



Land off Clywedog Road South, Wrexham Industrial Estate
on behalf of Tension Control Bolts Limited

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Great Crested Newt Mitigation Strategy

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1 SUMMARY

- 1.1.1 Tension Control Bolts Limited proposes a development comprising two industrial units along with car park, access track and service yards on land located off Clywedog Road south, Wrexham Industrial Estate.
- 1.1.2 An Extended Phase 1 habitat survey was undertaken by Marches Ecology in August 2009. This identified the potential for great crested newts *Triturus cristatus* to be present. A detailed amphibian survey was undertaken on seven waterbodies (ponds and ditches) within 500m of the application site to ascertain the presence or likely absence of great crested newt. Amphibian surveys were undertaken in April and May 2010.
- 1.1.3 No adult great crested newts were found during the amphibian surveys; however, great crested newt eggs were found at two of the ponds (over 250m from the site) and within a ditch (approximately 80m to the north of the site). This indicates the presence of a breeding population within the vicinity of the application site.
- 1.1.4 The habitats within the application site which consist of tall grassland and scrub, vegetation provide good terrestrial habitat for great crested newts and other amphibian species. A ditch located to the western boundary of the application site was assessed at the above survey to provide limited opportunities for amphibian species except as potential foraging habitat.
- 1.1.5 The likelihood of great crested newts accessing the application site was considered to be moderate to high as a result of the confirmed presence in the wider area. As such a Welsh Assembly Government (WAG) licence will be required to allow the development to proceed legally and avoid contravention of the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010. A licence application to WAG can only be made upon receipt of full planning consent.
- 1.1.6 This document sets out the principles of a great crested newt mitigation and compensation scheme that is proposed in relation to the above development. The presence of a protected species is a material consideration when a local planning authority is considering a development proposal that, if carried out, would be likely to result in disturbance or harm to the species or its habitat.
- 1.1.7 Provision of a mitigation and compensation scheme as part of the planning application allows the Local Authority (Wrexham Borough County Council) to fully assess the development against the conservation status of the great crested newt population at this location.
- 1.1.8 It is not anticipated that the proposed development would be of detriment to the maintenance of the great crested newt population at a favourable conservation status. With favourable management and enhancement of habitats within a specified nature conservation area, the development will provide a net gain for amphibian species and other wildlife interests.

2 INTRODUCTION

2.1 BACKGROUND TO ACTIVITY / DEVELOPMENT

- 2.1.1 Tension Control Bolts Limited proposes a small scale industrial development at Wrexham Industrial Estate. The development comprises the phased construction of two industrial buildings (one unit of 40,000 sq ft and a terrace consisting of five smaller units with a combined area of 19,000 sq ft), along with car parks, access roads and service yards. The development will retain a proportion of the land for nature conservation as well as providing further opportunities for local biodiversity through an ecologically driven landscaping scheme. The proposed development seeks to link existing and habitat on-site with that in the wider area, while also proposing on-site habitat enhancement in compensation. This report should be read in conjunction with the Concept Statement and Habitat Management Plan (10-C4C-002-01).
- 2.1.2 The application site represents a plot of land located along the south western boundary of Wrexham Industrial Estate. Clywedog Road South borders the site to the east and industrial developments lie both to the north and the south. Agricultural land consisting of improved pasture and arable fields adjoin the site to the west.
- 2.1.3 Habitats within the application site comprise neutral grassland with tall ruderal and scrub vegetation. Some young trees including grey willow *Salix cinerea* and oak *Quercus robur* are scattered across the grassland area. A ditch enters the application site at the north west corner and extends part way across the site before entering a culvert. The ditch is heavily vegetated by bank side trees and dense scrub vegetation, notably hawthorn *Crataegus monogyna*, bramble *Rubus fruticosus*, willow *Salix sp.* and blackthorn *Prunus spinosa*. The boundaries of the application site are marked in most cases by post and wire or palisade fence lines. The western boundary separating the application site and the adjacent agricultural land is marked also by strip of trees and scrub vegetation.

