



ARBOR VITAE

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PRELIMINARY ECOLOGICAL ASSESSMENT

LAND at RACKERY FARM, LLAY



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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Arbor Vitae were commissioned to carry out a Preliminary Ecological Assessment of land belonging to Rackery Farm, Llay near Wrexham. This land will be the subject of a planning application for the construction of a farm shop and associated infrastructure.

Such operations have the potential to disturb protected species, if present, and therefore Arbor Vitae were commissioned by Bleazard and Galetta to undertake a Preliminary Ecological Appraisal.

This report presents the results of a field survey carried out on 23 October 2020.

1.2 DETAILS OF PROPOSED WORKS

The proposals include the construction of a new farm shop. Access will be gained via an existing field entrance point off the B5102 main road.

1.3 SCOPE OF SURVEY

The survey is primarily designed to:

- Identify and record habitats and important ecological features on site;
- Evaluate the potential of the proposed development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.

1.4 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE AND BACKGROUND

The proposed development site is located in an arable field approximately 900m east of the small town of Llay (Figure 1). The site lies at 77 metres AOD in a generally flat agricultural landscape. A major residential development has recently been located 600 metres to the south west of the site.

The agricultural land surrounding the development site is mainly down to arable. Former sand and gravel quarrying operations lie approximately 700 metres to the north west and also 700 metres to the south east of the site. The site is close to urban developments at Llay (0.9km) and Gresford (1.5 kms) to the south.

3 SURVEY METHODOLOGY

3.1 DESK STUDY

An initial desk study was carried out to gain background information regarding protected species or designations within the area. The main sources of information were MagicMap and NBN Atlas.

3.2 SITE SURVEY

A site visit was made on 23 October 2020. The survey was carried out in accordance with CIEEM (2017) best practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected species:

- Badgers
- Bats
- Breeding birds
- Great crested newts

The survey methodology was tailored to evaluate the area for these species in the following ways:

Badger

An area within 50 meters of the site was closely searched for the following signs of badger activity:

- Setts
- tracks and footprints
- latrines
- snuffle holes

Bats

Potential roosting features on site were noted and the site was assessed in terms of nearby connecting habitat and other features which could be of value to bats.

Breeding birds

The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newts

A map and ground search were carried for any standing water bodies within 250 metres of the site. Any such bodies were assessed for their suitability to support great crested newts (GCN).

3.3 PERSONNEL

The survey was carried out by Will Prestwood BSc, an experienced ecologist.

3.4 CONSTRAINTS

There were no constraints on the survey being carried out according to accepted guidelines and standards.

4 SURVEY RESULTS

4.1 DESK STUDY

The desk study found that within 2km of the site there were two nationally designated sites:

- Chwarel Singret (SSSI) a geological site
- Marford Quarry (SSSI) disused quarry notified predominantly for its entomological interest

The search included Ramsar, SSSI, SAC, SPA, LWS and LNR.¹

Two Local Wildlife Sites lie within 500 metres:

- Ballswood Quarry – 500 metres to the east
- Burton Tower Lake – 600 metres to the north

Results from the desk study revealed that within a 1km radius of the proposed development site the following protected and key species have been recorded:

- Common pipistrelle bat
- Brown long-eared bat
- A wide range of amber and red-listed birds species including

There are no records for amphibians or reptiles within 1 kilometre of the site. Several records of great crested newt exist for sites within a 2 km radius.

4.2 HABITATS ON SITE

All habitats are classified using JNCC's Phase 1 Habitat Survey Handbook (JNCC, 2010).

¹ **SSSI**: Site of Special Scientific Interest, **SAC**: Special Area of Conservation, **SPA**: Special Protection Area, **LWS**: Local Wildlife Site **LNR**: Local Nature Reserve.

Arable land

The proposed site for the new farm shop is situated on arable land. This has recently been harvested for a maize crop and will be ploughed and re-sown shortly to a cereal crop.

