation of non-licensed GCN/amphibian reasonable avoidance and habitat compensation measures in respect of the proposed development.

7.0 RECOMMENDED MITIGATION & HABITAT COMPENSATION MEASURES

- 7.1 CES have concluded that the GCN/amphibian reasonable avoidance and habitat compensation measures recommended in respect of the proposed development works are in accordance with TAN 5 and Natural Resources Wales guidance and that their successful implementation will effectively minimise the risk of breaching current legislation relating to GCN and will ensure that the favourable conservation status of any GCN population/s associated with the local area is maintained within its natural range (see Appendix H(i) – Habitat Compensation Plan & Appendix H(ii) – Amphibian Hibernacula Design).
- 7.2 The GCN/amphibian reasonable avoidance measures (RAM) to be implemented in respect of the proposed development are detailed below:
- 1) Prior to commencing works at the site a suitably experienced Consultant Ecologist should be appointed by the landowner/contractor to ensure that the RAM are successfully implemented.
 - 2) The RAM will be implemented as deemed appropriate by the Appointed Ecologist. A copy of this report and supporting materials including amphibian identification sheets and 'on call' Ecologist contact details should be kept on-site and available for inspection during works at the site.
 - 3) Prior to any works commencing at the site the landowner/contractor should undergo a site induction/tool box talk where the implications arising from the

presence of amphibians within the local area and the need to implement the RAM detailed in this report should be fully explained.

- 4) Where practicable, the duration/timing of the works and implementation of RAM should encompass the period when the majority of amphibians are considered likely to be at their breeding sites. Consequently the risk of amphibians being adversely impacted by the works will be minimised.
- 5) Prior to any vegetation clearance and/or ground disturbance works commencing at the site, the extent of works should be agreed by the appointed ecologist and the landowner/contractor.
- 6) All trees and hedgerows that are required to be retained at or neighbouring the development site should be protected from direct impact and severance or asphyxiation of root systems. Any ground disturbance works should only take place at a minimum distance from individual trees of branch spread or half-tree height, (whichever is the greater).
- 7) Any required tree and hedgerow protection measures should be implemented in accordance with current best practice recommendations and guidance.
- 8) Terrestrial habitat protection measures, including the use of exclusion zones, should be implemented as deemed appropriate. The appointed ecologist and the landowner/contractor should identify, agree and appropriately secure any required terrestrial habitat exclusion zones prior to the commencement of works at the site.
- 9) Vegetation removal/management may be used to discourage amphibians from entering areas of the working area that are to be subject to significant ground disturbance works.
- 10) Where vegetation removal/management works, with the potential to disturb nesting birds, including the required removal of trees and/or hedgerows at the site, cannot be scheduled outside of the bird nesting season (March to September) the appointed ecologist or their accredited agent should carry out a nesting bird survey at, and neighbouring, the proposed area of works.
- 11) A nesting bird survey should be undertaken immediately prior to the commencement of any significant vegetation/tree/shrub/bramble removal works at the site between March and September.
- 12) In the event that nesting birds are found to be present at the site, it will be necessary to formulate and implement a mitigation strategy (dependent on the bird species) to address their presence and prevent any disturbance to the nest site and a breach of wildlife legislation.
- 13) To minimise the risk to amphibians during vegetation removal/management works hand-held trimmers and/or brush-cutters or low ground impact machinery, i.e. quad/tractor and flail should be used. This will prevent ground compaction and any inadvertent damage to the areas of terrestrial habitat/vegetation at and adjacent the site that is to be retained.
- 14) In accordance with best practice recommendations all vegetation removal works should ideally be undertaken in stages and under the supervision of the appointed ecologist or their accredited agent to limit disturbance and allow animals to safely vacate the area.

- 15) The appointed ecologist and the landowner/contractor should ensure that no areas of aquatic or terrestrial habitat that is to be retained at/adjacent/neighbouring the site are inadvertently lost or damaged as a consequence of the works.
- 16) A search of potential places of refuge within the site should be carried out (where practicable to do so) by the appointed ecologist or their accredited agent immediately prior to the commencement of any significant ground disturbance works at the site in order to check for sheltering amphibians. The search must be undertaken under the terms/conditions of a current GCN class licence.
- 17) As deemed appropriate by the appointed ecologist, items of potential refuge should be removed from the working area immediately following the search to prevent amphibians from seeking shelter either beneath or within them.
- 18) The working area, together with any on-site storage/lay down areas, should be kept clear of debris and, where practicable; stored materials should be kept off the ground on stillages or pallets so as to prevent amphibians from seeking shelter or protection under/within them.
- 19) Where materials need to be delivered to the site for immediate use and/or temporary storage, directly on the ground, care should be taken not to cause unnecessary or inadvertent damage or disturbance to neighbouring terrestrial habitat.
- 20) Any skips or bins, if used, should ideally be placed on baulks of timber to keep them off the ground so as to prevent amphibians from seeking shelter under them.
- 21) In the event that spoil needs to be removed from the working area, it should be taken off-site at the earliest opportunity for appropriate disposal.
- 22) The appointed ecologist should advise the landowner/contractor to consider potential bio-security issues relating to the import and removal of material at the development site and the need to undertake a bio-security risk assessment and/or implement measures to prevent the inadvertent spread of non-native species, disease and biological pathogens.
- 23) Should any excavation/s be left open overnight for any reason, the excavation/s should be searched and checked for sheltering amphibians. The search should be carried out by the appointed ecologist or their accredited agent before works re-commence.
- 24) All open excavations should ideally incorporate soil 'ramps' at either end to allow amphibians and small mammals falling into them to escape.
- 25) Wherever practicable, excavations should be in-filled and made good to ground level at the earliest opportunity, so as to remove any hazard to amphibians.
- 26) Should spoil/materials be left on the ground overnight they may require searching for sheltering amphibians by the appointed ecologist or their accredited agent before they are moved.
- 27) Temporary Amphibian Fencing (TAF) may be used at the development site in order to discourage amphibians from entering the working area and taking

shelter within open excavations, disturbed ground and/or spoil mounds created as a consequence of the works.

- 28) In accordance with current best practice guidance, the use of TAF (upright and/or one-way) at the site will be at the discretion of the appointed ecologist and for a limited period until the works are complete.
- 29) TAF should be used as a short term measure only if it is considered likely to reduce the risk of injury to amphibians and where its use would have no significant impact on their ability to migrate/disperse and reach their breeding/shelter sites. The use of one-way TAF will allow amphibians and/or other wildlife i.e. small mammals to safely vacate the site into the wider area and will prevent them re-entering the working area.
- 30) TAF installation, inspections, maintenance and removal should be carried out by the appointed ecologist or their accredited agent in accordance with current Natural England and best practice guidance.
- 31) In respect of the proposed works, the short term installation of TAF (upright and/or one-way) at the site would, in the view of CES, not result in substantial interference to the dispersal routes of amphibians and would be unlikely to result in a breach of current legislation relating to GCN.
- 32) If used TAF should be inspected on a regular basis and maintained in good order. A detailed record should be kept of the TAF installation date, rationale for its use, the dates of the inspection visits, any repairs undertaken and the date of its removal.
- 33) Should amphibians (other than GCN) be found terrestrially at the site they will be captured by hand and may be held captive for a short period in secure, clean container/s lined with damp moss prior to their release into suitable cover along the proposed development site boundary as deemed appropriate by the appointed ecologist.
- 34) If more than one amphibian species is found (other than GCN) they should be kept in separate secure, clean container/s lined with damp moss to avoid injury and/or predation. Amphibian capture should be carried out by the appointed ecologist or their accredited agent.
- 35) In the event that ecological supervision is not present on-site when an amphibian is found terrestrially the landowner/contractor should place the amphibian/s into the secure, clean container/s lined with damp moss provided by the appointed ecologist and to be kept on-site for such an eventuality. The appointed ecologist or their accredited agent should be contacted immediately (using the 'on call' service, if appropriate) for advice on release and to ensure that the amphibian species is correctly identified/recorded.
- 36) The winter hibernation/dormancy period for amphibians is generally accepted to run from November to February/March, with hibernation/dormancy for individual amphibians usually commencing following the first hard winter frost. Consequently, any work which is likely to result in the disturbance of a potential amphibian hibernation site should not be scheduled or undertaken during this period or during any periods of cold or frosty weather outside of this period when amphibians are likely to be hibernating/dormant. Should such works be required the appointed ecologist will formulate and implement appropriate measures to minimise the risks to hibernating amphibians.

- 37) The GCN/amphibian RAM proposed do not allow GCN to be captured or removed from the development site and released at another location. In the unlikely event that GCN are found within the working area work will stop and the appointed ecologist and/or Natural Resources Wales immediately contacted for advice on how to proceed.
- 7.3 To compensate for the predicted low development impacts a total of three amphibian hibernacula will be constructed at suitable locations along the base of the hedgerow that is to be retained along the development sites western boundary. The hibernacula will be constructed in accordance with the EN GCN MG design (2 metres by 1 metre by 1 metre). The hibernacula works will be carried out by the appointed ecologist or their accredited agent and will provide GCN, invertebrates and small mammals such as hedgehogs and voles with additional shelter and foraging habitat.
- 7.4 Following careful consideration of the appraisal findings, the limited scale of the works proposed, the predicted 'low' development impacts, the legal protection afforded to the species and guidance issued by Natural Resources Wales in relation to low impact works, the need for future GCN/amphibian monitoring at the site was not considered appropriate or necessary.
- 7.6 Should future proposals be brought forward for further development works involving significant ground disturbance at the Hugmore Lane site it is recommended that additional GCN appraisal/survey effort is undertaken, prior to commencement of such works, in order to assess the predicted development effect and scale of impact on GCN/amphibians, consider legal and licensing implications and enable appropriate and proportionate GCN/amphibian mitigation and habitat compensation measures to be formulated and implemented.

8.0 CONCLUSIONS

- 8.1 Based on the appraisal findings, the terrestrial range of the species and few terrestrial shelter opportunities within the area of works it was concluded that GCN are reasonably unlikely to be present or dependent, in any way, on the habitat to be impacted by the proposed development.