Site Details

- 2.1.4 Site details including name of the landowner and developer are detailed below:

<i>Site Address</i>	Clywedog Road South, Wrexham Industrial Estate, Wrexham.
<i>Site Grid Reference</i>	SJ 370 494
<i>Developer (Name)</i>	Tension Control Bolts Limited

3 SURVEY & SITE ASSESSMENT

3.1 PRE-EXISTING INFORMATION

- 3.1.1 A record search was undertaken as part of the desk study within the Extended Phase 1 habitat survey (Marches Ecology 2010). Information was provided through consultation with the Countryside Council for Wales (CCW) and Wrexham County Borough Council. In addition a review of data from the National Biodiversity Network (NBN) Gateway was undertaken.
- 3.1.2 The Countryside Council for Wales provided eight records of great crested newt *Triturus cristatus* within 1km of the application site. Only one record provided by CCW was located within 500m of the application site. This was located off the site.
- 3.1.3 Records provided by Wrexham County Borough Council tallied with those provided by CCW.
- 3.1.4 The NBN Gateway contains a large number of records of great crested newts for the 10km² SJ34. Records are provided at a 100m and 1km scale. The majority of the records are located to the north of the 10km² SJ34 and include scattered records around Wrexham Industrial Estate.

3.2 STATUS OF GREAT CRESTED NEWTS

- 3.2.1 Great Crested Newts are widespread throughout lowland parts of England and Wales. In Wales, the north east region contains the highest density of great crested newts. The Species Action Plan for Wrexham states that the number of ponds known to have great crested newts in Wales is estimated to be the region of 500 and of these around 400 occur within the north east of the country. This is further broken down by county, stating that 200 recorded great crested newt ponds occur in Wrexham, 160 in Flintshire and 55 in Denbighshire. The Species Action Plan Pond also states that distribution data suggests that more ponds are likely to hold great crested newts within the Counties of Wrexham and Flintshire.
- 3.2.2 At a site level; great crested newt is known to occur within the immediate surrounds of the application site and within the wider Wrexham Industrial Estate.

3.3 FIELD SURVEYS

- 3.3.1 An Extended Phase 1 habitat survey was undertaken by Marches Ecology in August 2009; this identified habitat likely to be used by great crested newts. A detailed amphibian survey was undertaken of seven waterbodies (ponds and ditches) within 500m of the application site to ascertain the presence or likely absence of great crested newt. Amphibian surveys were undertaken in April and May 2010. (Refer to Marches Ecology Report 2009 for methodology).

- 3.3.2 No adult great crested newts were found during the amphibian surveys. However, great crested newt eggs were found at two ponds (over 250m from the site) and a ditch (approximately 80m to the north of the site).

3.4 SITE / HABITAT DESCRIPTION

- 3.4.1 The application site is dominated by tall unmanaged neutral grassland and scrub vegetation and provides good terrestrial habitat for great crested newts and other amphibian species. The grassland has a diverse species composition and sward height of between 0.5m and 0.75m. The vegetation is thought to have formed on previously developed land. The scrub element is becoming increasingly dominant throughout.
- 3.4.2 A ditch located to the western boundary of the application site was assessed at the time of survey to provide limited opportunities for amphibian species, except as potential foraging habitat.

3.5 INTERPRETATION AND EVALUATION

- 3.5.1 The survey results indicate the presence of a small breeding population, within the vicinity of the application site. The likelihood of individual or small numbers of great crested newts accessing the application site was considered to be moderate to high as suitable terrestrial habitat exists on the site and great crested newts were confirmed present within 250m of the site boundary.

4 IMPACT ASSESSMENT

4.1 PROPOSED WORKS

- 4.1.1 Tension Control Bolts Limited proposes a small scale industrial development at Wrexham Industrial Estate. The development comprises the phased construction of two industrial buildings (a single unit covering an area of 40,000 sq ft and a terrace of five smaller units with a combined area of 19,000 sq ft), along with car parks, access roads and service yards.

