



**Land at Llay Hall
Farm, Wrexham**

**Ecological
Impact
Assessment**

Prepared by:
**The Environmental
Dimension
Partnership Ltd**

On behalf of:
**Biogas Technology
Limited**

July 2019
Report Reference
edp5748_r001b

Contents

Executive Summary

Section 1	Introduction, Purpose and Context.....	1
Section 2	Methodology (Baseline Investigations)	3
Section 3	Results (Baseline Conditions).....	7
Section 4	Predicted Impacts and Mitigation.....	13
Section 5	Summary and Conclusions	21

Appendix

Appendix EDP 1	Habitat Descriptions and Illustrative Photographs
Appendix EDP 2	Desk Study Results

Plan

Plan EDP 1	Extended Phase 1 Habitat Plan (edp5748_d001b 05 July 2019 AG/ZH/CR)
-------------------	--

This version is intended for electronic viewing only

	Report Ref: edp5748_r001			
	Author	Formatted	Peer Review	Proofed by/Date
001_DRAFT	ZH	NG	NM	-
001a	ZH	-	-	RC 080719
001b	ZH	-	-	-

Executive Summary

- S1 The Environmental Dimension Partnership Ltd (EDP) Ltd was commissioned by Biogas Technology Limited to undertake an Ecological Impact Assessment of an area of land at Land at Llay Hall Farm, Wrexham.
- S2 The baseline ecological investigations included a desk study and an Extended Phase 1 Survey. All surveys were undertaken with reference to best practice guidance.
- S3 Llay Bog Sites of Specific Scientific Interest (SSSI) is a statutory site which requires consideration in regard to air quality. No further statutory, or non-statutory designations within the Application Site's Zone of Influence (Zol) would be materially affected by the proposals.
- S4 The Application Site consists of gravel and hard standing colonised by some vegetation with concrete foundations to support power generators. The Application Site is bordered by an adjacent industrial park and quarry to the south and east and farmland to the west. The habitats within the Application Site are of less than Local Ecological Value.
- S5 The Application Site is unlikely to support any Protected and Notable Species. However, the vegetation lining the access track is capable of supporting low numbers of common and widespread breeding birds and foraging bats.
- S6 Policy for the conservation and enhancement of the natural environment in Wales aims to ensure that "development plan strategies, policies and development proposals must consider the need to... support the conservation of biodiversity, in particular the conservation of wildlife and habitats." (Planning Policy Wales, December 2018).
- S7 Accordingly, the ecological mitigation strategy for the scheme includes avoidance measures embedded within the proposals and measures which should be incorporated at the construction stage.
- S8 On this basis, EDP considers that the scheme is capable of compliance with relevant legislation and planning policy for the conservation of the natural environment at all levels.

This page has been left blank intentionally

Section 1

Introduction, Purpose and Context

- 1.1 This Ecological Impact Assessment (EclA) has been prepared by EDP on behalf of Biogas Technology Limited and considers the ecological implications of a proposed change in land use at Land at Llay Hall Farm, Wrexham (hereafter referred to as 'the Application Site').
- 1.2 EDP is an independent environmental planning consultancy with offices in Cirencester, Cheltenham, Cardiff and Shrewsbury. The practice provides advice to private and public-sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and master planning. Details of the practice can be obtained at our website www.edp-uk.co.uk.

Site Context

- 1.3 The Application Site is centred approximately at Ordnance Survey Grid Reference (OSGR) SJ 321 560 and the Local Planning Authority (LPA) is Wrexham County Borough Council. The Application Site comprises a small compound area, which is linked to the B5102 Llay Road by an access track. The principal ecological features within and surrounding the Application Site (identified through site survey) are illustrated on the Extended Phase 1 Habitat Plan (**Plan EDP 1**) and described with illustrative photographs in **Appendix EDP 1**.

Development Proposals

- 1.4 The proposal is to install two generator units and ancillary structures to produce green energy. The majority of the habitats within the Application Site will remain unchanged with the generators being situated on the existing concrete plinths within the compound. Minor scrub clearance is anticipated alongside the existing access track in order to initially transport the equipment.

Scope of Assessment

- 1.5 This EclA describes the current ecological interest within and around the Application Site, which has been identified through standard desk and field-based investigations. It then considers the potential ecological impacts based on proposed works in the context of relevant legislation and planning policy. Finally, the necessary additional measures to avoid potential impacts, and the mechanisms for securing such measures are investigated.