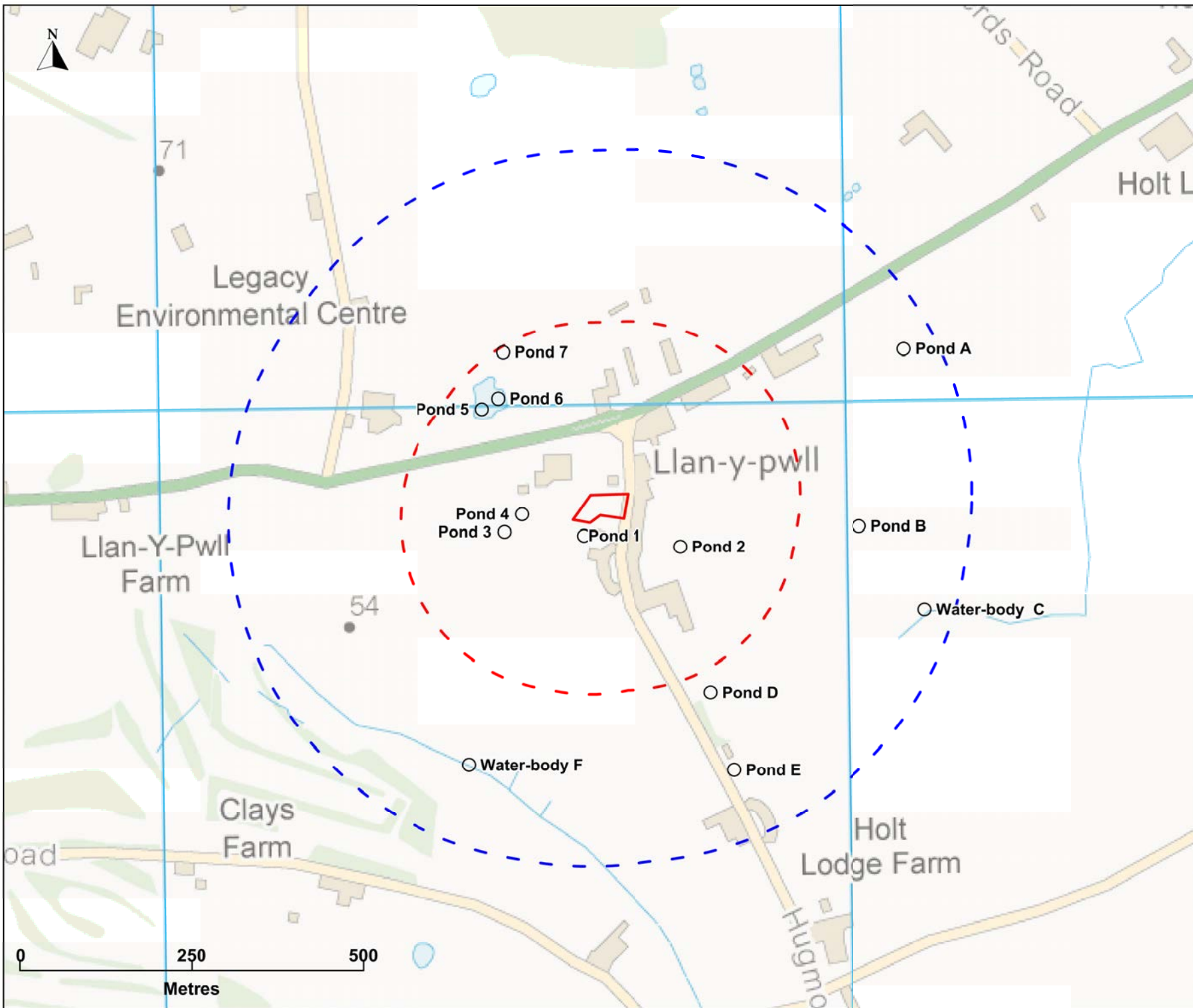
- 8.2 The proposed development is considered unlikely to result in a significant negative impact on the favourable conservation status of any known GCN population/s or result in a breach of current wildlife legislation and Natural Resources Wales guidance relating to the species.
- 8.3 However, the unmitigated commencement of development at the site could potentially have a negative impact on individual GCN and/or other amphibians in the event that they are present or inadvertently stray into the working area following the commencement of development and take cover under/within temporary shelter habitat incidentally created as a consequence of the works, i.e. disturbed ground, excavations, spoil mounds and/or stored materials.
- 8.4 Following careful consideration of the appraisal findings, the relatively limited scale of the works proposed, the predicted 'low' development impacts, the legal protection afforded to the species and current guidance issued by Natural Resources Wales in relation to low impact works, it was deemed appropriate to recommend the implementation of non-licensed GCN/amphibian reasonable avoidance and habitat compensation measures in respect of the proposed development.
- 8.5 The status of GCN and other amphibians at the site and local level has been established and the predicted development effect and scale of impact have been assessed and appropriate mitigation and habitat compensation measures formulated. It should therefore be possible for the Local Planning Authority to make an informed decision as to whether it is possible to discharge their responsibilities under current planning guidance, in respect of GCN and biodiversity, via the implementation of planning condition/s when determining the planning application submitted in respect of the proposed development.

9.0 REFERENCES

- *English Nature (2001) Great Crested Newt Mitigation Guidelines. Peterborough: English Nature.*
- *Grundy, J. (2007) Newts in your Pond and Garden. Buxton Press Ltd.*
- *Oldham et al. (2000) Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10(4), 143-155.*
- *Technical Advice Note 5 (TAN 5) Nature Conservation and Planning.*

Appendices

Appendix A(i): Site Location Map (OS)



Legend

- Proposed development site
- 250m radius
- 500m radius

Client:	Dolphin Land & Development Consultancy Ltd.	
Project:	Long Meadow, Hugmore Lane, Llanypwll, Wrexham	
Map:	Site Location Map (OS)	
CES Ref:	CES/1157/11-14/NF	
Scale:	Not to scale	
Date/Rev:	November 2014	0

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Malpas
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SY14 8EF

Appendix A(ii): Site Location Map (Aerial)



Legend

Proposed development site

250m radius

500m radius

Client:	Dolphin Land & Development Consultancy Ltd	
Project:	Long Meadow, Hugmore Lane, Llanypwll, Wrexham	
Map:	Site Location Map (Aerial)	
CES Ref:	CES/1157/11-14/NF	
Scale:	Not to scale	
Date/Rev:	November 2014	0

CES Ecology
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Bickley
Malpas
Cheshire
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consultant ecologists

Appendix B: Principal Ecologist's Experience

Relevant Experience and Qualifications

James Grundy (ACIEEM) is the Principal Ecologist and Consultancy Manager at CES Ecology. He leads a dedicated team of motivated, professional and highly experienced ecologists and field team workers, with the focus on the delivery of development led great crested newt (GCN) mitigation and protected species projects across Northern England and North Wales. He holds a Natural England GCN survey class licence WML-CL08 Reg No CLS02102, a personal licence to take an possess GCN for Science & Education (licence no: 2014/SCI/0176) and is the named Appointed Ecologist on numerous development related Natural England GCN mitigation licences. He also holds a Natural Resources Wales GCN survey licence (ref no: 57882:OTH:SA:2014) a personal licence to take an possess GCN for Science & Education (ref: 57881:OTH:SA:2014) and a GCN development licence.

James has been involved with a large number of GCN and amphibian related projects in various capacities and roles since 1980. He is fully conversant with current wildlife legislation relating to GCN and other protected species and the responsibilities of Local Planning Authorities in respect of protected species and biodiversity under current planning guidance. As a professional ecologist and Associate Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) he adheres to their Code of Professional Conduct. He regularly employs the methodologies detailed in the English Nature Great Crested Newt Mitigation Guidelines, 2001 (EN GCN MG).

He has extensive experience of the Local Authority planning process and the Natural England and Natural Resources Wales GCN/protected species licensing systems and has developed good working relationships with Local Authority Officers and Natural England and Natural Resources Wales protected species licensing advisors. He has acted as expert witness (Appellant) and produced 'proof of evidence' in respect of GCN/protected species at planning appeals.

He has acted as licensee and/or appointed ecologist on Natural England and Natural Resources Wales GCN development/mitigation and site specific conservation licenses since 2007 and is currently the named Licensee or Appointed Ecologist on 12 'live' GCN mitigation licensed development projects including several large scale, phased, residential and commercial developments including; The Stapeley Water Gardens Redevelopment Project and The Chester Zoo 'Islands' Development Project.

Where deemed appropriate, and in accordance with current Natural England and Natural Resources Wales GCN/protected species guidelines and standing advice, he takes a considered and proportionate approach to the formulation and implementation of GCN/protected species mitigation measures. He has successfully delivered to date over 60 non-licensed (Reasonable Avoidance Measures) GCN mitigation strategies in respect of development related projects.

Other GCN related experience:

Publications:

- Author: Newts in your pond and garden (2007);
- Author: Guide to the Newt Year (2008).

Accredited contributor:

- Britain's Reptiles and Amphibians (2009);
- The Crested Newt (2011);
- Amphibian and Reptile Conservation - GCN guidance leaflet, presenting land managers in England and Scotland with a range of options to benefit GCN (2011).

Media:

- Appearances on national and regional television including The Planners (2012) 'Tonight with Trevor McDonald' (2010) relating to GCN legislation, development and mitigation;
- Several interviews on local radio relating to GCN;
- Numerous GCN articles published in local, regional papers and magazines.

Professional:

- Contributor of resources including preparation/delivery of a number of annual GCN and amphibian training courses to volunteer/professional conservation workers in England and Wales.
- Involved with the 2008 Chytridiomycosis amphibian survey organised by Natural England, and Natural Resources Wales (formally CCW) and the Institute of Zoology;
- Contributor to the Cheshire Ponds group, an initiative supported by Natural England and Natural Resources Wales, to map and count ponds across Cheshire, to provide base line pond status data.

Transferable Skills & Qualifications & Courses/Workshops Attended: (2000 to 2013):

- Nationally recognised management qualifications;
- Tutor qualifications;
- Magistrate training courses;
- Former sitting Magistrate
- Various amphibian & reptile training courses and workshops;
- Lesser silver water beetle training course;
- Various protected species workshops;
- Various aquatic and terrestrial habitat management, creation, enhancement training courses and workshops;
- Non-native and invasive species workshops;
- Bio-security training course and workshops.