Hedgerow

A mature, native, species-poor hedgerow forms the roadside boundary to the site. This comprised predominantly hawthorn with occasional blackthorn and dog rose.

Ground flora species are dominated by ruderal 'weed' species including nettle, cleavers and cow parsley.

A short length of hedgerow will be removed to create a visibility splay.

4.3 ADJACENT HABITATS

Standing water

A series of seven small ponds lie 110 metres to the west of the proposed new building. These are mainly interlinked by culverts. Several of them have been desilted in recent years. They all lie within the deep, shade of mature oaks and, in places, bankside willow scrub. The pond improvement works involved the clearance of undergrowth and scrub from the banks of the pools. This has improved light conditions and may lead to an increase in aquatic plant species which are currently lacking. There is no obvious source of water feeding the pools and no drainage of water from the pools. Some of the pools have very low water levels, despite a wet summer. Most are heavily inundated by leaf fall and, as a result, appear anaerobic.

4.4 PROTECTED AND PRIORITY SPECIES

Badgers

There were no field signs to suggest that badgers use the field and there are no historic records of badger within 1km of the site.

Bats

The mature oak trees 110 metres to the west of the site provide a small number of roosting opportunities for bats in the form of loose bark, small crevices and

broken branch stubs. It is very likely that these trees provide foraging opportunities for bats. The surrounding landscape of arable land and heavily maintained hedgerows do not provide optimal habitat for bats and it is likely that the local population is restricted in species and numbers. One record for common pipistrelle bats exists for a location 600 metres to the south west of the site although this site has now been taken over by a residential development.

Breeding birds

The site itself provides very few opportunities for breeding birds. The roadside hedgerow borders a very busy road and the high levels of disturbance will deter nesting.

Great crested newts

An overall Habitat Suitability Index was calculated for the seven interlinked ponds on the site which share certain similarities in terms of size, shade, degree of aquatic vegetation etc.

The HSI score of 0.59 indicates that the pools are of low suitability as a breeding site for GCN. Although there is a small area of good terrestrial habitat around the pools themselves, they are otherwise surrounded by intensively farmed arable land which is a sub-optimal habitat.

5 EVALUATION OF RESULTS AND POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

Arable land

The construction of the shop and associated access track and car park will result in the loss of approximately 0.5 hectares of arable land. This is of negligible ecological significance.

Hedgerows

Hedgerows are considered to be Habitats of Principal Importance (NERC Act). The construction of a visibility splay for the access road will involve the removal of approximately 50 metres of hedgerow. The hedgerow is not species-rich and does not qualify as an 'Important' hedgerow within the definitions of the Hedgerow

Regulations. However, its loss will result in a small loss of possible bird nest sites although the proximity of the main road severely reduces this potential.

The loss of the hedgerow will require compensatory planting of new native hedgerows.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

No evidence of this species was found and no impact on this species is predicted.

Bats

Any increase in external illumination may have an impact on the behaviour of nocturnal wildlife including bats using nearby habitats, notably mature trees to the west. These may use the hedgerow network for foraging and the value of these habitats may be reduced if external lighting increases. It is recommended that a wildlife-friendly lighting plan is adopted.

Breeding birds

There may be some limited loss of nest sites in the roadside hedgerow, as discussed above. Habitat creation including tree and hedgerow planting will compensate for this loss.

Great crested newts

The small area of land taken up by the development is sub-optimal GCN habitat. Given that the nearby ponds have 'below average' potential to support breeding GCN and that the potential terrestrial habitat is sub-optimal, the risk to this species is considered as negligible. However, in order to remove any residual risk, it is recommended that a precautionary approach is adopted and that work is carried out using Reasonable Avoidance Measures (RAMS).

6 MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

No habitat of high ecological significance will be lost and no specific mitigation is required. However, the loss of hedgerow will require compensation planting to be undertaken.

6.2 PROTECTED SPECIES MITIGATION

Bats

External lighting will be designed to avoid illumination of potential roosts or foraging features including hedgerows and mature trees.