1.6 The remainder of this report is structured as follows:

- **Section 2** summarises the methodology employed in determining the baseline ecological conditions within and around the Application Site;
- **Section 3** summarises the baseline ecological conditions, identifies and evaluates any pertinent ecological features/receptors;
- **Section 4** considers the potential impacts of the proposal on pertinent ecological features in the context of legislative, planning policy and biodiversity action planning considerations. Recommended mitigation and enhancement measures are provided; and
- **Section 5** summarises the inherent and recommended mitigation measures and provides the overall conclusions of the assessment.

Section 2

Methodology (Baseline Investigations)

- 2.1 This section summarises the methodologies employed in determining the baseline ecological conditions within and around the Application Site. The assessment has been undertaken by appropriately qualified Ecologists using relevant best practice methodologies wherever appropriate.

Desk Study

- 2.2 The desk study enables the initial collation and review of contextual information, such as designated sites, together with known records of protected and priority species¹.
- 2.3 The desk study involved collating biodiversity information from the following sources:
- North Wales Environmental Information Service (COFNOD); and
 - Multi-agency Geographic Information for the Countryside (MAGIC) website².
- 2.4 The desk study was undertaken during June 2019 and involved obtaining the following information:
- 10km radius for sites of European importance;
 - 2km radius for sites of National importance;
 - 1km radius for sites of Local importance;
 - 1km radius for other protected/notable species records; and
 - 500m radius for Priority Habitats.
- 2.5 These search areas are sufficient to cover the potential Zol³ of the proposed development in relation to designated sites, habitats and species. Results are shown in **Appendix EDP 2**.

¹ Priority species relate to those listed on Section 41 of the Natural Environment and Rural Communities Act (2006) considered to be of Principal Importance for conservation of biodiversity in England.

² www.magic.gov.uk.

³ Zone of Influence - the areas and resources that may be affected by the proposed development.

Extended Phase 1 Survey

- 2.6 The survey technique adopted for the initial habitat assessment was at a level based on the standard 'Extended Phase 1 Habitat Survey' technique⁴, based on habitat mapping and description, as well as relevant information relating to the presence, absence or level of suitability for Protected and Notable Species.
- 2.7 The Extended Phase 1 Survey of the Application Site was completed on 04 June 2019 by a suitably qualified Ecologist. All principal habitat types and dominant plant species present per habitat type were identified and the distribution of habitats identified is illustrated on **Plan EDP 1**.

Limitations

- 2.8 June is considered an optimal month for habitat surveys, as it is the flowering period for most plants. Thus, the conclusions are not considered to be constrained.

Detailed (Phase 2) Surveys

- 2.9 No further Phase 2 Surveys were considered necessary at the Application Site and a brief explanation for this is provided in **Table EDP 2.1**.

Table EDP 2.1: Ecology Surveys Scoped Out

Survey Type	Reasons for Scoping Out
Botanical Surveys	The Phase 1 Survey information was sufficient to confirm habitat value with no indication of high value habitat present.
Great Crested Newt	It is assumed that great crested newts are present at the location. However, the Application Site does not represent great crested newt's habitat as it is comprised of hardstanding, therefore, no impacts are anticipated. Where minor vegetation removal is required at the edges of the access track, this would be managed through Reasonable Avoidance Measures (RAMS) as a precautionary mitigation measure.
Bat Roosting	There are no trees, buildings or other structures which could be used by roosting bats on or surrounding the Application Site.
Bat Activity	Habitat suitable for foraging bats is limited to the surrounding hedgerows and trees which will not be impacted by the proposed development.
Reptiles	The very limited terrestrial habitat on the Application Site is restricted to the edges of the access track. The intensive management of the surrounding arable land is considered to be a barrier to reptile movement onto the Application Site.
Notable Mammals	The Application Site holds no habitat suitable for any notable mammal species such as brown hare, badger, hedgehog, water vole or otter.
Invertebrates	The Application Site holds no habitat suitable for any notable invertebrate species.

⁴ Joint Nature Conservation Council (2004) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit* (reprinted with minor corrections for original Nature Conservancy Council publication).

