



PEDL 185 – SJ44, SITE 8 (SUN LANE FARM)
ECOLOGICAL METHOD STATEMENT AND MITIGATION

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1 INTRODUCTION

1.1 Background

This report has been produced in support of the development of an exploratory borehole ('the Development') near Roden's Hall Farm, Bowling Bank, Wrexham for which planning consent was granted at appeal (Appeal Ref. APP/H6955/A/10/2122444) subject to a number of planning conditions, including the following regarding ecology:

An Ecological Method Statement and Mitigation Report prepared by specialist consultants providing details of reasonable avoidance measures and pollution prevention measures together with time scales for the implementation shall be submitted to and approved in writing by the local planning authority prior to the commencement of development. The approved measures shall be implemented in accordance with the approved time scales.

The aim of this report is to provide the necessary information to address the above planning condition by describing the measures required during construction, operation and decommissioning of the Development to safeguard ecological features.

1.2 Development Proposals

The Development comprises the erection of security fencing and bunds, and the establishment of a site compound and drilling infrastructure within the fenced area. Access to the main works area is via an existing farm track. The site is wholly within agricultural land under active management. The Development will involve the removal and storage of the top 300 mm of soil only, and its subsequent replacement and restoration of the site to agriculture. The relatively short timescale for the Development, including site construction, operation and restoration, is likely to be 2–3 months. Further details of the Development are provided with the full planning submission.

The Supporting Statement to the planning application for the Development stated, in respect of ecology, that "*there will be no anticipated impact on the biodiversity interest of the site or surrounding area, especially given the abundance of similar habitat in the surrounding area. Given the stringent health and safety measures that will be put in place it is not considered that the proposed appraisal borehole will have an impact on the ecology of the area.*"

1.3 Structure of Report

This report is structured into two main parts – 'Roles and Responsibilities' and 'Effects and Mitigation' – which aim to provide a set of instructions that will demonstrate how the Development will proceed without unduly harming sensitive ecological features.

Natural Resources Wales (NRW) guidance has been followed, where available; if unavailable, relevant guidance from other statutory agencies (Natural England, NE; Scottish Natural Heritage, SNH; Environment Agency, EA) has been followed.

2 ROLES AND RESPONSIBILITIES

2.1 Ecological Clerk of Works

During construction, an Ecological Clerk of Works (ECoW) will be available to provide advice about ecological issues and to ensure that the measures specified in this document are implemented correctly and in line with best practice. Specific ECoW responsibilities during construction will include:

- Advising on the location of sensitive ecological features, including protected species, and the type of safeguards and mitigation required.
- Obtaining and holding necessary licences and advising site personnel of the corresponding precautions and mitigation measures to be undertaken.
- Supervising and monitoring the implementation and maintenance of protective or mitigation measures in accordance with licence requirements or the terms set out in this document.
- Liaising with the project managers, site personnel, and relevant stakeholders about ecological issues.
- Recommend actions based on ongoing receipt of information to ensure legal compliance, protection of sensitive ecological receptors, and fulfilling the objectives of this report.

2.2 Contractors

This report will be distributed to key representatives of construction personnel. The relevant contractors' details are currently unknown and hence a full set of roles and responsibilities cannot be determined at this stage; however, the contractors' responsibilities will include the following:

- Adhering to the relevant provisions made in this document and complying with the advice of the ECoW.
- Ensuring that protective measures described in this report are correctly maintained understood by all site personnel.
- Contacting the ECoW regarding any uncertainties or activities that may impact on ecological features.

3 EFFECTS AND MITIGATION

Detailed accounts of the ecological and physical character of the site, as well as an assessment of likely effects, are provided in the *Extended Phase 1 Habitat Survey* report (2009) and the *Great Crested Newt Survey report* (2009) submitted with the planning application and are not repeated herein; however, a summary of the features of relevance to this report are provided below. The summary is limited to ecological receptors (i.e. species, habitats and designated sites) that may be affected by the Development. Receptors that are unlikely to occur on or near site or otherwise be affected by the Development are not considered further.

3.1 Designated Sites

3.1.1 Baseline situation

The Development is approximately 220 m west of the River Dee Special Area of Conservation (SAC) and biological interests of the River Dee Site of Special Scientific Importance (SSSI)¹. There are no other designated sites within 2 km of the Development.