GCN Mitigation Licenses under which James Grundy is currently the licensee and/or appointed ecologist:

- **EPSM2009-1381G Lynstock Way, Horwich - Phase 1**
- **EPSM2009-1384E Lynstock Way - Phase 2**
- **EPSM2009 871 I Parkside Units 1-5 (ex WRF)**
- **EPSM2010-1988N Parkside, Chester Business Park**
- **EPSM2012-4645B Wood Farm, Ellesmere Port**
- **EPSM2008-289M Cheshire Oaks (Phases 6 & 8)**
- **EPSM2012-4404B Essential Cuisine, Winsford**
- **EPSM2012-4440B Barlow Drive, Winsford**
- **EPSM2013-5846 B Inveresk Road, Tilston**
- **EPSM2009-1553G Stapeley Water Gardens**
- **EPSM2013-5397C Chester Zoo**
- **54338:OTH:EPS:2013 Bridge Farm, Fagl Lane, Hope, Wrexham**

Appendix C: GCN & Protected Species Legislation

Species/Habitat	Protected by:	UK BAP
Common frog	Provision 5 of Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)	No
Common toad	Provision 5 of Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended) Section 41 of the <i>Natural Environment and Rural Communities (NERC) Act</i> , 2006	Yes
Great crested newt	Regulation 41 of <i>The Conservation of Habitats and Species (Amendment) Regulations</i> , 2012 Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended) Section 41 of the <i>Natural Environment and Rural Communities (NERC) Act</i> , 2006	Yes
Smooth newt	Provision 5 of Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)	No

The Conservation of Habitats and Species Regulations, 2010

European protected species are listed on Schedule 2 of the *Conservation of Habitats and Species Regulations* 2010. Those species listed on Schedule 2 are protected under Regulation 41, which refers to the protection of wild animals of a European Protected Species. The following is a summary of the offences listed under Regulation 41, however, the *Conservation Regulations* should always be referred to for the exact and current wording:

Under Regulation 41 of the *Conservation of Habitats and Species Regulations*, 2010 it is an offence to –

- deliberately capture or kill a wild animal of a European protected species;
- deliberately disturb wild animals, in particular any disturbance which is likely:
 - o to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or
 - o to impair their ability, in the case of animals of a hibernating or migratory species, to hibernate or migrate;
 - o to affect significantly the local distribution or abundance of the species to which they belong
- deliberately take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.
- keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a European protected species, or any part of, or anything derived from, such an animal.

Wildlife and Countryside Act, 1981 (as amended)

British protected species of animal are listed on Schedule 5 of the *Wildlife and Countryside Act*, 1981 (as amended). Those species listed on Schedule 5 are protected under Part 1, Section 9, which refers to the protection of certain wild animals. The following is a summary of the

offences listed under Section 9; however the Act should always be referred to for the exact and current wording:

Under Section 9 of the *Wildlife and Countryside Act*, 1981 (as amended) if any person –

- intentionally kills, injures or takes any wild animal included in Schedule 5;
- has in his possession or control any live or dead wild animal included in Schedule 5 or any part of, or anything derived from such an animal;
- intentionally or recklessly damages or destroys, or obstructs access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection;
- disturbs any such animal included in Schedule 5 while it is occupying a structure or place which it uses for that purpose;
- sells, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead wild animal included in Schedule 5, or any part of, or anything derived from, such an animal; or,
- publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things, he shall be guilty of an offence.

This legislation applies to all life stages of GCN. Heavy fines (up to £5,000 per incident) can be imposed for **each** offence, and a prison sentence of up to 6 months for each offence can be given to any person found guilty of an offence. In certain circumstances, any machine, tool or implement involved in an illegal act can also be seized.

Natural England (NE) issue licences for the disturbance of European Protected Species including GCN, certain criteria must be met before a licence can be issued to enable otherwise prohibited works to proceed. Such criteria may be subject to change without notice. For further information please visit www.naturalengland.org.uk

The Natural Environment and Rural Communities (NERC) Act, 2006 (as amended)

The following is a summary of the *Natural Environment and Rural Communities (NERC)*, Act, 2006 (as amended), the *NERC Act* itself should be referred to for the exact and current wording:

- Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity;
- In complying with the above, a Minister of the Crown, government department or the National Assembly for Wales must in particular have regard to the United Nations Environmental Programme Convention on Biological Diversity of 1992;
- Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat.

Appendix D: CES Hugmore Lane Great Crested Newt Survey Report 2012

PROPOSED DEVELOPMENT
AT LONG MEADOWS, HUGMORE LANE,
WREXHAM - GREAT CRESTED NEWT
SURVEY & REASONABLE AVOIDANCE
MEASURES METHOD STATEMENT
(2012)



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**PROPOSED DEVELOPMENT
AT LONG MEADOWS, HUGMORE LANE,
WREXHAM- GREAT CRESTED NEWT
SURVEY & REASONABLE AVOIDANCE
MEASURES METHOD STATEMENT
(2012)**

**June 2012
12/JG**

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Appendix 5– 'Newt Gate' Design

A EXECUTIVE SUMMARY

Cheshire Ecological Services Ltd. was commissioned to produce a non-licensed great crested newt (GCN) reasonable avoidance measures method statement in connection with proposed development at Long Meadows, Hugmore Lane, Wrexham. The proposed development footprint currently comprises hard standing, existing garage building and garden (flower beds). The development will involve the demolition of the existing garage building, ground works and construction of a detached residential dwelling at the site.

The proposed development will be undertaken adjacent a small ornamental pond set among the extensive landscaped garden at Long Meadows. The pond was subject to a GCN presence/likely absence aquatic survey by CES in 2012. The presence of smooth newts and fish was confirmed in the pond during the survey. The survey established likely absence of GCN. However, GCN are known to be present within the wider area and CES are aware that licensed GCN mitigation works have been implemented as part of major road construction works within approximately 250 metres of the proposed development sites western boundary.

The development will result in some temporary disturbance to, and the permanent loss of, a small area of potential GCN terrestrial shelter, foraging and dispersal habitat within the flower beds (0.01ha). The remainder of the development footprint comprising garage building and hard standing (0.02ha) has been assessed to offer GCN with little or no suitable habitat. No ponds or water bodies will be lost or adversely impacted as a consequence of the development.

It is considered unlikely that any GCN population/s associated with the wider area would be, in any way, dependant on the development site or significantly/adversely impacted by the works. However, given the known terrestrial range of individual GCN and the availability of suitable of terrestrial habitat within the garden at Long Meadows and connectivity to the wider area it was considered possible that individual or low numbers of GCN could potentially be present at and/or stray onto the development site following the commencement of works.

It is therefore considered appropriate to proceed with the proposed development (subject to the grant of planning permission) without a Welsh Assembly Government (WAG) GCN development licence using reasonable avoidance measures.

The use of RAM will effectively minimise the risk of injury and/or disturbance to individual GCN and the risk of breaching current legislation relating to the species and its terrestrial habitat. The RAM will also protect the smooth newt population breeding within the ornamental pond adjacent the development.

In this instance, following consultation with Countryside Council for Wales, it is proposed to provide appropriate off-site GCN habitat compensation via a payment of £2,500 to Building Wildlife Trust. These monies will be used to help fund appropriate and strategically targeted GCN habitat enhancement works within the region and will help to ensure that the favourable conservation status of the species is maintained within its natural range.

The RAM will be implemented, as deemed appropriate by the appointed ecologist, and will ensure that the GCN population associated with the wider area is maintained at a favourable conservation status within its natural range. This method statement covers the development works proposed and details the RAM and compensation measures to be implemented.

PROPOSED DEVELOPMENT AT LONG MEADOWS HUGMORE LANE **WREXHAM - GREAT CRESTED NEWT SURVEY &** **REASONABLE AVOIDANCE MEASURES METHOD STATEMENT**

B INTRODUCTION

B1 Background to activity/development

Cheshire Ecological Services (CES) Ltd. was commissioned to produce a non-licensed great crested newt (GCN) reasonable avoidance measures method statement in connection with proposed development at Long Meadows, Hugmore Lane, Wrexham. The proposed development footprint currently comprises hard standing, existing garage building and garden (flower beds). The development will involve the demolition of the existing garage building, ground works and construction of a detached residential dwelling at the site.

The proposed development will be undertaken adjacent a small ornamental pond set among the extensive landscaped garden at Long Meadows. The pond was subject to a GCN presence/likely absence aquatic survey by CES in 2012. The presence of smooth newts and fish was confirmed in the pond during the survey period. The survey established likely absence of GCN. However, GCN are known to be present within the wider area and CES are aware that licensed GCN mitigation works have been implemented as part of major road construction works within approximately 250 metres of the proposed development sites western boundary.

Given the known terrestrial range of individual GCN (usually ≤ 250 metres, occasionally ≥ 500 metres, rarely >1 kilometre from their breeding site) and the availability of suitable of terrestrial habitat within the garden at Long Meadows (neighbouring the development site) and connectivity to the wider area it was considered possible that individual or low numbers of GCN could potentially be present at and/or stray onto the development site following the commencement of works.

At the site level the proposed development will result in the loss and temporary disturbance of a small area of potential GCN terrestrial habitat. No ponds or water bodies will be lost or adversely impacted by the development. It has been concluded that the limited loss and disturbance of potential GCN terrestrial habitat resulting from the development will not have any significant impact on the favourable conservation status of the GCN population known to be associated with the wider area.

It is therefore proposed to proceed with the development using Reasonable Avoidance Measures (RAM) and provide appropriate GCN habitat compensation via a payment of £2,500 to Building Wildlife Trust to fund off-site GCN habitat enhancement works. The RAM will be implemented, as deemed appropriate, by the appointed ecologist. James Grundy AIEEM senior amphibian ecologist at CES and Enfys has been commissioned to undertake the role of appointed ecologist.

The mitigation and compensation strategy proposed will ensure that the GCN population known to be associated with the wider area is maintained at a favourable conservation status within its natural range.

The implementation of RAM will also minimise the risk of breaching current wildlife legislation relating to GCN and their terrestrial shelter habitat.

B2 Full details of proposed works on site that are to be covered by Reasonable Avoidance Measures

The development site extends to approximately 0.03 hectares and includes the new dwelling footprint, working easement and storage/lay-down areas for equipment/materials required to facilitate the development. The area currently comprises hard standing, existing garage building and garden (flower beds).