Evaluation

- 2.10 In 2013, the UK Biodiversity Action Plan (BAP) Priority Habitats and Priority Species and the Section 42 Species and Habitats of Principal Importance for Conservation under the Natural Environment and Rural Communities (NERC) Act 2006 were rationalised. This rationalisation occurred under the 'Post - 2010 Biodiversity Framework'. As a result, a new list of Priority Species and Priority Habitats is now in operation at the UK level.
- 2.11 These new lists supersede the former UK BAP and NERC Act Section 41 and 42 habitats and species, they are the new 'Biodiversity Indicators' that are used to monitor the status of biodiversity at the UK level. Each of the four devolved countries of the UK also has a similar list. For Wales, the Section 42 Species and Habitats of Principal Importance for Conservation under the NERC Act 2006 were rationalised post 2010. Each of the four devolved countries of the UK also has a list. In Wales, Priority Habitats and Species are listed under Section 7 of the Environment (Wales) Act 2016.
- 2.12 Within this Ecological Impact Assessment, where relevant, these species and habitats of National Nature Conservation priority will, therefore, be referred to as 'Priority Species' and 'Priority Habitats', except where indicated otherwise.
- 2.13 Where a particular ecological feature/receptor has been confirmed to be present, or presence is inferred based on habitat suitability, the ecological value or significance of the population or assemblage is assessed on the following geographic scale:
- International importance (ecological features which if impacted, would affect the distribution and/or conservation status of this feature in Europe);
 - National importance (ecological features which if impacted, would affect the distribution and/or conservation status of this feature in Wales);
 - County importance (ecological features which if impacted, would affect the distribution and/or conservation status of this feature in Wrexham County Borough); and
 - Local (ecological features that if impacted, would affect the distribution and/or conservation status of this feature in the town of Wrexham and its immediate surroundings).
- 2.14 Any other ecological features/receptors will be assessed as of less than local level importance.

This page has been left blank intentionally

Section 3

Results (Baseline Conditions)

- 3.1 This section summarises the baseline ecological conditions determined through the course of the investigations described in **Section 2**. It identifies and evaluates those ecological features that lie within the Application Site's potential Zol and which are pertinent in the context of the proposed development.

Designated Sites

- 3.2 Information regarding designated sites was obtained during the desk study from COFNOD and the MAGIC website. Statutory designations (those receiving legal protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below.

Statutory Designations

- 3.3 Statutory designations represent the most significant ecological receptors, being of recognised importance at an International and/or National level. International designations include Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites. National designations include SSSIs and National Nature Reserves (NNRs) and local designation includes Local Nature Reserves (LNRs).
- 3.4 The Application Site itself is not covered by any statutory designations, however, 18 such designations occur within the search area of which many have multiple designation levels⁵.

Table EDP 3.1: Non-statutory Designations within the Site's Potential Zol

Site Name	Approx. Distance from Application Site	Interest Feature(s)
Ramsar		
Midlands Meres and Mosses Phase 2	3.8km South-east	Nationally important series of SSSIs which demonstrate open water and peatland sites. <i>Including:</i> Vicarage Moss SSSI Geomorphological and Botanical Interest - largest example of a basin mire in Clwyd, the vegetation being distinctly zoned with <i>Sphagnum</i> , sedges and heather.

⁵ Natural Resources Wales. Designated Sites. [online] Available from: <https://nrwcms001.azurewebsites.net/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en>. Accessed 18 June 2019.

Site Name	Approx. Distance from Application Site	Interest Feature(s)
SAC		
Berwyn A Mynyddoedd De Clwyd/Berwyn and South Clwyd Mountains	7.2km South-west	Nationally important series of SSSIs which have blanket bog, base rich scree, crevice dwelling plants, dry heath, dry grassland and quaking bogs. <i>Including:</i> Llandegla Moor SSSI Botanical and Fauna Interest - habitat example of heather (<i>Calluna vulgaris</i>) dominated dwarf-shrub heath. <i>Sphagnum</i>, heather and a large and diverse bird assemblage. <i>And</i> Ruabon/Llantysilio Mountains and Minera SSSI Botanical, Fauna and Geological Interest – dry dwarf shrub heath, dominated by heather, disused quarry workings are used by hibernating lesser horseshoe bat (<i>Rhinolophus hipposideros</i>) and a diverse assemblage of birds noted.
River Dee And Bala Lake/Afon Dyfrdwy A Llyn Tegid	7.5km East	Cross border river which supports multiple Annex II species including sea lamprey (<i>Petromyzon marinus</i>), bullhead (<i>Cottus gobio</i>), otter (<i>Lutra lutra</i>), Atlantic stream crayfish (<i>Austropotamobius pallipes</i>) and Annex I listed floating vegetation of <i>Ranunculus</i> of plane and sub-mountainous rivers. <i>Including:</i> Noted as two separate SSSIs: Afon Dyfrdwy (River Dee) and River Dee (England) Geological, Riparian Habitat Interest – noted for migratory fish, depend upon the whole river ecosystem and above SAC citation.
Deeside and Buckley Newt Sites	8.2km North	Nationally important series of SSSIs which are a strong hold for great crested newt (<i>Triturus cristatus</i>). <i>Including:</i> Buckley Claypits and Commons SSSI Fauna and Geological Interest - largest known breeding populations of the great crested newt in Great Britain. Torch night counts revealed 100+ on several occasions.
Johnstown Newt Sites	8.7km South	Nationally important series of SSSIs which are a strong hold for great crested newt.