3.1.2 Assessment of effects

Given the intervening distance and lack of hydrological connectivity (e.g. watercourses), the Development is extremely unlikely to affect the biological interests and integrity of the River Dee SAC/SSSI, although appropriate safeguards are proposed.

3.1.3 Mitigation

The following mitigation is in accordance with EA Pollution Prevention Guidelines (PPG), and will be implemented as part of standard construction best practice for the Development to reduce the likelihood of ground and surface water pollution and reduction in air quality.

The site preparation will involve stripping the site of 30 cm of topsoil which will be stored in bunds on the site boundary. A geotextile membrane will be placed on the ground between the subsoil and site surface (aggregate) which will allow rainwater to filter through into the existing field drainage system but trap any particulates from the site.

The drill rig will be placed on a concrete pad. The borehole will be cased and lined to ensure groundwater is not polluted. The Well Engineer will prepare a detailed well design prior to the operations commencing on site. This well design is site specific and takes into account the geology of the area. The detailed well design must be approved by the Health and Safety Executive (HSE) and the Department of Energy and Climate Change (DECC) prior to the commencement of drilling.

The drilling fluid used in the exploratory borehole drilling process will primarily be fresh water. Additives such as salt or starch may be necessary depending on the local geology and the well design. A method statement detailing the proposed drilling fluids will be submitted to and agreed by the Environment Agency under Section 199 of the Water Resources Act prior to the commencement of drilling.

Good site management will prevent pollutants such as oil and fuel from entering nearby watercourses; for example, the risk of potential fuel leakage will be mitigated through the use of double-bunded fuel tanks. Spill kits will be available at the rig at all times and the rig crews will be trained in their use.

¹ Parts of the SSSI notified only for their geological and geomorphological interest are located immediately adjacent to the Development.

The operation of the drilling rig is unlikely to cause an unacceptable deterioration in the air quality surrounding the site. Emissions will not be released in sufficient quantities to raise the concentrations of pollutants above levels specified in the Air Quality Objectives, particularly given the relatively low levels of emissions in the area. Dust deriving from operations will be reduced by spraying vehicles with water, if conditions are dry enough to merit this.

3.2 Grassland

3.2.1 Baseline situation

The main works area comprises improved grassland; other habitats were recorded only outside the works area and are addressed separately, below.

3.2.2 Assessment of effects

The only habitat that will be directly affected by works will be improved grassland, a habitat of limited conservation value, and only 0.24 ha of improved grassland will be temporarily lost to the Development. No other habitats will be directly affected and this report proposes measures to safeguard retained habitats (see 'Trees and Hedgerows', below) and reinstate grassland.

3.2.3 Mitigation

The main works area will be mechanically stripped of topsoil and sward to a depth of approximately 300 mm. The topsoil stripped from the site will be stored in loose bunds around the perimeter of the main works area. Once topsoil is removed, a geotextile membrane will be placed over cleared areas and compacted aggregate laid over this. The geotextile membrane will maintain effective separation of the aggregate from the underlying soils.

The removed topsoil is likely to contain a seed bank and vegetative structure representative of the pre-development conditions which will remain viable for the duration (approximately three months) of stockpiling. To ensure that the topsoil retains its physical structure and biological integrity, it shall not be compacted, mixed with other materials, or used for any purpose other than the formation of bunds.

During decommissioning, the aggregate and geotextile membrane will be removed off site leaving a shallow trench. The stored topsoil will be placed back to the fill level of the trench across the whole site; light compaction (for example by a farm roller or harrow) may be required to make it level with surrounding land and may also help to prepare the seedbed.

A process of natural regeneration (from the retained biological material in the topsoil) will be favoured, although grassland re-seeding may be considered in consultation with the landowner.

3.3 Trees and hedgerows

3.3.1 Baseline situation

There are no trees or hedgerows within the site boundary, although broadleaved trees (oak and ash) and species-poor intact hedgerows surround the Development and access track.

3.3.2 Assessment of effects

The Development has been sensitively designed to reduce effects to hedgerows and trees. No hedgerows or trees will be directly affected because the Development will make use of an existing access track and the proposed main works area is separated by up to 10 m from such features. Ground works in the vicinity of trees and hedgerows will also be limited to shallow excavations thereby limiting potential for harm to roots.