The proposed development will result in some temporary disturbance to, and the permanent loss of, a small area of potential GCN terrestrial shelter, foraging and dispersal habitat within the flower beds (0.01ha). The remainder of the development footprint comprising garage building and hard standing (0.02ha) has been assessed to offer GCN with little or no suitable habitat. The ornamental pond adjacent the development site will not be lost or adversely impacted as a consequence of the development.

It is considered unlikely that any GCN population/s associated with the site and/or wider area would be, in any way, dependant on the development site or significantly/adversely impacted by the works.

It has been concluded that the disturbance and limited loss of potential GCN terrestrial habitat resulting from these works will not have any significant impact on the favourable conservation status of the GCN population known to be associated with the wider area.

It is therefore considered appropriate to proceed with the proposed development (subject to the grant of planning permission) without a Welsh Assembly Government (WAG) GCN development licence using the reasonable avoidance measures detailed below.

Reasonable Avoidance Measures

The works to be covered by RAM at the site include:

- Terrestrial refugia hand search;
- Destruction/removal of flower bed/s;
- Installation of temporary one-way amphibian fencing (TAF);
- Demolition of the existing garage building;
- Ground clearance;
- Construction of the new dwelling;
- Connection to services; and,
- Post development landscaping works.

The use of RAM will effectively minimise the risk of injury and/or disturbance to individual GCN and the risk of breaching current legislation relating to the species and its terrestrial habitat. The RAM will also protect the smooth newt population breeding within the ornamental pond adjacent the development.

The RAM to be implemented include:

1. Prior to development commencing a thorough hand search of any suitable places of amphibian refuge within the development site will be carried out by the appointed ecologist or their accredited agent (under personal survey licence No-39169: OTH: SA: 2012). Any areas of longer vegetation may be cut back to increase visibility for the hand search.
2. All items of potential refuge will be moved off the development site immediately following the hand search to prevent GCN or other amphibians from seeking shelter within or beneath them.
3. The development site boundary will then be fenced with one-way TAF by CES and a sufficient period of time will be allowed to elapse before any development commences onsite. This period will encompass 15 suitable nights between February and October. A suitable night is when weather conditions indicate that amphibians would be active above ground. For example air temperature at dusk >5 degrees Celsius, recent rainfall and no or light winds. This strategy will effectively allow any amphibians potentially present within the development footprint to safely leave the site. Any night not meeting these criteria will be classed as unsuitable and will not contribute towards the 15 night period.
4. A log of weather conditions at the site will be kept by the appointed ecologist commencing from the date of TAF installation until such time as development commences onsite.
5. When the 15 suitable nights criteria has been met (to be determined by the appointed ecologist). The contractor/s commissioned to carry out the demolition and/or the new build will attend a site induction (toolbox talk) where the RAM strategy will be fully explained by the appointed ecologist.
6. A copy of this method statement will be supplied to the contractor/s for reference and kept on-site for the duration of the development.
7. Following the contractor/s site induction, a final search of the development site (possibly involving the use of machinery) will be carried out by the appointed ecologist or their accredited agent.
8. The one-way TAF installed around the development site boundary will prevent amphibians straying onto the development site and will remain in place and maintained in good order by CES until the development (including any required landscaping) is complete.
9. Following commencement of development the creation/presence on site of additional potential GCN shelter habitat i.e. brick rubble, spoil mounds, open excavations and building materials is likely to make the site more attractive to GCN and other amphibians. The operation of a clean site policy will reduce the risks to any amphibians should they inadvertently gain access to the development site following the commencement of development.
10. Contractor site access will be via an amphibian proof gate incorporated into the one-way TAF and the site security fencing. The gate will be closed and secured by the contractor before nightfall each day.

11. The development site, together with any storage areas, will be kept clear of debris. Any stored materials should be kept off the ground on stillages or pallets so as to prevent GCN or other amphibians inadvertently straying onto the site from seeking shelter or protection within them. Likewise, any skips or bins should be stored on baulks of timber to keep them off the ground.
12. Brick rubble and spoil resulting from the development will, where practicable, be removed from the site on a daily basis and disposed off appropriately.
13. Should any excavation/s be required outside of the development site, for example to connect to services, the area will be carefully searched by the appointed ecologist or their accredited agent beforehand and the excavation works supervised.
14. Any open excavations required outside the area enclosed by TAF should either be backfilled and compacted or covered by plywood sheeting (or similar) at the end of each working day. The edges of these sheets should be covered with a thick layer of pea gravel, coarse sand or similar to prevent GCN or other amphibians from seeking shelter beneath them. Should any excavations be required to remain open for any extended period, TAF may be installed around the excavation until it has been infilled.
15. Should any excavations be left open to amphibian access overnight, for any reason, the excavation and any associated spoil mound/s must be searched and checked for amphibians under the supervision of the appointed ecologist or their accredited agent before works proceed.
16. Excavations should be in-filled and made good to ground level at the earliest opportunity to remove the hazard they pose to amphibians and wildlife.
17. Any works which may have the potential to disturb GCN or other amphibians such as hand searches, demolition and ground works, and TAF installation/removal will, not be scheduled/undertaken during periods of cold or frosty weather when amphibians are likely to be torpid/dormant.
18. In the event that a GCN is found and a resting place is damaged during the initial hand search or subsequent development it will, where practicable, be reinstated and the animal carefully reintroduced into the shelter. All disturbance works at the site will stop and the appointed ecologist and/or WAG/Countryside Council for Wales (CCW) will be immediately contacted for advice.

The RAM proposed **do not** allow GCN to be removed from the development site and released at another location. The use of TAF will be at the discretion of the appointed ecologist and for limited periods. TAF will be used only if it is considered likely to reduce the risk of injury to GCN/amphibians and will have no significant impact on their ability to disperse and reach their breeding sites.

C SURVEY AND SITE ASSESSMENT

C1 Pre-existing information on GCN at survey site

Historic information available to CES and received from Cofnod and CCW has reliably established that GCN occur at several sites, including Wrexham Industrial Estate, within one kilometre of the proposed development site (refer to Appendix 1 – Wrexham Industrial Estate pond location map).

CES are aware that WAG licensed GCN mitigation works are currently being implemented by another ecological consultancy in relation to major road construction works within approximately 250 metres of the proposed development sites western boundary.

C2 Status of GCN in the regional/local area

GCN are known to be relatively widespread throughout many parts of Northeast Wales. The region is known to support a number of exceptional populations and meta-populations of GCN, due in part to high pond densities within the more lowland areas, particularly around the counties of Flintshire and Wrexham. Despite the relatively widespread status of GCN within the region it should be noted that the presence of busy roads, built environment, new development and/or inappropriate land management has restricted terrestrial connectivity. This in turn has resulted in the fragmentation of GCN habitat, the isolation of GCN populations and their subsequent decline.

It has been established, by GCN surveys carried out by various organisations over a number of years, that important meta-populations of GCN are associated with the local area. Given the survey data available it is considered reasonable to conclude that GCN are likely to be present terrestrially within 250 metres of the proposed development site.

C3 Objectives of the survey

The development will be undertaken adjacent a small ornamental pond set among the extensive landscaped garden neighbouring the development site. The objective of the CES 2012 GCN aquatic survey was to establish the presence/likely absence of GCN within the ornamental pond and the suitability of terrestrial habitats at the site to support the species.

It was considered unlikely that any GCN population/s associated with ponds identified as extant in the wider area would be dependant, in any way, on the development site or adversely impacted by the proposed works.

C4 Scaled map/plan of survey area refer to Appendix 2a – Site Location OS Map and 2b – Site Location Aerial Photograph.

In this instance, given the localised impact of the development and the availability of historic GCN survey data for the wider area, it was concluded that expending additional GCN survey effort in respect of ponds A , B , C, D, E and F located within approximately 250 metres of development site would not be appropriate or proportionate.

C5 Site/Habitat description (refer to Appendix 3 - photographic plates)

The proposed development site extends to approximately 0.03ha and currently comprises hard standing, existing garage building and garden (flower beds). No ponds or water bodies are present within the site.

A small, butyl lined, ornamental pond is located adjacent the development site within the extensive landscaped garden at Long Meadows. The pond is stocked with goldfish and a poor diversity of aquatic invertebrates.

Within the wider area the site is bounded to the north by a garden centre with the A534 beyond. Hugmore Lane forms the eastern boundary. The southern and western boundaries comprise neighbouring gardens and open farmland.

C6 Site Appraisal

A site appraisal was undertaken by James Grundy AIEEM on 3rd May 2012. James holds a personal CCW survey licence (No-39169: OTH: SA: 2012) and is fully conversant with the English Nature Great Crested Newt Mitigation Guidelines and current legislation relating to the species. He has extensive GCN mitigation and survey experience gained on projects across Cheshire, Northwest England and Northeast Wales over the past thirty years. He is the appointed ecologist on several WAG and Natural England GCN mitigation licences and has formulated and successfully delivered numerous non-licensed RAM projects.

The aim of the 2012 site appraisal was to establish:

- The number of ponds associated with the proposed development site potentially offering GCN with suitable aquatic habitat;
- The extent of terrestrial habitat within the development site potentially offering GCN with shelter habitat, foraging and dispersal opportunities;
- The likely presence/absence of GCN at the site level and within the wider area;
- The requirement for and scope of any additional GCN survey effort;
- The predicted development effect and scale of impact;
- The likely impact of the proposed development on the favourable conservation status of any GCN population potentially associated with the site and/or wider area; and,
- Appropriate mitigation and compensation measures to adequately redress the predicted development effect and impact on any GCN potentially associated with the site and/or wider area.

Following the site appraisal it was deemed appropriate to recommend that a GCN aquatic survey be undertaken at the ornamental pond adjacent the proposed development site.

It was considered that expending additional GCN survey effort, in respect of ponds identified as extant within approximately 250 metres of the site would not be appropriate or proportionate given the localised scale and predicted low impact of the development and the availability of historic data relating to GCN presence within the wider area.

C7 GCN Aquatic Survey Results

Details relating to the GCN aquatic survey undertaken at the ornamental pond by CES during 2012 in relation to the proposed development at the site including the methods used and the results obtained are detailed below in Tables 1 and 2. All four survey visits were carried out by Faye Durkin (CCW personal survey licence number: 25999:OTH:SA:2010).