Breeding birds

Hedgerow removal will be carried out outside the nesting season and hedgerow will be replaced with species-rich native hedgerows containing shrubs which provide nesting cover and food resources for birds. Precautions to avoid disturbance to nesting birds will be included within the Reasonable Avoidance Measures.

6.3 ECOLOGICAL ENHANCEMENT

The scheme offers potential for enhancement of nearby habitats and the creation of new habitat features to benefit biodiversity. These will include:

- Planting of perimeter hedgerows along boundaries of the site.
- Planting of an area of native tree species to extend the area of mature trees to the west of the site.
- Planting of individual native specimen trees within the site to create parkland landscape.
- Sowing of grass and wildflower meadow.
- Erection of bat and bird boxes within woodland area near ponds.
- Adoption of Conservation and Environment Management Plan (CEMP) to implement, manage and monitor development of the ecological landscape.

Habitats – hedgerows

Approximately 150 metres of new native hedgerow will be planted on the perimeter of the development site to create additional wildlife habitat and corridor. Species will include hawthorn, blackthorn, hazel, field maple, dogwood, guelder rose, holly and wild privet. Trees will be included at approximately 10-15 metre intervals and will include oak and wild cherry.

Woodland planting

A new area of native woodland will be planted to the west of the site in order to extend the area of mature trees. This will improve screening and also create additional wildlife habitat. This will comprise locally native species including sessile oak, silver birch, rowan, wild cherry and hazel.

Specimen trees

These will be planted within the site, including on the edge of any car parking areas, to create a parkland landscape.

Wildflower meadow

Topsoil will be removed from approximately 0.5 ha of the field and a grass/wildflower mix will be sown in the poorer subsoil. This will be managed in accordance with a CEMP to optimise its botanical diversity.

Species – Bats

Roosting opportunities for bats will be improved by erecting six bat boxes in mature oak trees. These should be Schwegler Type 2FN boxes.

Species – Birds

Nesting opportunities will be improved for birds by erecting six bird nest boxes in mature oak trees. These should include six Seville Woodstone nest boxes.

7 SUMMARY AND CONCLUSION

Planning permission is being sought for the construction of a new farm shop on arable land near Llay, Wrexham. Arbor Vitae were asked by the architects to undertake a Preliminary Ecological Assessment in order to evaluate the ecological interest of the site and examine any possible impact of the proposed development.

The survey found that the development will occupy an area of arable land of no ecological interest. The creation of a visibility splay will remove a length of species-

poor hedgerow which will have a minor impact on birds and will require compensation planting.

There will be no impact of any sites of wildlife interest, three of which exist within 0.5 kilometres.

The site itself holds very little potential for protected species and no evidence was recorded. However, a number of interlinked ponds within an area of mature oak trees and lying 110 metres to the west was examined in respect of great crested newts. The ponds were judged to have 'below average' suitability to support breeding GCN. No GCN records exist within one kilometre and the development site itself provides sub-optimal terrestrial habitat.

The mature oaks support features which may be exploited by bats as roost sites and the tree canopy provides foraging opportunities.

The ecological impact on habitats and protected species is minimal and mitigation/compensation will remove any residual impact. Mitigation will include carrying out work using RAMS to protect GCN and breeding birds. Compensation for loss of habitat will involve replacement of the roadside hedge.

There are several opportunities for enhancing opportunities for wildlife and these will be enshrined in a Conservation and Environment Management Plan. Habitat creation measures will include hedgerow planting, tree and woodland establishment and wildflower meadow creation. Measures to improve opportunities for individual species will include erection of bat and bird boxes.