3.3.3 Mitigation

No mitigation (beyond that embedded in the Development proposals) is proposed, although it is recommended that working areas are clearly defined (by Euromesh or Heras fencing, or similar) and works strictly limited to these areas.

3.4 Bats

3.4.1 Baseline situation

Potential bat roosts were limited to off-site trees, none of which were considered likely to be affected by the Development. Bats may forage over the improved grassland in which the main works areas will be sited. No further surveys were recommended.

3.4.2 Assessment of effects

No bat roosts or high-value bat habitats will be affected by the Development. The small scale and temporary character of the Development will also greatly reduce effects to foraging and commuting bats. Measures are proposed to further reduce possible effects.

3.4.3 Mitigation

Potential temporary disturbance to foraging and commuting bats will be reduced by directing night-time lighting in the main works towards the ground and the interior of the works area where this is compatible with Health and Safety requirements. The reinstatement of the site to its former condition will ensure that no long term effects are likely.

3.5 Badger

3.5.1 Baseline situation

No setts or other evidence of badger was recorded within the Site Boundary. Some possible evidence was recorded near woodland 250 m from the site boundary, but the site is unlikely to be an important part of a badger territory. No further surveys were recommended.

3.5.2 Assessment of effects

Badgers are protected by the Protection of Badgers Act 1992. There are no badger setts within 30 m of the Development boundary and so disturbance of setts is currently unlikely. However, badgers can be adversely affected by construction activities when active above ground (e.g. falling into excavations) and so developments should be carried out sensitively.

3.5.3 Mitigation

Open excavations will be securely fenced or covered when not in regular use (particularly at night) to avoid animals falling into them. Shallow excavations need not be secured (except for reasons of Health and Safety) but should, instead, include a gently-ramped side so that all animals can escape. All excavations should be checked for the presence of animals before works to them recommence.

3.6 Nesting Birds

3.6.1 Baseline situation

Breeding birds are likely to be limited in both diversity and abundance, probably restricted to low numbers of common and widespread farmland birds nesting in hedgerows and, to a lesser extent, grassland. No further surveys were recommended.

3.6.2 Assessment of effects

The proposed ground works will take place wholly within agricultural (pasture) land but may affect ground-nesting birds, if present, and therefore constitute an offence under the Wildlife and Countryside Act 1981 (as amended).

3.6.3 Mitigation

To ensure that works are legally compliant, it is recommended that ground works during the bird nesting season (March to August) are avoided or, if necessary, preceded by a nesting bird survey and implementation of bird-scaring measures to prevent birds nesting within the field.

3.7 Great crested newts

3.7.1 Baseline situation

A great crested newt survey of three nearby ponds was carried out in 2009. Great crested newts were confirmed in two ponds; a peak count of seven adults (combined value across the two ponds) was recorded and is therefore classified as a small population.

3.7.2 Assessment of effects

Great crested newt is strictly protected by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations (2010) as a European Protected Species (EPS). The latest Natural England guidance² includes a tool for assessing the risk of a development committing an offence based on the location and extent of habitat loss and disturbance, as well as potential harm to individual newts.

The two ponds in which great crested newts were recorded are approximately 170 m from the site boundary and 60 m from the existing access track. The Development will cause the temporary loss of approximately 0.24 ha of improved grassland at a distance of 170 m from the nearest pond. The access track will not result in any habitat loss. High-value aquatic and terrestrial habitats have been avoided. In the absence of mitigation, the Development proposals are unlikely to have a significant adverse effect on the favourable conservation status of great crested newt but are classified as 'Amber' suggesting that an offence is likely. For such risks, the assessment tool suggests that:

² Natural England (2013) *Template for Method Statement to support application for licence under Regulation 53(2)(e) in respect of great crested newts Triturus cristatus*. FormWML-A14-2

...the best option is to redesign the development (location, layout, methods, duration or timing; see Non-licensed avoidance measures tool) so that the effects are minimised. You can do this and then re-run the risk assessment to test whether the result changes, or preferably run your own detailed site-specific assessment. Bear in mind that this generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details, as mentioned in caveats above. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined. Once you have amended the scheme you will need to decide if a licence is required; this should be done if on balance you believe an offence is reasonably likely.