Table:1

Visit	Date (DD/MM/YYYY)	Air temp (°C)
1	11/5/2012	6
2	16/5/2012	5
3	21/5/2012	10
4	6/6/2012	8

Table: 2

Visit/ Method	Great Crested Newt						Smooth Newt						Veg. Cover (0-5)	Turbidity (0-5)
	F	M	S/ A	U/ I	Total	Eggs Found	F	M	S/ A	U/ I	Total	Eggs Found		
1	T	0	0	0	0	No	6	4	0	0	10	Yes	1	1
	N	0	0	0	0		0	0	0	0	0			
2	T	0	0	0	0	No	6	4	0	0	10	Yes	1	1
	N	0	0	0	0		0	0	0	0	0			
3	T	0	0	0	0	No	7	5	0	0	12	Yes	1	1
	N	0	0	0	0		0	0	0	0	0			
4	T	0	0	0	0	No	1	1	0	0	2	Yes	1	2
	N	0	0	0	0		0	0	0	0	0			

Key: Methods: Torch survey (T) Netting (N) (limited to avoid disturbance) and Egg Search.

Sex: F-Female; M-Male; S/A-Sub-Adult; U/I – Unable to identify sex of animal.

Vegetation cover: 0 = no vegetation obscuring survey 5 = vegetation completely obscuring survey.

Turbidity: 0 = water completely clear 5 = water very turbid

NB: The development footprint and the extensive landscaped garden was torch searched on survey visits 1 and 4 as the ground was still wet following heavy rainfall during the day. No GCN or other amphibians were observed terrestrially during the survey period.

The ornamental pond was assessed using the GCN Habitat Suitability Index (HSI) and scored 0.53 indicating 'below average' suitability.

Terrestrial habitat within the extensive landscaped gardens neighbouring the ornamental pond was assessed as good and appeared to provided GCN/amphibians with shelter, foraging and dispersal opportunities with connectivity to the wider area.

C8 Interpretation and evaluation of Survey Results

The survey results obtained during the CES 2012 GCN aquatic survey have reliably established likely GCN absence and confirmed that the ornamental pond adjacent the development site is not a GCN breeding site.

The survey has established the presence of breeding population of smooth newts within the ornamental pond.

However, given the known terrestrial range of individual GCN (usually ≤ 250 metres, occasionally ≥ 500 metres, rarely >1 kilometre from their breeding site) and that the species occurs at several sites, within one kilometre of the development site, and that WAG licensed GCN mitigation works are currently being implemented within approximately 250 metres of the sites western boundary it is considered reasonable to conclude that individual or low numbers of GCN could potentially be present and/or stray onto the development site following the commencement of works. This conclusion is supported by the availability of good GCN terrestrial shelter, foraging and dispersal habitat within the extensive landscaped garden at Long Meadows and habitat connectivity (albeit relatively limited) to the wider area.

At the site level the proposed development will result in the loss and temporary disturbance of a small area of potential GCN terrestrial habitat. No ponds or water bodies will be lost or adversely impacted by the development. It has been concluded that the limited loss and disturbance of potential GCN terrestrial habitat resulting from the development will not have any significant impact on the favourable conservation status of the GCN population/s known to be associated with the wider area.

D IMPACT ASSESSMENT

D1 Short term impacts: disturbance

The development site extends to approximately 0.03 hectares and includes the new dwelling footprint, working easement and storage/lay-down areas for equipment/materials required to facilitate the development. The area currently comprises hard standing, existing garage building and garden (flower beds).

The proposed development will result in some temporary disturbance to, and the permanent loss of, a small area of potential GCN terrestrial shelter, foraging and dispersal habitat within the flower beds (0.01ha). The remainder of the development footprint comprising garage building and hard standing (0.02ha) has been assessed to offer GCN with little or no suitable habitat. The ornamental pond adjacent the site will not be lost or adversely impacted as a consequence of the development.

It has been concluded that the localised and limited disturbance of potential GCN terrestrial habitat at the site will not have any significant impact on the favourable conservation status of the GCN population known to be associated with the wider area. The short term development impacts have therefore been assessed as low.

D2 Long-term impacts: site modification

The proposed development will result in the replacement of the existing garage building and associated areas of hard standing and flower beds with a new detached dwelling. The ornamental pond adjacent the development site will be retained. It has been concluded that new dwelling will not have any significant long term impact on the favourable conservation status of the GCN

population/s known to be associated with the wider area. Consequently, the long-term impacts of site modification are not considered to be significant and have been assessed as low.

D3 Long-term impacts: site loss

After reviewing the Great Crested Newt Mitigation Guidelines the predicted development effect and scale of impact was assessed. It has been established that the proposed development will result in the temporary disturbance, partial destruction and modified management of intermediate and distant terrestrial habitat. The main long-term effect likely to arise will be:

- o Partial destruction of habitat

The impact of the destruction of 0.01ha of potential GCN terrestrial habitat at the site (flower beds) is not considered to be significant. It has been concluded that the development will not have any significant long term impact on the favourable conservation status of the GCN population/s known to be associated with the wider area. It is not considered that there would be any likely discernable impact upon any other, different GCN sub-populations at a local, regional or national level. The long term impacts of site loss have therefore been assessed as low.

D4 Long term impacts: fragmentation and isolation

The development, when complete, is considered unlikely to increase existing fragmentation of terrestrial GCN habitat at or adjacent the site. The development will not prevent GCN reaching their breeding ponds or result in the isolation of any GCN population/s within the wider area.

D5 Post - development interference impacts

At the site level post development impacts upon the GCN population/s associated with the wider area are concluded unlikely to change from their current levels. The area to be lost to the development footprint will not significantly reduce the amount of terrestrial habitat available to GCN. The post development impacts have therefore been assessed as low.

D6 Predicted scale of impact

Using the Great Crested Newt Mitigation Guidelines, the overall scale of site level impacts has been reliably assessed as low.

At the site level, the unmitigated commencement of the proposed development could potentially result in the injury/death of individual GCN, and will result in the limited loss (0.01ha) of terrestrial GCN shelter, foraging and dispersal habitat. However, the impacts are not considered to be significant and by implementing appropriate RAM these impacts will be minimised.

No impacts on the favourable conservation status of any GCN population/s within the wider area are considered likely to arise from the proposed development.

E LAND OWNERSHIP – MITIGATION SITE

In this instance, following consultation with CCW, it is proposed to proceed with the development using RAM and provide appropriate GCN habitat compensation off site via a payment of £2,500 to Building Wildlife Trust. These monies will be used to help fund appropriate and strategically targeted GCN habitat enhancement works within the wider region and will help to ensure that the favourable conservation status of the species is maintained within its natural range.

NB: The payment will be made to Building Wildlife Trust by the developer prior to the commencement of development at the site.

F REFERENCES

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

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

DELIVERY INFORMATION

A REASONABLE AVOIDANCE MEASURES

A1 Summary of Reasonable Avoidance Measures

The development will result in the loss/disturbance of the existing garage building associated hard standing and flower beds (0.03ha). In this instance, due to the small area of potential GCN habitat to be impacted it is considered that the RAM proposed will adequately and proportionately redress the assessed low level impacts of the development on GCN.

The RAM detailed in this method statement will effectively discourage GCN from straying onto the development site and hand searches of potential shelter sites, within the development footprint prior to the commencement of development, will significantly reduce the risk of inadvertently disturbing GCN and/or their resting places.

All works involving the implementation of RAM including refugia hand searches and TAF installation/removal will be undertaken and/or supervised by the appointed ecologist or their accredited agent.

In the unlikely event that GCN are found at the proposed development site during implementation of the RAM or at any stage of the works then all works will stop and WAG/CCW contacted for advice on how to proceed.

B WORKS TO BE UNDERTAKEN BY THE ECOLOGIST

B.1 Receptor site modification/enhancement/creation

Under the RAM proposed and detailed in this method statement there is no intention to capture and move GCN from the development site and release them within a designated receptor site.

B.2 Capture and exclusion (refer to Appendix 4 - Indicative TAF layout and Appendix 5 – Newt 'Gate' Design)

Under the RAM proposed and detailed in this method statement there is no intention to capture and move GCN from the development site and release them elsewhere.

The development site boundary will be fenced with one-way TAF by CES and a period of 15 suitable nights will be allowed to elapse before any development commences onsite. This period will encompass 15 nights between February and October when weather conditions indicate that amphibians would be active above ground. For example air temperature at dusk >5 degrees Celsius, recent rainfall and no or light winds. This strategy will effectively allow any amphibians and small mammals potentially present within the development footprint to safely leave the site.

When the contractor takes control of the site they will ensure that a daily log is kept to verify that the fencing is checked on a daily basis and that any damage/repair actions have been recorded. Temporary 'emergency' fence repairs may be carried out by the contractor, however, such repairs must be

reported to the appointed ecologist so they may be inspected and a remedial repair carried out if necessary.

The one-way TAF installed around the development site boundary will prevent amphibians straying onto the development site and will remain in place and maintained in good order by CES until the development (including any required landscaping) is complete.

With the implementation of the RAM detailed in this method statement it is considered that all reasonable measures would have been taken to:

- Locate GCN should they be present within the development site;
- Prevent GCN straying into the working area;
- Reduce the impact of the development on GCN;
- Maintain the favourable conservation status of the GCN population/s known to be associated with the wider area; and,
- Minimise the risk of inadvertently breaching current wildlife legislation.

B.3 Temporary loss of breeding sites, resting places

The proposed development will not adversely impact on any aquatic habitats. There will be no temporary or permanent loss of GCN breeding sites as a consequence of these works.

B.4 Destruction of existing breeding sites, resting places

The proposed development will not result in the destruction of any GCN breeding sites.

The development works have some limited potential to result in the damage/destruction of amphibian resting places within the development site. Therefore, potential amphibian resting places within the development site will be hand searched by the appointed ecologist or their accredited agent prior to the commencement of works.

Any voids or mammal burrows potentially offering amphibians places of shelter or protection will be carefully opened up (using machinery if considered appropriate) in an effort to locate sheltering amphibians.

B.5 Scaled map to show each phase detailed above

N/A

B.6 Contingency prescriptions

If GCN are found during the works, when for any reason ecological supervision is not present onsite, then the works must stop and the appointed ecologist and/or WAG/CCW contacted immediately and their advice followed.