Site Name	Approx. Distance from Application Site	Interest Feature(s)
		<i>Including:</i> Stryt Las A'r Hafod SSSI Fauna and Geological Interest - largest known breeding populations of the great crested newt in Great Britain. Torch night counts revealed 250+ on several occasions.
SSSI		
Llay Bog	450m South	Botanical Interest - species include: <i>Sphagnum</i> mosses, a variety of sedges, marsh cinquefoil (<i>Potentilla palustris</i>), marsh pennywort (<i>Hydrocotyle vulgaris</i>), alder - birch carr with purple moor grass (<i>Molinia caerulea</i>).
Chwarel Singret	2.2km West	Geological Interest
Marford Quarry	3.3km West	Entomological Interest – diverse butterfly and moth assemblage associated to the flora which is indicative of calcareous and gravel substrate.
Coedwig Ffossil	3.5km South-west	Geological Interest
Brymbo Fossil Forest		
Coed Talon Marsh	4.8km North-west	Botanical Interest – largest and one of the best examples in Clwyd of southern mesotrophic mire which has a restricted range. Large areas of willow carr, fen vegetation and sedges.
LNR		
Alyn Waters	830m South	Largest country park in Wrexham with woodland, grassland and riparian habitats. Former country estate with quarrying background.

Non-statutory Designations

- 3.5 Non-statutory designations in North Wales are known as Wildlife Sites. The Application Site itself is not covered by any LWSs. However, six occur within 1km as per COFNOD data. These are listed in **Table EDP 3.2**.

Table EDP 3.2: Wildlife Sites within the Site's Potential Zol

Site Name	Approx. Distance from Application Site	Interest Feature(s)
Alyn Waters	500m South-west	Regenerating neutral grassland with semi-natural broadleaved woodland. Interesting species include several orchids, yellow rattle (<i>Rhinanthus minor</i>) and yellow-wort (<i>Blackstonia perfoliata</i>). Breeding skylarks (<i>Alauda arvensis</i>) and otter (<i>Lutra lutra</i>) presence.
Blast Road Pond	560m South-west	A fishing lake with mare's tail and an unimproved grassland slope with diverse species mix.
Rhydym Hall Grassland	850m North-west	Grassland adjacent to River Alyn with frequent meadowsweet (<i>Filipendula ulmaria</i>), black knapweed (<i>Centaurea nigra</i>) and Yorkshire fog (<i>Holcus lanatus</i>). Some broadleaved woodland and scrub.

Site Name	Approx. Distance from Application Site	Interest Feature(s)
Nant-y-Gaer and Llay Valley	860m East	Semi-natural woodland mainly sycamore and ash. Semi-improved neutral grassland and grazed oak woodland present.
Sydallt Wood	960m West	Riparian woodland with planted beech and oak. Diverse storey levels with semi-improved neutral grassland. Diverse with several uncommon species.
Hope Mountain and Ffrwdd Wood	980m West	Broad leaved woodland, scrub, bracken, neutral, acid and calcareous grassland, marshy grassland and swamp. Diverse and abundant mix of flora species including field scabious (<i>Knautia arvensis</i>) and great knapweed (<i>Centaurea scabiosa</i>).

Habitats

- 3.6 Information on habitats within and around the Application Site was obtained during the desk study and Extended Phase 1 Survey.
- 3.7 The distribution of the habitat types within the Application Site is illustrated on **Plan EDP 1** with illustrative photographs and detailed descriptions of the habitat types provided in **Appendix EDP 1**.
- 3.8 A summary and qualitative assessment of those habitats assessed within the Application Site is provided in **Table EDP 3.3** overleaf.