4.2 SHORT TERM IMPACTS

- 4.2.1 In the absence of mitigation there would be the risk of killing or injuring individual or small numbers of great crested newts.
- 4.2.2 Short term impacts will be restricted to the lifespan of the development and may also include temporary disturbance and severance of dispersal corridors.

4.3 LONG TERM IMPACTS

- 4.3.1 There will be no direct impact on breeding habitat or core / immediate terrestrial habitat lying within 50m of a confirmed breeding pond.
- 4.3.2 The development would result in the loss of a small area (1.53 ha) of terrestrial habitat, considered to represent intermediate terrestrial habitat lying between 50m to 250m from a known breeding pond.

- 4.3.3 There will be no fragmentation or isolation of the population as a result of the development.

4.4 PREDICTED SCALE OF IMPACT

- 4.4.1 The overall predicted scale of impact is 'low' and classed as partial destruction of intermediate terrestrial habitat (approximately 50m to 250m from breeding pond). The predicted scale of impact was assessed against the summary of main impacts at a site level, page 34 of the Great Crested Newt Mitigation Guidelines (English Nature 2001).

5 MITIGATION & COMPENSATION

5.1 SUMMARY OF MITIGATION & COMPENSATION STRATEGY

- 5.1.1 The following mitigation and compensation strategy aims to ensure that there will be no detriment to the conservation status of great crested newts in the area as a result of the development.
- 5.1.2 A section of the application site will be set-aside and managed for the purpose of Nature Conservation, in-line with Local Planning Guidance Note No.29, *Wrexham Industrial Estate Employment, Development and Nature Conservation* (Wrexham 2009).
- 5.1.3 The compensation land will be managed to maintain and enhance the grassland habitats present within the application site. In addition habitats including a new pond and specifically built hibernacula will be created to enhance this area for amphibian species.
- 5.1.4 Capture and exclusion of amphibians from the development footprint and the area of the proposed new pond(s) will be carried out prior to any ground works commencing. Exclusion fencing will be installed around the construction areas with pitfall traps installed along the internal wall of the fence at 10m intervals. Daily checks of pitfall traps will be undertaken throughout the trapping period.
- 5.1.5 Once suitable trapping effort has been expended, all pitfall traps and internal drift fencing will be carefully removed. The perimeter fence will be maintained throughout the development. The fence will be regularly checked to ensure its integrity throughout the lifespan of the development.
- 5.1.6 Post development monitoring of the mitigation is proposed with survey results returned to both WAG and Wrexham County Borough Council.

5.2 COMPENSATION LAND

- 5.2.1 An area of land (0.89 ha) within the application site will be set-aside as compensation land and managed for the purpose of nature conservation. This compensation land is under the applicants land ownership and will be free from development threats in the future.

Grassland Management

- 5.2.2 The grassland within the compensation / nature conservation area will be subdivided into two management areas, with each area subject to different cutting regime to maximise the benefit for biodiversity. The cutting regimes will be designed to provide species rich and invertebrate rich grassland with a varied structure. One of the management areas will incorporate a single cut per year in October while the second area will be subject to two cuts one early spring and a second mid to late summer. The grassland will be cut using hand strimmer to a height of approximately 150mm; the regime will provide cover for the activity period of amphibian species. For a full description of management refer to the Concept Statement and Habitat Management Plan (10-C4C-002-01).

Aquatic Habitats

- 5.2.3 The ditch within the application site is currently heavily overgrown and in its current condition is of limited value to amphibian species and other wildlife. It is proposed as part of the ongoing management of the compensation land that the bank side scrub is removed to relieve some of the shading influence of this vegetation. A section of the channel within the application site is concrete lined up to a height of approximately 1.5m. The possibility of removing the concrete lining and creating a more natural channel will be explored. If achievable this will benefit a wide variety of wildlife including amphibians.
- 5.2.4 In addition, a new pond(s) providing further aquatic habitat and breeding opportunities for amphibians is proposed. A new pond(s) at this location would be within 250m of known great crested newt ponds with no barriers to dispersal; therefore, the chance of colonisation is high.
- 5.2.5 Initial ground inspections would indicate that the application site is located on clay based soils; therefore pond creation should not require an artificial liner. If this does not prove to be the case then a bentonite pond liner should be used. The proposed new pond(s) should have varying depths, with shallow areas to encourage marginal vegetation and deeper areas (greater than 1m in depth) in order to maintain open water. The surface area of the pond(s) will have a minimum coverage of 100m².
- 5.2.6 An agreement with any future occupants of the proposed development should be reached to prevent the introduction of fish.