C WORKS TO BE UNDERTAKEN BY THE DEVELOPER/LANDOWNER

C.1 Acquire sufficient land for compensation purposes

The developer has committed to the implementation of the RAM and payment of £2,500 to fund off-site GCN habitat compensation as detailed in this method statement.

C.2 Ensure the designs of subsequent development are newt friendly

The developer has committed to following the recommendations of the appointed ecologist in respect of incorporating design features into the development (wherever practicable) that will help minimise the risk of incidental capture or killing of GCN i.e. using porous paving and limiting the use of gully pots to remove run off rainwater.

C.3 Provide sufficient resources

In this instance, given the limited, localised scale and predicted low level impacts of the proposed development, it is not considered appropriate or proportionate to recommend that any specific habitat compensation measures for GCN be implemented at the site level.

It is proposed to proceed with the development using the reasonable avoidance measures detailed within this method statement and provide appropriate off-site GCN habitat compensation via a payment of £2,500 to Building Wildlife Trust.

The developer has committed to provide sufficient funding and resources to ensure that the RAM and compensation strategy detailed in this method statement is successfully implemented.

D POST- DEVELOPMENT SITE SAFEGUARD

D.1 Habitat/site management and maintenance

As a competent conservation organisation Building Wildlife Trust will take on the responsibility for ensuring that the monies paid by the developer to fund off-site GCN habitat enhancement works within the region are appropriately used on projects with a management and maintenance component.

D.2 Population monitoring

As a competent conservation organisation Building Wildlife Trust will take on the responsibility for ensuring that the monies paid by the developer to fund off-site GCN habitat enhancement works within the wider region are appropriately used on projects with a monitoring component.

D.3 Mechanism for ensuring delivery

The developer has appointed CES to produce this method statement and provide professional ecological advice to ensure the successful implementation of the proposed RAM strategy.

No RAM or development related works will commence at the site until the appointed ecologist receives confirmation from Building Wildlife Trust that a cleared payment of the agreed sum (£2,500) has been received by them from the developer.

The developer has agreed to implement the RAM detailed in this method statement and follow the recommendations and advice of the appointed ecologist in respect of these works.

The status of GCN, at the site level has been reliably established and the predicted development effect and scale of impact have been assessed and appropriate mitigation and compensation measures formulated.

It should therefore be possible for the Local Planning Authority to make an informed decision as to whether or not it is possible to discharge their responsibilities under current planning guidance, in respect of protected species and biodiversity, by the implementation of planning condition/s when determining the planning application submitted in respect of the proposed development at Long Meadows, Hugmore Lane, Wrexham.

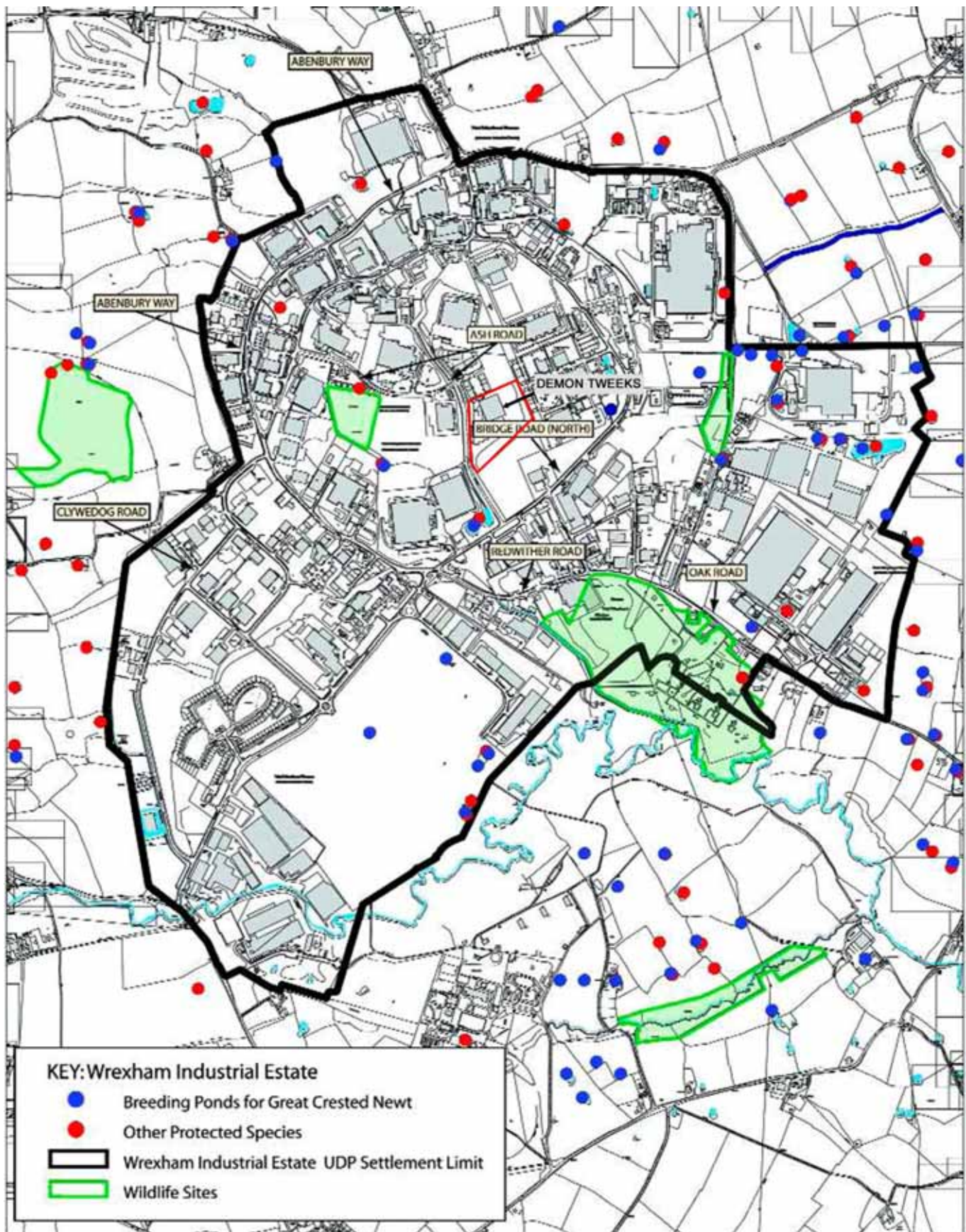
E TIMETABLE OF WORKS

Subject to the grant of planning and the appointed ecologist receiving confirmation that the agreed sum has been received by Building Wildlife Trust: the RAM hand searches and TAF installation at the site will be undertaken March/April 2013. It is anticipated, given favourable weather conditions, no GCN being found and no unforeseen delays, that development at the site will commence May 2013 with completion scheduled for 2014.

F APPENDICIES

- Appendix 1 - Policy 29 Wrexham Industrial Estate GCN pond location map.
- Appendix 2 - Survey area OS map and aerial photograph
- Appendix 3 - Photographic Plates
- Appendix 4 - Indicative TAF layout
- Appendix 5 - 'Newt Gate' design.

Appendix 1: Wrexham Industrial Estate Pond Location Plan



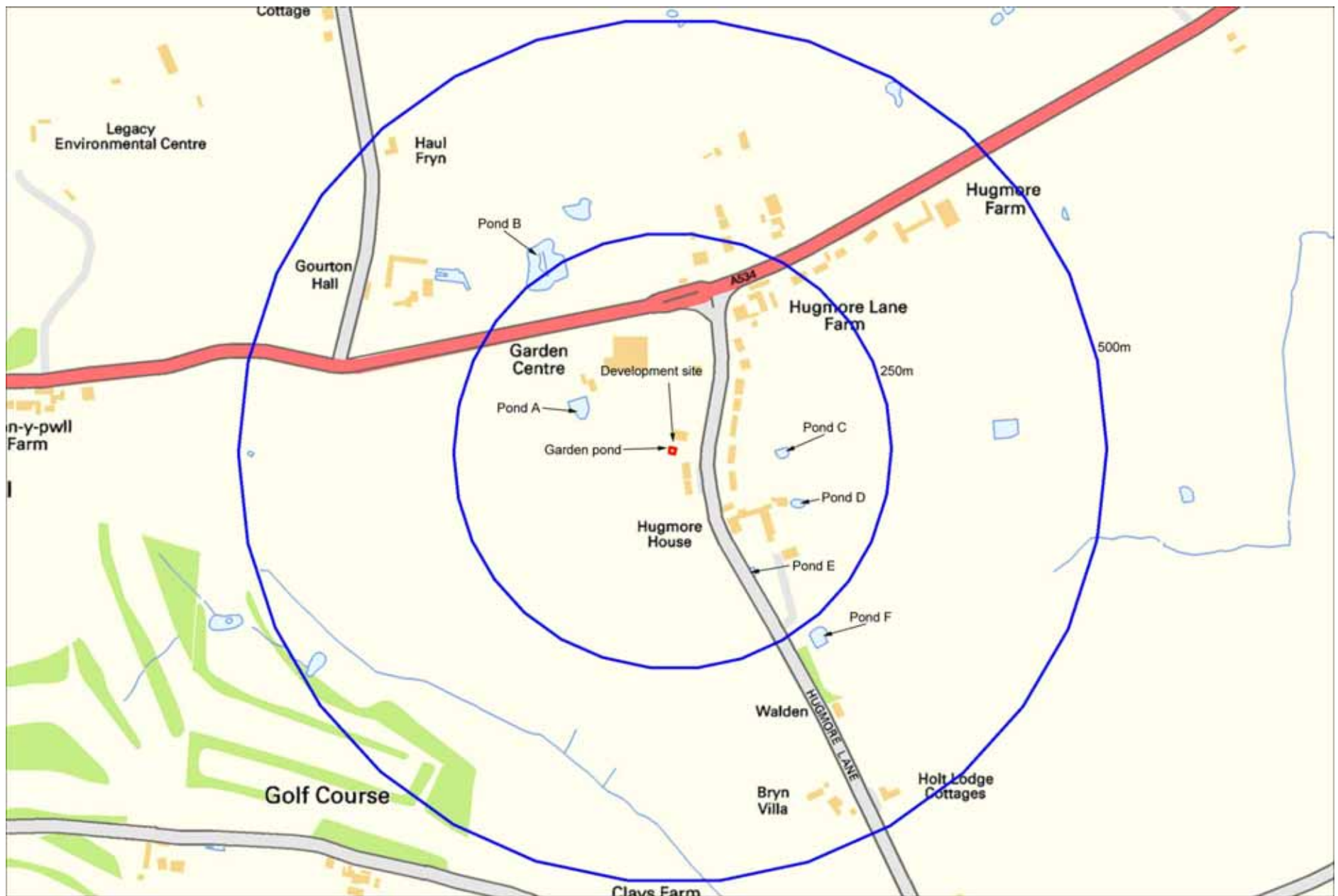
Bickley Hall Farm
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Client:	Dolphin Land and Development Consultancy Ltd
Project:	Site at Hugmore Lane, Wrexham
Map:	WIE Pond Location Map
Revision:	-
Date:	June 2012
CES Reference:	981/06-12/FD
Scale:	NOT TO SCALE
Ordnance Survey © Crown Copyright 2005. All rights reserved. Licence number: 100048198	