Table EDP 3.3: Summary of Habitats within the Application Site

Habitat or Feature	Distribution within Application Site	Intrinsic Ecological Importance
Hard Standing	Entirety of the Application Site and enclosed by metal fencing.	Less than Local - sparsely vegetated with low species richness.

- 3.9 As noted within **Table EDP 3.3**, the Application Site comprises of habitat of limited ecological value. These habitats may be of importance for supporting populations of Protected/and or Notable Species and this is discussed below.
- 3.10 The Application Site does not contain any Priority Habitats, and none occur within 500m.

Protected and/or Notable Species

- 3.11 The likelihood of presence, or confirmed presence, of Protected/and or Notable Wildlife Species within the Application Site is summarised below with reference to desk study records, habitat suitability and detailed surveys where relevant.

- 3.12 Where a particular species or taxonomic group has been confirmed to be present, or presence is inferred based on habitat suitability, the ecological value or significance is assessed on a geographical scale.

Breeding Birds

- 3.13 Records of 56 red or amber listed⁶ bird species were returned during the desk study, many of which are not pertinent to the Application Site as it provides no breeding habitat for them. Goldcrest (*Regulus regulus*), green woodpecker (*Picus viridis*), song thrush (*Turdus philomelos*) and tree sparrow (*Passer montanus*) could potentially nest in the scrub and plantation woodland along the access track but the likely assemblage present in this habitat is considered to be of less than local importance.

Bats

- 3.14 The desk study returned records, no records of bat species within the last ten years. Pre-2008 records included common and widespread bat species; brown long eared (*Plecotus auritus*), myotis, common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) within 1km.
- 3.15 There are no suitable roosting features within the Application Site, and the value to foraging bats is negligible. The assemblage of bats likely to be using the access track is considered to be of less than local value.

Notable Mammals

- 3.16 Records of badger (*Meles meles*) and hedgehog (*Erinaceus europaeus*) were returned during the desk study.
- 3.17 There is no suitable habitat for badger within the Application Site. Foraging is restricted to the scrub along the access track. Similarly, the Application Site holds very limited foraging for hedgehog and it is restricted to the access track edges.
- 3.18 The Application Site is considered to be of negligible value to notable mammal species and they are not considered further in this assessment.

Reptiles

- 3.19 Multiple records of grass snake (*Natrix natrix helvetica*) have been recorded within 1km with the closest observation at 520m north of the Application Site. However, as is the case for great crested newt, the site is of negligible value, and surrounded by intensive agricultural land which acts as a barrier to dispersal.
- 3.20 The Application Site is considered to be of negligible value to notable mammal species and they are not considered further in this assessment.

⁶ Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R.D., Aebischer, N.J., Gibbons, D.W., Evans, A. And Gregory, R.D. 2009 "Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man" British Birds, Vol. 102, pages 296-341.

Amphibians

- 3.21 Records of great crested newt and the Priority Species, common toad (*Bufo bufo*) were returned during the desk study with the nearest observation 15m east of the Application Site within the quarry. Local BAP species, palmate newt (*Lissotriton helveticus*) and smooth newt (*Lissotriton vulgaris*) were also recorded at this location.
- 3.22 There are suitable breeding habitats for amphibians, 50m west and 60m east as confirmed by COFNOD data pre-2008. Six further ponds are located within 500m of the Application Site.
- 3.23 The scrub present along the western edge of the access track which could potentially be considered terrestrial habitat although this is negligible in area and surrounded by farmland and hardstanding. In general, the works will be restricted to unsuitable habitat, no ponds will be affected, and the likelihood of encountering great crested newts or other amphibians is assessed as negligible. As it is accepted that great crested newts are known to be present in the general area, there would be no merit in undertaking survey work and the residual (very minor) risks can be managed through ecological supervision and adherence to a Non-Licensed Method Statement (NLMS).

Summary of Potential Issues Arising from Survey Findings

- 3.24 Based on the survey findings described above, the key ecological features/receptors pertinent to the development proposals are as follows:
- Breeding Birds – habitats suitable for breeding birds within the adjacent screening plantation woodland but are unlikely to support a notable assemblage of breeding bird species;
 - Great crested newt is known to be present in the area, but unlikely to be affected by the proposals. Residual risks may be appropriately managed through NLMS; and
 - Some consideration of the effects of NO_x deposition on Designated Wildlife Sites (DWS) is required.