Hibernacula

- 5.2.7 It is proposed that two purpose built hibernacula's following the suggested design (**Figure 4-1**) be installed within the land outlined as compensation land. Initial assessment of ground condition indicates that the site is located within an area of clay based soils. The design below is suggested for impermeable substrate and therefore is the type most likely to suitable at this site.

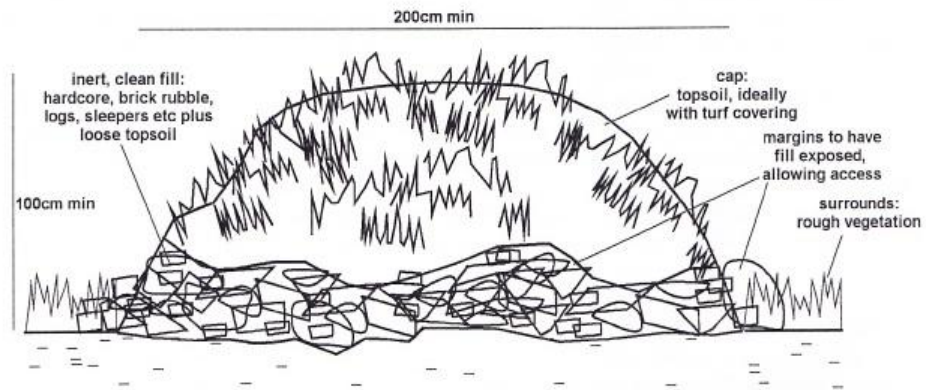


Figure 5-1 Suggested hibernaculum design as depicted in the Great Crested Newt Mitigation Guidelines (English Nature 2001).

5.3 CAPTURE AND EXCLUSION

- 5.3.1 Prior to any construction works commencing all amphibians should be removed and then prevented from re-entering the construction area using exclusion fencing.
- 5.3.2 Amphibian exclusion fencing (as depicted in **Appendix 1**) should be installed around the perimeter of the application site and area of the proposed pond(s). Internal drift fencing should also be installed to increase capture rates of amphibians. All fences should be installed by an experienced amphibian fencing contractor.
- 5.3.3 The proposed fence-line (**Figure 3**, Great Crested Newt Mitigation) should first be hand searched and cleared of amphibians by a licensed ecologist. Where clearance of scrub vegetation is required, vegetation can be cut back taking care to avoid injury to any resting amphibians.
- 5.3.4 Pitfall fall traps should be installed along the internal wall of exclusion fences and on either side of internal drift fences. Pitfall traps should be installed at a spacing of 10m intervals. Pitfall traps should be flush with the fence-line with the top of the trap level or just below ground level. Pitfall traps should be pegged down to prevent them from popping out of the ground.
- 5.3.5 Pitfall traps need to be searched on a daily basis (before 10am) with caught individuals relocated to the receptor site (retained land to the west of the application boundary). The capture of amphibians should be recorded and log maintained to provide accurate accounts for licence returns. The capture of

amphibians is a continuous process; it is anticipated that in relation to this development a minimum trapping effort of 30 days in suitable weather conditions (temperatures above 5°C) would be required.