[Key](#)

Appendix 2a: Site Location OS Map



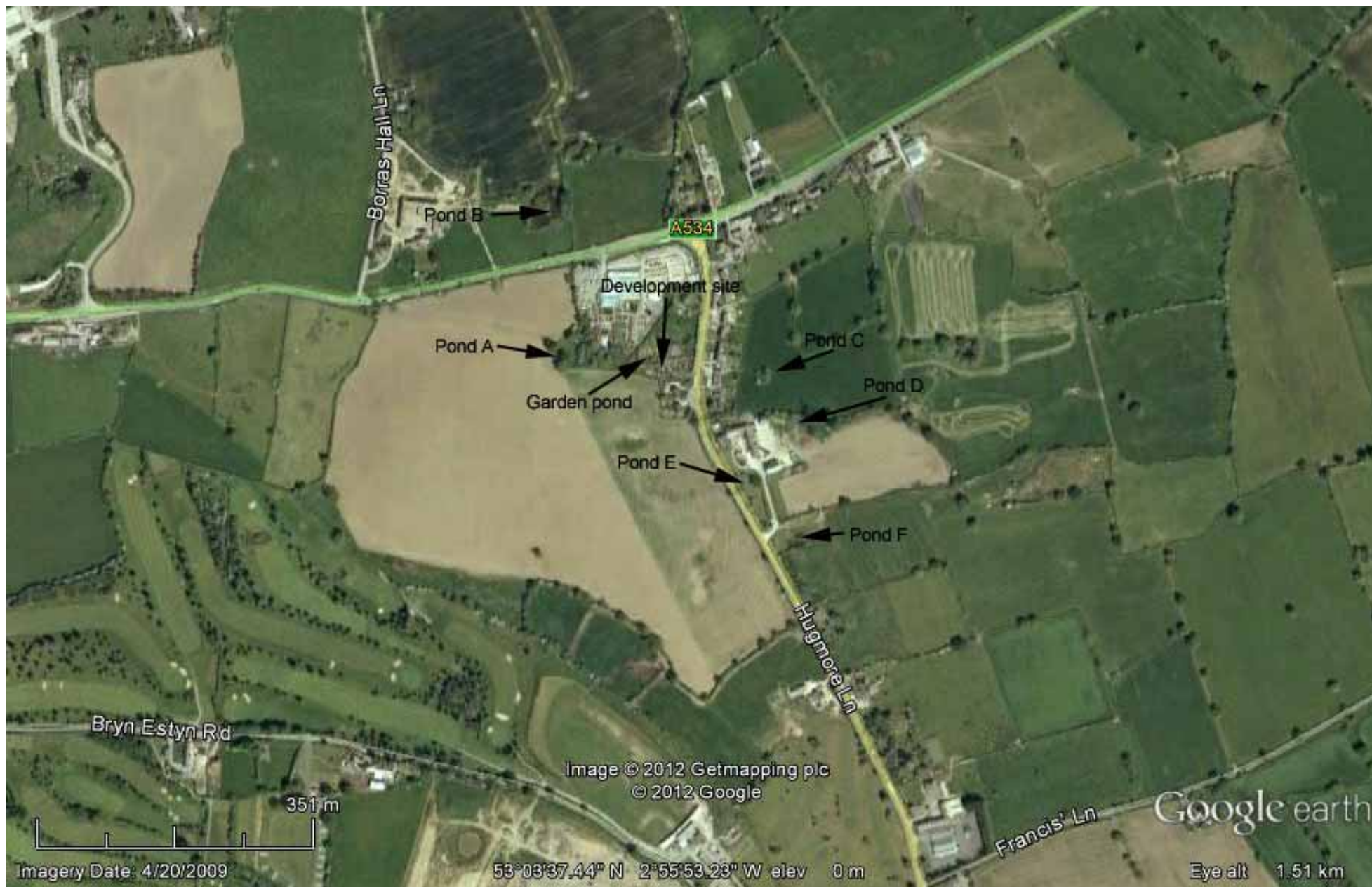
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Client:	Dolphin Lane Development Consultancy Ltd
Project:	Site at Hugmore Lane, Wrexham
Map:	Site Location OS Map
Revision:	-
Date:	June 2012
CES Reference:	981/06-12
Scale:	NOT TO SCALE

[Key](#)

Appendix 2b: Site Location Aerial Plan



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Client:	Dolphin Lane Development Consultancy Ltd
Project:	Site at Hugmore Lane, Wrexham
Map:	Site Location Aerial Image
Revision:	-
Date:	June 2012
CES Reference:	981/06-12/FD
Scale:	NOT TO SCALE

[Key](#)

Appendix 3: Photographic Plates



Plate 1: View of the pond



Plate 2: View of the garage building where the new property will be located



Plate 3: View of the existing driveway showing mature flower beds

Appendix 4: Indicative TAF Layout



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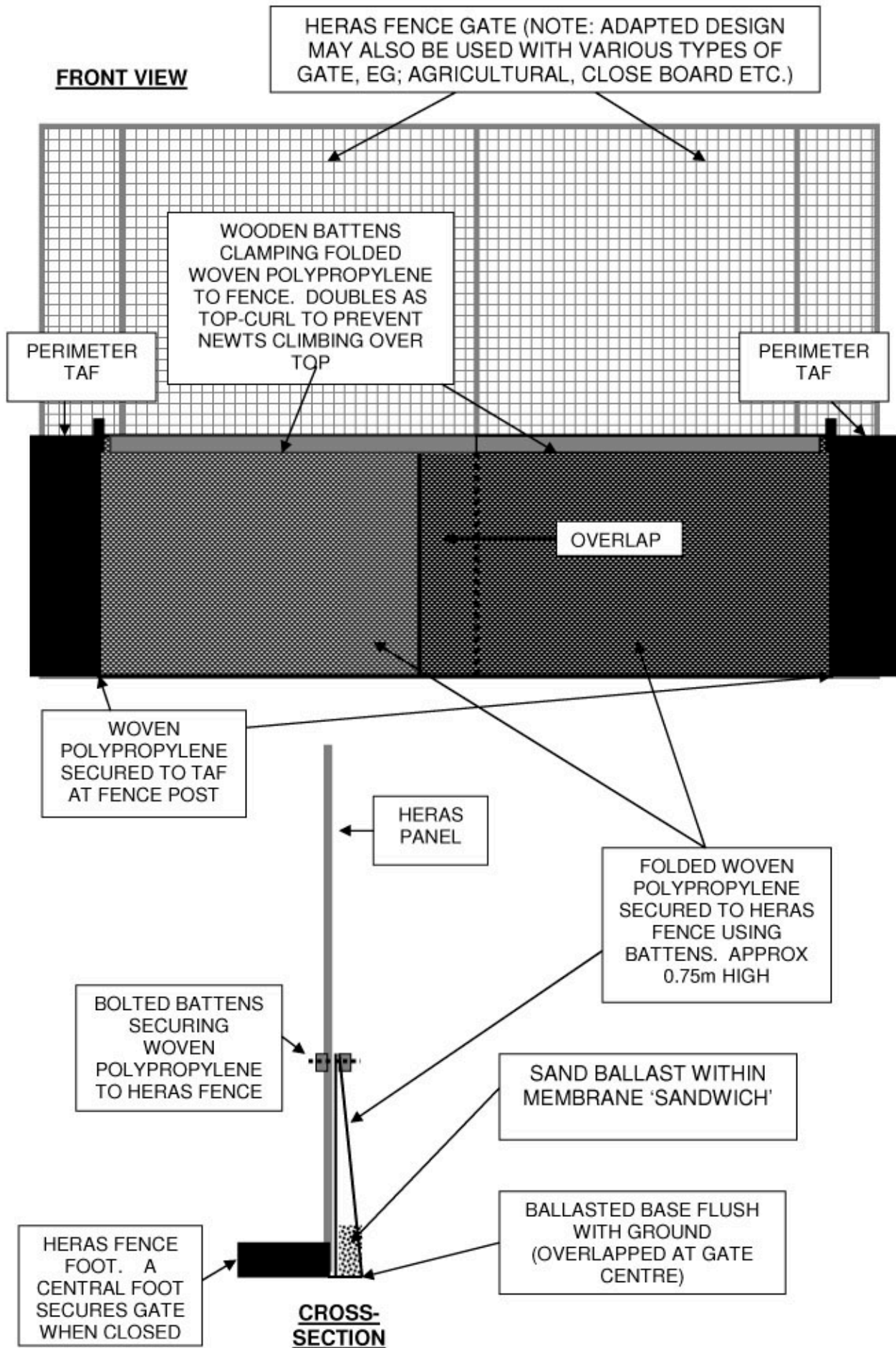
Client:	Dolphin Lane Development Consultancy Ltd
Project:	Site at Hugmore Lane, Wrexham
Map:	Indicative TAF Layout Plan
Revision:	-
Date:	June 2012
CES Reference:	957/06-12/FD
Scale:	NOT TO SCALE

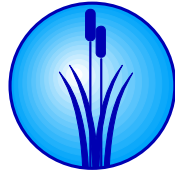
[Key](#)

Appendix 5: 'Newt Gate' Design

INDICATIVE 'NEWT GATE' DESIGN USING WOVEN POLYPROPYLENE

FRONT VIEW





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CES offers a wide range of services for our clients, from carrying out initial site appraisals to the design and implementation of large-scale ecological projects. Our team of Ecologists have extensive practical experience and, together with our specialist field team, can provide a complete 'design and build' service for our clients.