Section 4

Predicted Impacts and Mitigation

- 4.1 This section considers the likely impacts of the proposed works included as **Appendix EDP 2** on the existing ecological resource. Where impacts cannot be avoided by inherent mitigation alone, additional mitigation or enhancement measures are recommended which, if implemented, would as a minimum enable the proposed development to meet legislative and/or planning policy requirements.
- 4.2 The term ‘significant impact’ is taken from the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines⁷ to mean “*An effect that either supports or undermines nature conservation objectives for important ecological resources or features*”.
- 4.3 In accordance with the NERC Act 2006, within Wales, LPA have a statutory duty to have regard to effects upon biodiversity when exercising their functions, this includes; consideration of effects upon ecological features such as designated sites and Principle Habitats/Species when determining planning applications. In accordance with planning policy at all levels, LPAs must also consider whether ‘significant harm’ to biodiversity may occur due to effects upon such ecological features. This, and the statutory protection afforded to certain designated sites and species, is explored in further detail below.
- 4.4 In accordance with this, the Wrexham Unitary Development Plan⁸ provides detailed planning policies to manage and guide development across Wrexham. The Development Plan alongside its Planning Guidance Notes are a material consideration in the determination of planning applications.
- 4.5 Planning Guidance Note No.32 ‘Biodiversity and Development’⁹ contains several policies of relevance to the proposed development, which are discussed in turn below.
- 4.6 EDP’s overall summary and conclusions, based upon the above, are given in **Section 5**.

Designated Sites

Statutory Designations

- 4.7 Statutory designations receive legal protection under various National and International legislative instruments. This protection is also reflected in National Policy included within Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning (TAN5),

⁷ CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

⁸ Wrexham County Borough Council (undated) Wrexham Unitary Development Plan (1996-2011) – Adopted 2005. [Online]. Available from: https://www.wrexham.gov.uk/assets/pdfs/planning/udp/written_statement_e.pdf [Accessed 21 June 2019].

⁹ Wrexham County Borough Council (2011) Local Planning Guidance Note, No. 32: Biodiversity and Development. [Online] Available from: <https://www.wrexham.gov.uk/assets/pdfs/planning/lpg/guide32.pdf> [Accessed 21 June 2019].

which are given material consideration during the planning application process. Such consideration is also afforded to non-statutory designations.

- 4.8 Policy EC6 of the Wrexham Unitary Development Plan states development within or close to sites of biodiversity interest will only be permitted where development clearly outweighs the need to safeguard the intrinsic nature conservation value of the site.
- 4.9 In terms of Llay Bog SSSI, the designation relates to the sensitive and rare flora associated to bog habitat. Vulnerabilities include changes to the water acidity level through pollution and nutrient enrichment. There is potential for the water quality change, as a result of emissions released by the proposed works. Therefore, Llay Bog SSSI is scoped into this assessment.
- 4.10 The following designations have been scoped out of this assessment with reasonings discussed in regard to the proposed works having unlikely adverse impacts.
- 4.11 Regarding, Midlands Meres and Mosses Phase 2 Ramsar (including Vicarage Moss SSSI), there are no likely significant effects to the botanical component of the citation in terms of nutrient enrichment by virtue of its significant spatial separation.
- 4.12 Berwyn A Mynyddoedd De Clwyd/Berwyn and South Clwyd Mountains SAC (including Llandegla Moor SSSI and Ruabon/Llantysilio Mountains and Minera SSSI) are designated for Annex I habitats including dry heath, grassland, blanket and quaking bog. Additional, Annex II listed species, lesser horseshoe bat (*Rhinolophus hipposideros*) are found hibernating in disused quarry workings and an important assemblage of birds are noted. There is limited ecological and hydrological connectivity to these Sites. Furthermore, there is no suitable habitat within the Application Site to support such species and Annex II bat species were not found within the desk study data.
- 4.13 River Dee And Bala Lake/Afon Dyfrdwy A Llyn Tegid SAC (including both Afon Dyfrdwy (River Dee) SSSI and River Dee (England) SSSI) is cited as containing Annex I habitats and multiple Annex II listed species which include; Atlantic salmon (*Salmo salar*), floating water-plantain (*Luronium natans*), several lamprey (*Lampetra*) species, bullhead (*Cottus gobio*) and otter (*Lutra lutra*) which are dependent upon water quality. The Sites are isolated from the Application Site in terms of hydrology and ecological connectivity. Several busy roads, housing and farmland separate these designated sites.
- 4.14 Those sites specifically designated for being a strong hold for great crested newt populations (Deeside and Buckley Newt Sites SAC and Johnstown Newt Sites SAC) are geographically isolated from the Application Site. There is no hydrological or ecological connectivity to these sites or on-site suitable habitat.
- 4.15 Marford Quarry SSSI is designated for its diverse entomological populations which are dependent upon the calcareous substrate. The Application Site has no ecological connectivity to the site and contains no suitable habitat. Additionally, there are no hydrological links to the SSSI.