- 5.3.6 Additional visits may be required over and above the 30 days as the mitigation guideline state; *'capture effort must cease if weather conditions become unsuitable'*; however, site visits will still be required for animal welfare reasons but the visit will not be included as part of the 30 days trapping. Secondly, if great crested newts are found towards the end of the 30 days (of suitable weather), capture effort must continue until there have been five clear days without great crested newts being recorded.
- 5.3.7 Hand searches will also be implemented towards the end of the trapping period; refuges within the application site will be searched prior to the site being released for development
- 5.3.8 Once suitable trapping effort has been expended, all pitfall traps and internal drift fencing should be carefully removed from the ground either by or under the supervision of a licensed ecologist or under direct supervision of a suitably experienced ecologist. This is required as amphibians can often take refuge in gaps beneath pitfall traps and alongside exclusion fence-lines.

5.4 GENERAL MITIGATION (TO BE EXPRESSED TO DEVELOPER)

- 5.4.1 All site operatives to be informed by 'tool box talk' of the presence of ecological constraints and protected species issues relating to this site. Site operatives to be instructed to cease works and immediately inform the project ecologist should any amphibians be found at any point throughout the development.
- 5.4.2 Vegetation clearance required as part of the initial management of the compensation area will be undertaken in a sensitive manner and under the supervision of suitably experienced and licensed ecologist.
- 5.4.3 The new pond(s) will be dug in the presence of a suitably experienced and licensed ecologist. The area where the pond(s) is proposed will be fenced off and cleared of amphibians under a WAG licence prior to any ground works commencing. The vegetation within the footprint of the pond(s) will be subject to a phased cut, reducing the height of the vegetation to ground level.
- 5.4.4 Regular checks to be made to ensure the integrity of the amphibian exclusion fence. Damage caused by construction should be reported immediately and repairs made the same day.
- 5.4.5 Heras fencing should be installed along the frontage of the site along Clywedog Road south to prevent site access and damage to amphibian fence outside working hours.

5.5 TIMETABLE OF WORKS

- 5.5.1 The following timings are indicative only; the exact timings are subject to the determination of planning consent and the granting of a European Protected Species (EPS) licence by the Welsh Assembly Government.
- 5.5.2 As a guide, mitigation schemes can usually be undertaken successfully at any time during when amphibians are active, typically between the months of March to October inclusive. All works will need to have ceased by the onset of the first frosts.

	2011						
	Jan/Feb	Mar/Apr	May/Jun	Jul/Aug	Sep/ Oct	Nov/Dec	
Planning Application Determined							
WAG Licence Application							
Amphibian Fence Installation							
Pond and Habitat Creation							
Amphibian Capture and Translocation							
Hand / Destructive Search							
Construction Works Commence							

Table 5-2 Indicative timing of proposed mitigation works (exact timings are subject to planning consent and the successful granting of a EPS licence from the Welsh Assembly Government.

6 HABITAT / SITE MANAGEMENT & MAINTENANCE

6.1 HABITAT MANAGEMENT

- 6.1.1 The compensation area will be managed post development in-line with Local Planning Guidance Note No.29. Full details of proposed habitat management are provided in a separate report, Concept Statement and Habitat Management Plan (10-C4C-002-01).

6.2 POST CONTRSUCTION MONITORING

- 6.2.1 The great crested newt population affected by the development was assessed as small and the scale of impact as 'low', therefore long-term monitoring is unlikely to be required. However, it is proposed that the new pond is subject to survey the year following installation and completion of the development to ascertain if amphibians have colonised the pond. This information may also be required in order inform future management practices.

REFERENCES

ENGLISH NATURE (2001) *Great crested newt mitigation guidelines*. English Nature, Peterborough.

Marches Ecology (2010) *Proposed industrial development, land adjacent to Clywedog Road South, Wrexham Industrial Estate, Wrexham – Ecological Appraisal*. Marches Ecology Llangollen.

Wrexham County Borough Council (2009) *Local Planning Guidance Note No.29 Wrexham Industrial Estate Employment, Development and Nature Conservation*. Wrexham County Borough Council, Wrexham.