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- **Protected species and habitat surveys**
- **BREEAM Land Use and Ecology Assessments**
- **Code for Sustainable Homes Ecology Assessments**
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- **Pond design, creation and restoration**
- **Protected species mitigation**
- **Amphibian, reptile and water vole fencing**
- **Artificial badger sett and otter holt creation**
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Appendix E: Photographic Plates



Plate 1: View of Pond 1, located within the gardens of Long Meadow



Plate 2: View of the gardens of Long Meadow, looking towards Hugmore Lane



Plate 3: View of the gardens of Long Meadow looking south-westwards



Plate 4: View of the area of garden and garage immediately adjacent the proposed development site



Plate 5: View of the proposed development site looking northwards



Plate 6: View of the proposed development site looking north-eastwards



Plate 7: View of the southern boundary of the proposed development site, adjacent the garden and garage of Long Meadow



Plate 8: View of the proposed development site looking westwards

Appendix F: THSI

GCN Habitat Type	Example Habitats	Suitability for GCN
No shelter/hibernation sites No foraging habitat No habitat connectivity Complete barrier to GCN dispersal	Extensive areas of intact hard standing Compacted sports field Built environs Industrial/commercial sites	Very Poor
No shelter/hibernation sites Limited foraging habitat No/restricted habitat connectivity Significant restrictions/barriers to GCN dispersal	Compacted hard-standing Intensively managed farmland Closely mown amenity grassland School playing field Industrial/commercial sites	Poor
Limited availability of shelter sites No obvious hibernation sites Some foraging habitat Restricted habitat connectivity Restrictions/barriers to GCN dispersal	Managed arable farmland High density grazing Intensively managed grassland Areas of formal planting Industrial/commercial sites	Below average
Some shelter and hibernation sites Some foraging habitat Some habitat connectivity Some restrictions/barriers to GCN dispersal	Managed semi-improved grassland Grazed pasture Infrequently mown grassland Hedgerows narrow buffer zone Brownfield sites abandoned <5yrs Gardens	Average
Shelter and hibernation sites Varied foraging habitat Habitats linked/connected Few barriers to GCN dispersal	Unimproved grassland Unmanaged semi-improved grassland Mature hedgerows wide buffer zone Low density grazing Established gardens Brownfield site abandoned >5yrs	Above average
Range shelter & hibernation sites Varied and diverse foraging habitat Habitats connected Few/no restrictions/barriers to GCN dispersal	Rough/tussocky grassland Areas of scrub New woodland Organically managed farmland Railway embankments Mature gardens Allotments Mineral workings	Good
Widespread shelter and hibernation sites Extensive varied and diverse foraging habitat Habitat extensive and well connected No restrictions/barriers to GCN dispersal	Mature deciduous woodland Managed wildlife areas/reserves Old mineral workings	Excellent

Appendix G: GCN Appraisal/Survey Methods

Aquatic Appraisal/Survey Methods

Egg Search: All native newts lay their eggs singly on submerged leaves of water plants and other suitable submerged substrates. Careful examination of pond vegetation can therefore be used to establish the presence of newts in a pond during the breeding season. GCN eggs can be distinguished from those of smooth and palmate newts by their size and colour therefore enabling species-specific presence/absence to be determined. When GCN eggs have been identified (establishing that the pond is a breeding site) no further egg search effort should be undertaken at that pond, as additional disturbance could result in egg predation and/or reduce viability.

Torch Survey: Using 'Clulite' 1-million candlepower torches, this is a reliable method of establishing the presence/absence and counting the number of newts in ponds during the breeding season. Weather conditions can limit surveying, dry, still nights are required to allow effective observation as can the condition of the pond, i.e. deep, weedy or turbid ponds may require other survey methods to be employed.

Bottle Trapping: This method is useful where water is turbid or where vegetation restricts torch searching. It can help establish presence or absence and give an idea of population size. Ideally, traps are set at 2 metre intervals around the shallow margins of the pond during the early evening and collected the following morning; this method allows accurate identification of species, sex and life stage to be recorded. Where areas of the pond are inaccessible due to steep sides, deep water/silt or overhanging trees, etc., the bottle traps can sometimes be set in random transects, utilising the same number of traps as for the 2 metre intervals whenever possible (e.g. 15 traps for a 30m circumference pond). Bottle trapping should not be used in areas where there are health and safety concerns i.e. steep banks and deep water/silt or where there is a risk of vandalism or disturbance from animals.

Netting: This method can be useful in confirming GCN presence within a pond; however it should not be regarded as particularly reliable because adult GCN and their larvae may evade capture, especially in deep, large or thickly vegetated ponds.

Habitat Suitability Index: As part of all GCN surveys, a 'Habitat Suitability Index' (HSI) score should be calculated for each pond surveyed. The HSI score is a measure of GCN habitat suitability and can be used to help determine the likelihood of GCN presence within a pond. The HSI score is determined by assessing 10 factors, i.e. the likely presence of fish, water quality, etc. The results obtained are converted to a number and a calculation performed to give a figure between 0 and 1. This number can then be used to categorise GCN pond habitat with 0 representing unsuitable and 1 optimal habitat. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not.

As ponds frequently differ in terms of vegetative cover, water depth and clarity it is not always physically possible to utilise three or more survey methods at each individual pond. Constraining factors such as steep sides, deep water/silt, the risk of bottle traps being disturbed or damaged by livestock or the public, or torch survey being restricted by turbid or weedy ponds, determine which methods can be reliably and safely used.

Terrestrial Appraisal/Survey Methods

Terrestrial Refugia Hand Searches

Natural England recommends that terrestrial refugia searches for sheltering GCN/amphibians is only appropriate for distinct habitat features i.e. artificial refugia and/or 'natural' refugia that can be carefully lifted/dismantled by hand with minimal risk of harm to GCN/amphibians. Examples: include corrugated tin sheets, wooden boards/planks, plastic sheeting, fallen/old timbers, small rubble piles, topsoil mounds and areas of fractured hard-standing. Refugia searches should not be undertaken in winter when GCN/amphibians are inactive or in extremely hot periods in summer. Searches should only be carried out in suitable weather conditions as per the *Great crested newt mitigation guidelines*.

Terrestrial night torch searches

Natural England recommends that terrestrial torch searches for foraging and/or migrating GCN/amphibians should be carried out by highly experienced amphibian ecologist/s using high power torches (at least 1 Million candle power). The searches should be undertaken on relatively mild nights during rain or shortly after rain when GCN/amphibian prey species such as earthworms and slugs are active above ground. All searches should ideally start around 22.00 (even if dark earlier) and should last for approximately 3 hours (more on very large sites). The effort should involve repeat scanning of all areas to check for GCN/amphibians emerging from the ground with checks made at ground level along linear features such as fence lines and/or the exterior walls buildings (first and last checks). Walk slowly scanning torch in front; check refuges. Cease search if much leaf fall as this makes GCN/amphibians difficult to detect. Take great care to avoid stepping on GCN/amphibians.

Appendix H(i): Indicative Habitat Compensation Plan



Legend



Proposed Development Site



Indicative location of hedgerow
on western boundary



Indicative location of hibernacula

Client:	Dolphin Land & Development Consultancy Ltd	
Project:	Long Meadow, Hugmore Lane, Llanypwll, Wrexham	
Map:	Habitat Compensation Plan	
CES Ref:	CES/1157/11-14/NF	
Scale:	Not to scale	
Date/Rev:	November 2014	0

CES Ecology
Bickley Hall Farm
Bickley
Malpas
Cheshire
SY14 8EF

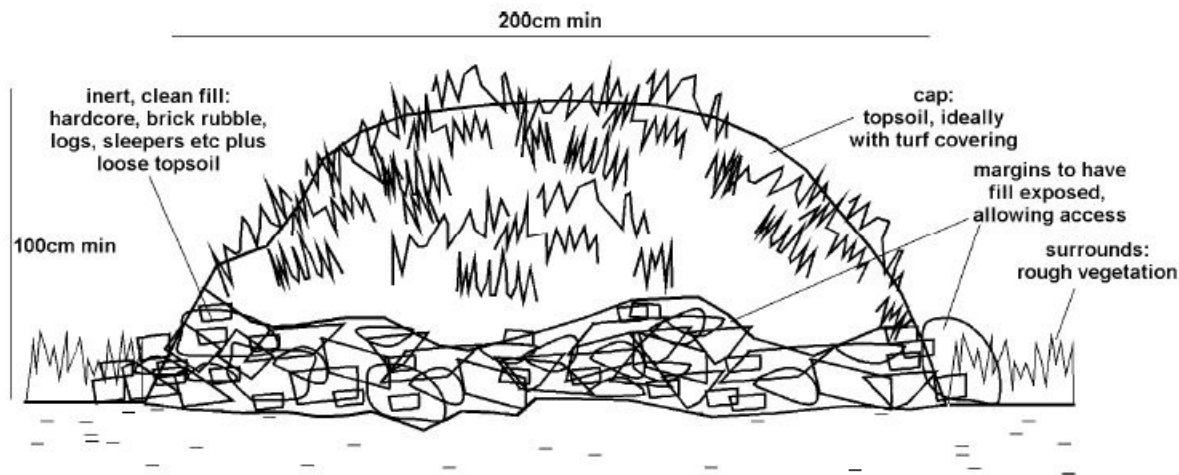


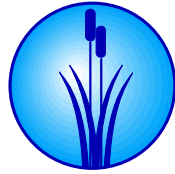
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Appendix H(ii): Amphibian Hibernacula Design

Figure 3: Suggested hibernaculum design

This design mimics artificial and natural conditions in which great crested newts have frequently been found overwintering. Dimensions should not be below 2m length x 1m width x 1m height. The illustrated design would be suitable for locating on an impermeable substrate. On free-draining substrates, the design is largely similar but the bulk of the fill is sited in an excavated depression in the ground. Hibernacula should ideally be positioned across a site, both close to and distant from breeding ponds, always in suitable terrestrial habitat and above the flood-line.





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