- 4.16 Coed Talon Marsh SSSI is noted for its specialised unique flora on a rare southern mesotrophic mire. This habitat is dependent upon water quality and is not hydrologically or ecologically connected to the Application Site.
- 4.17 Chwarel Singret SSSI and Coedwig Ffosil Brymbo Fossil Forest SSSI, no likely significant effects are likely to occur due to the nature of their citations for geological reasons.
- 4.18 Alyn Waters LNR has restricted ecological connectivity to the Application Site as it is separated by agriculturally managed fields and the B5102 with no hydrological links. The mixed habitat site with public access is unlikely to adversely affect by proposed works.

Non-statutory Designations

- 4.19 Non-statutory designations/local sites do not receive any formal legal protection. However, they do receive Planning Policy Protection, as reflected in the Planning Policy Wales (2018) and are also covered within Policy EC6 of the Wrexham Unitary Development Plan.
- 4.20 As described in **Section 3**, there are six non-statutory designations within the Zol of the Application Site. The B5102 and a series of agriculturally managed fields separate the Application Site from Alyn Waters, Blast Road Pond, Nant-y-Gaer and Llay Valley Wildlife Sites which limits ecological connectivity between the Sites.
- 4.21 Sydalit Wood and Llay Valley Hope Mountain and Ffrwdd Wood Wildlife sites are designated for botanical interest within woodland, marsh, riparian and a variety of grassland habitat. Ecological connectivity between these Wildlife Sites and the Application Site is restricted. Multiple land uses including residential development, multiple agricultural fields and a railway are situated between the sites, acting as a barrier to dispersal.
- 4.22 Rhydyn Hall Grassland Wildlife Site is designated for botanical interest along a riparian habitat. Ecological connectivity between this wildlife site and the Application Site is limited and confined to a series of agriculturally managed fields. As the citation does not cover mobile species, this further demonstrates fragmentation between the Application Site and Wildlife Site.
- 4.23 The Application Site supports no species or habitats relevant to the LWSs within the Zol and there are very limited surface terrestrial or hydrological links between them. This coupled with the short temporal scale, minimal area required for the construction works and the negligible difference in land use post development means, that there is minimal risk of a negative impact on LWSs as a result of the proposals.

Air Quality Impacts on Designated Sites

- 4.24 The need for a project-specific air quality impact assessment was 'scoped out' of the general environmental requirements to support the planning application. Therefore,

consideration of the effects has been based on the various sources of data which has been collectively used as a proxy to undertake a basic assessment of air quality impacts on nearby Wildlife Sites. Specifically, the impacts of NO_x deposition on sensitive habitats is considered. The data considered include the following:

- The maximum emission levels of NO_x from the proposed installations;
- The distance and sensitivities (including reference to critical loads) of nearby Wildlife Sites; and
- The likely relationship between concentration of NO_x and distance.