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FIGURE 1 LOCATION. 1:50,000

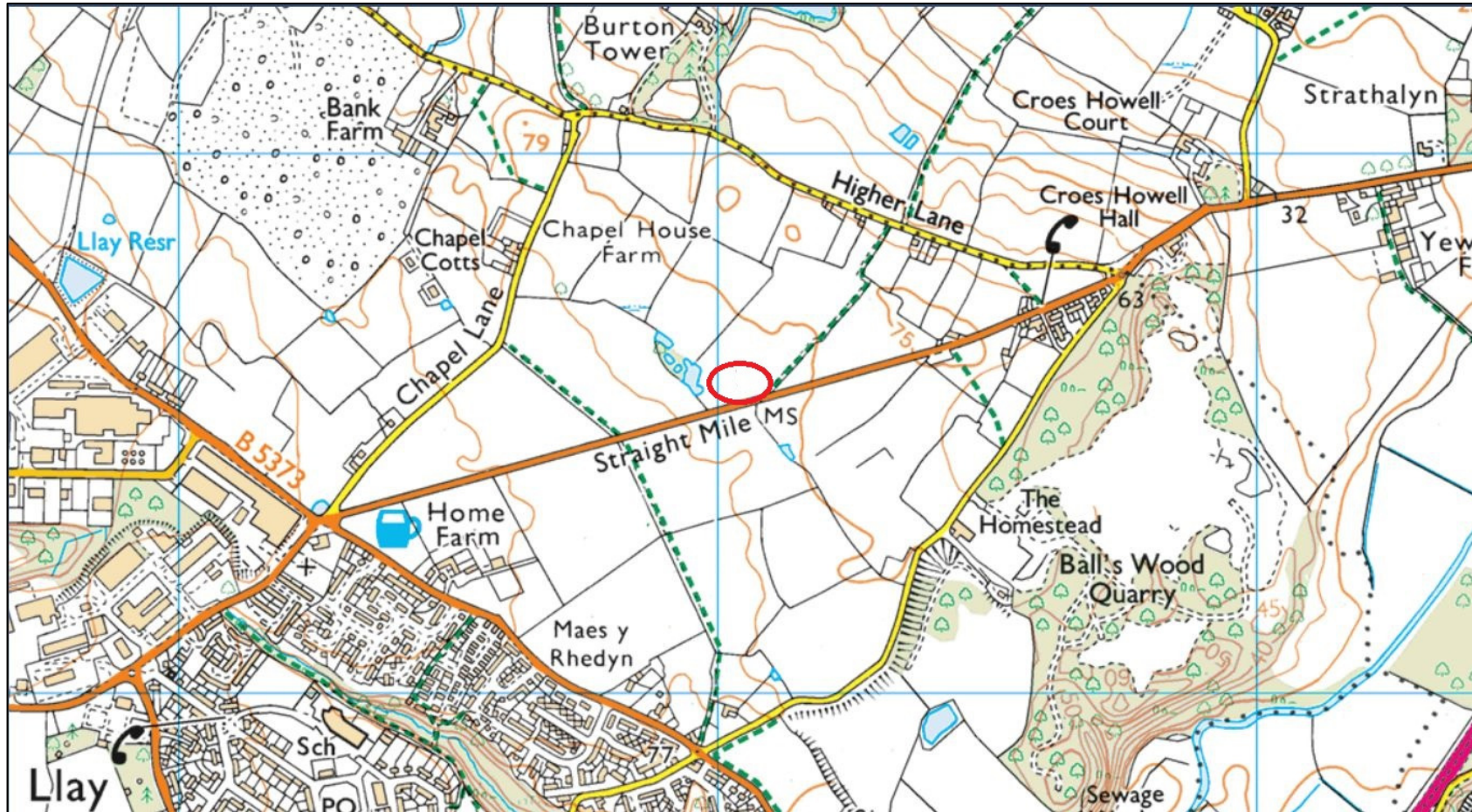
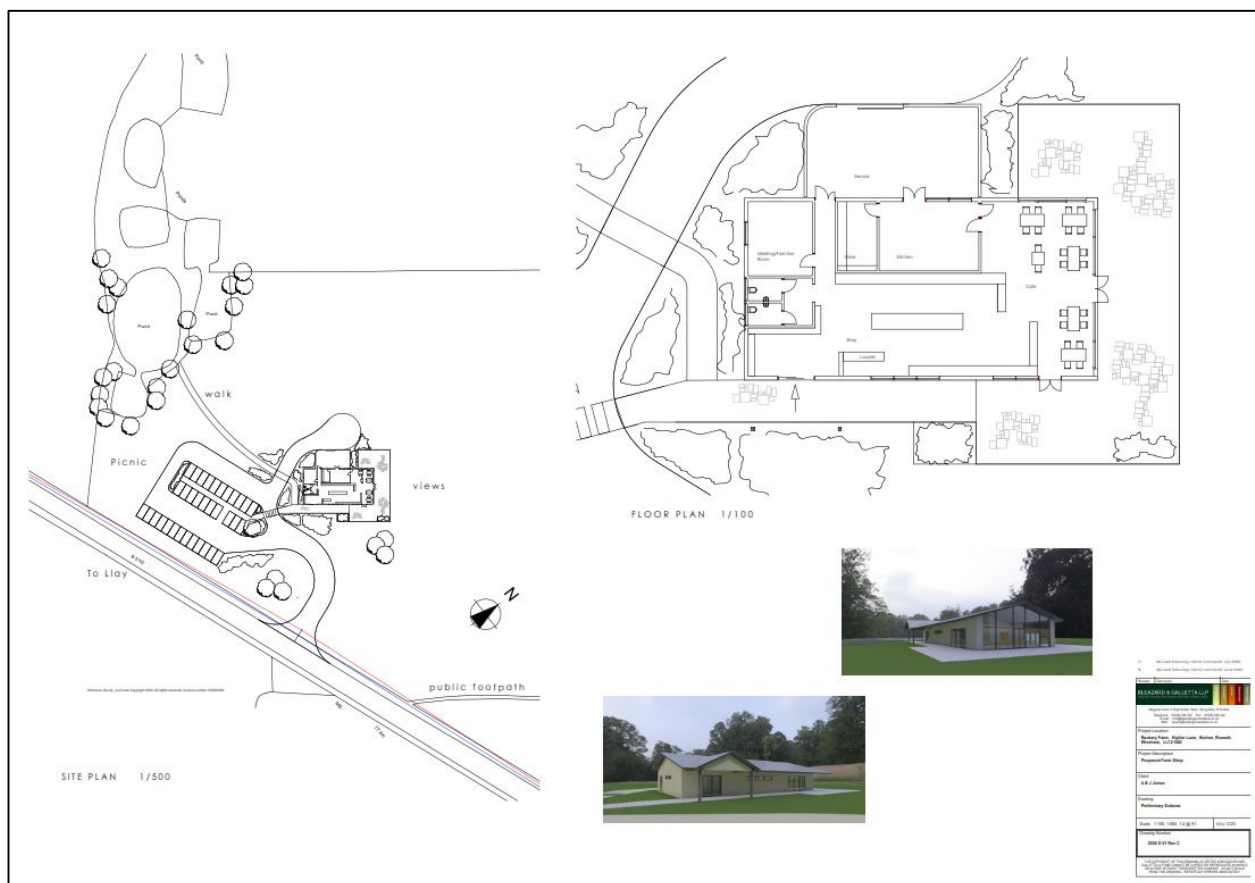


FIGURE 2 AERIAL PHOTOGRAPH



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FIGURE 3 SITE PLAN



APPENDIX 1 PHOTOGRAPHS

	Proposed entrance to new site and roadside hedge.
	Looking across proposed site eastwards towards group of mature trees and pond complex
	One of seven interlinked ponds



	Second of seven interlinked ponds
	Third of seven interlinked ponds
	Fourth of seven interlinked ponds



	Fifth of seven interlinked ponds
	Sixth of seven interlinked ponds
	Seventh of seven interlinked ponds