APPENDIX 1 – Fence and Pitfall Trap Design

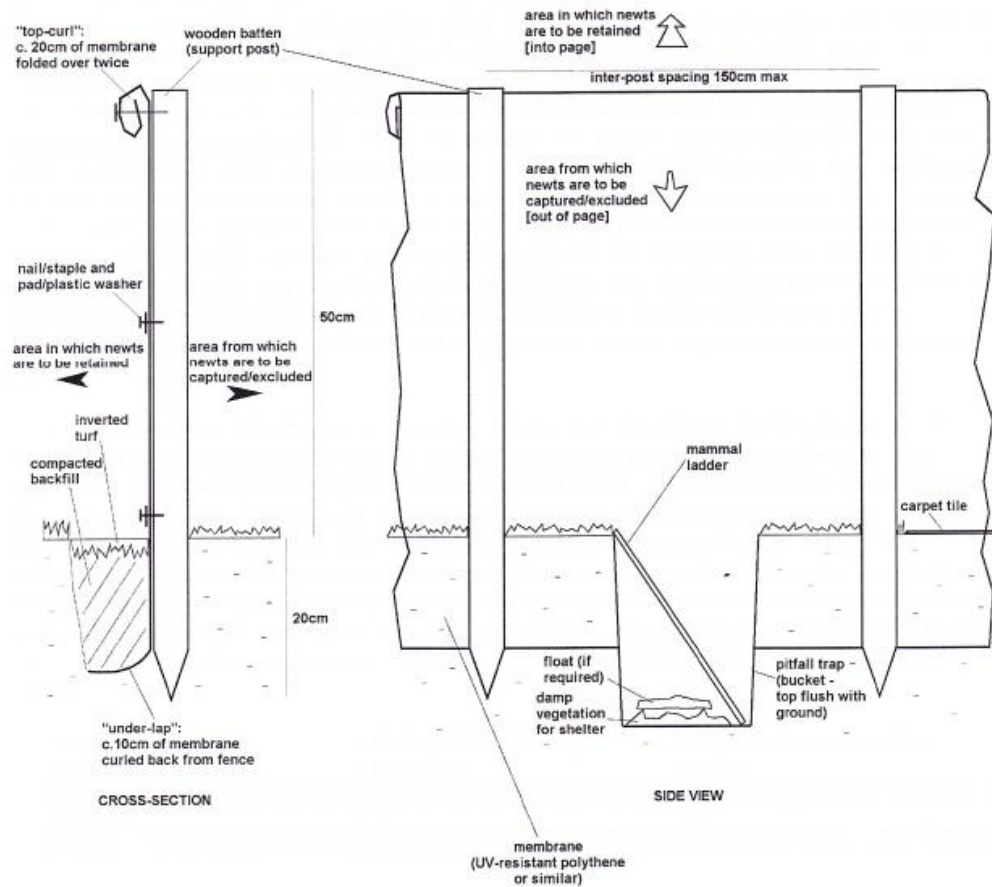


Figure A-1 Recommended design for exclusion fence, drift fence and pitfall trap placement (cross section and side view) taken from Great Crested Newt Mitigation Guidelines (English Nature 2001).

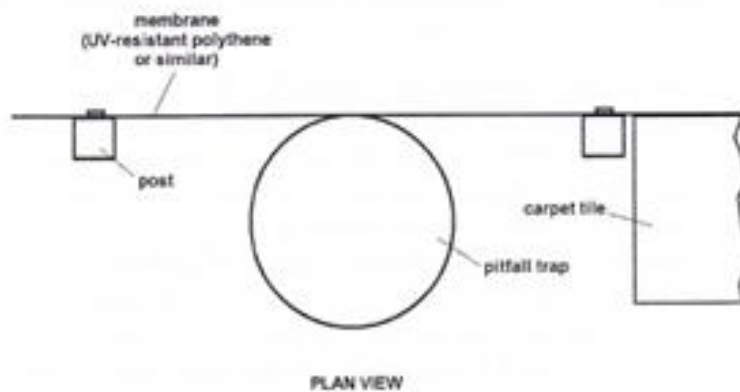


Figure A-2 Recommended design for exclusion fence, drift fence and pitfall trap placement (plan view) taken from Great Crested Newt Mitigation Guidelines (English Nature 2001).