In light of the above, mitigation is proposed based on the principle of Reasonable Avoidance Measures which is considered to be a proportionate approach to the level of risk. Reasonable Avoidance Measures aim to specify working practices which will reduce the likelihood of harm and disturbance to an acceptable level, without the need for licenced mitigation.

3.7.3 Reasonable Avoidance Measures

Mitigation and compensation should be proportionate to the impacts of the planned works on the great crested newt population which should therefore be sufficient to offset the damaging effects of the project without overcompensating³.

NRW⁴ and NE advocate the use of good practice and avoidance measures to minimise the impact of a proposed activity on wildlife and in particular EPS. Licensing should be seen as the last resort where all other alternative ways of avoiding impacts on the species have been discounted.

A licence should not be required if, on the basis of survey information and specialist knowledge of the species concerned, it is considered reasonably unlikely that the Development will result in an offence⁵. However, in such circumstances, precautions must be taken to avoid affecting EPS during works, and Table 1 sets out the measures required for a non-licensed mitigation strategy for the Development.

Table 1. Reasonable Avoidance Measures for great crested newts

AVOIDANCE MEASURE	REASONING
Training/ General	
All site personnel will be made aware of the potential presence of great crested newts and their conservation and legal status by way of a 'Toolbox Talk' by the appointed Ecological Clerk of Works (ECoW) or a site-specific information pack.	All personnel have a responsibility to ensure legal compliance.
If great crested newts are identified and considered to be at risk, they should not be moved or handled and all works on site should cease until advice from the ECoW is obtained. It is possible that further work may need to be suspended until advice and/or licence from NRW is obtained.	Great crested newts are strictly legally protected and specialist advice will ensure legal compliance.

³ Natural England (2009) *The Myth – "That providing excessive mitigation/compensation will guarantee a Great crested newt mitigation licence"*

⁴ Various guidance documents available from: <http://naturalresourceswales.gov.uk/apply-buy-report/apply-buy-grid/protected-species-licensing/european-protected-species-licensing/great-crested-newt-licensing/?lang=en#.UgTvmJKsim4>

⁵ Natural England (2009) *European Protected Species: Mitigation Licensing – How to get a licence.*

AVOIDANCE MEASURE	REASONING
Location and Layout	
Limit works area to low value habitats: existing, frequently disturbed farmland.	Restricting works to habitats that are less favoured by great crested newts reduces opportunities for encountering newts and disturbing their more valued resources
Locate works as far as possible from great crested newt ponds.	Separating works from known great crested newt ponds reduces opportunities for encountering newts and disturbing their more valued resources.
Avoid disturbance to high-value habitats (hedgerows) by enforcing 10 m fenced exclusion zones	Separating works from high-value habitats reduces opportunities for encountering newts and disturbing important resources.
Timing and Duration	
If possible, site construction and decommissioning will take place during winter (November to February).	Newts are rarely active above ground during winter and are, instead, typically restricted to hibernation sites/habitats, thus works to grassland during this time are unlikely to harm newts.
Construction and decommissioning will take place during daylight hours.	Newts are less active above ground in daytime therefore works are less likely to harm newts.
Vegetation clearance/reinstatement will take only one day.	Limiting the duration of ground works reduces opportunities for encountering newts.
For works taking place March to October inclusive, grassland will be cut (before ground works commence) to a height of 100 mm under the supervision of the ECoW. Arisings will be removed and the grassland left undisturbed for 48 hours.	Short grassland is less favourable to great crested newts. 100 mm sward height is short enough to reduce habitat quality (and thereby discourage great crested newts), but long enough to avoid harming animals.
Cut areas will be hand searched by the ECoW immediately prior to work commencing. If no great crested newts are present, turf/topsoil will be stripped from this area under the supervision of the ECoW.	Hand searches before works will provide a final safeguard before works begin.
If great crested newts are identified during any of the above operations, development may need to be suspended until advice and/or licence is obtained from CCW.	Great crested newts are strictly legally protected and specialist advice will ensure legal compliance.
Operational Safeguards	
All works will be wholly within the fenced works area; works outside this area must first seek the advice of ECoW.	Limiting works area will avoid impacts to retained habitats.