- 4.25 The permissible levels make reference to different limits, depending on the different equipment used. The proposals at this site fall within the category of 'New/Gas Engine/Natural Gas'. For this category of installation, the maximum permissible NO_x emissions from the apparatus will be 95mg/Nm³ at reference conditions (dry, 15% O₂). The apparatus will not exceed this.
- 4.26 Last year, Natural England produced guidance stating critical load levels for sensitive habitats. A critical load is defined as "*a quantitative estimate of an exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge*". Critical loads for all habitat types are advised to be 30 µg/m³.
- 4.27 The closest designated Wildlife Sites are located at 450m and 500m from the Application Site. As a starting point, potential impacts on these sites are considered.
- 4.28 A Habitats Regulations Assessment has recently been undertaken for the Ashdown Forest SPA/SAC (Ecus, 2018), and this was supported by detailed air quality assessments and modelling (Air Quality Consultants, 2018). This was done to assess the impacts of traffic on the designated sites as a result of air quality, with a specific assessment undertaken for NO_x. In the Ashdown Road study, the source was effectively diffuse (rather than a point source), so there is no figure given for emissions at zero distance. However, maximum NO_x concentrations at 1 - 2m from the road were found to range from 20 µg/m³ to 70 µg/m³. The maximum figure here is comparable to the level of NO_x at the source of the proposed apparatus (70 µg/m³ vs 95 µg/m³), particularly as the measurements for the Ashdown Forest were measured at 1 - 2m as opposed to 'at source'. Furthermore, NO_x levels decrease in a logarithmic manner, i.e. falling most sharply within the first few metres.
- 4.29 In the case of the Ashdown data, all measurements points (which included four transects where NO_x at 1 - 2m ranged from ~20 µg/m³ to ~70 µg/m³), the NO_x concentration fell below the critical load at 10m from the source. By 200m from source, the NO_x concentrations fell to in the region of 15 µg/m³. This is well below the critical load. Despite being approximately half the distance between the Application Site and the nearest designated wildlife site, it is therefore considered reasonable to conclude that the proposals will not have a significant detrimental impact on any DWS.

Habitats

- 4.30 There are several mechanisms through which habitats receive protection with the statutory and non-statutory designated site frameworks. For instance, certain habitats are identified in policies within Planning Policy Wales. For example, the document states that local authorities must consider the need to:
- *“Ensure statutorily and non-statutorily designated sites are properly protected and managed;*
 - *Safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and*
 - *Secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks”.*
- 4.31 Policy PS2 of the Wrexham Unitary Development Plan identifies that development must not detrimentally affect the quality of the natural environment. Policy PS11 encourages proposals to improve biodiversity value, protect and enhance. Where such development is permitted, damage should be kept to a minimum with compensatory measures provided.
- 4.32 The majority of the Application Site comprises building and hard standing. The access track is lined with a dense continuous scrub and agricultural land. All habitats are considered to be of less than local value.
- 4.33 Some temporary loss of the scrub is unavoidable. However, given the temporary nature of this impact, it is considered to have a negligible impact on biodiversity.
- 4.34 Some of the habitats present within the Application Site, including those of low or negligible intrinsic value, require further consideration in relation to supporting Protected Species as discussed below.

Protected and/or Notable Species

- 4.35 Certain species receive legal protection in the United Kingdom and are commonly known as ‘Protected Species’. In reality, the level of protection for different species varies considerably, from protection solely against ‘killing and injury’ to full protection of the species and their places of refuge. Where pertinent, details of legal protection afforded to species/species-groups are provided below.
- 4.36 In addition to Protected Species, there are other species/species-groups that do not receive legal protection, but which are notable owing to their conservation status as Priority Species or other status as described in Paragraph 4.3. Details of any actual or Potential Notable Species within the Application Site are identified below.

- 4.37 Baseline investigations have identified Protected Species implications for the Application Site relating to breeding birds and bats which are discussed below.

Breeding Birds

- 4.38 All wild birds, their nests and eggs are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is in use or being built;
- Take, damage or destroy the egg of any wild bird; or
- To have in one's possession, or control, any wild bird (dead or alive) or egg or any part of a wild bird or egg.

- 4.39 Any breeding birds close to the Application Site will be associated with the scrub and trees surrounding the access track.

- 4.40 During transportation of the materials, the access road will need some minor works to the scrub in order to allow access for the vehicles and construction machinery.

- 4.41 Any required vegetation removal (unlikely) should occur outside of the bird breeding season (i.e. avoiding the period from March to August inclusive). If this is not possible, any areas for clearance will be checked for signs of nesting (nests or displaying males), by an Ecologist prior to commencement. If evidence of nesting is recorded, works within that particular area shall not proceed until the chicks have fledged with a buffer zone around the active nest of 5m. Toolbox talks should be conducted to site personnel prior to any vegetation works taking place.

- 4.42 Subject to these recommendations being fulfilled no significant impacts upon birds are anticipated to arise as a result of the development.

Foraging Bats

- 4.43 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV(a) to the Habitats Directive). This affords them strict protection under the Conservation of Habitats and Species (Amendment) Regulations 2016, making it an offence to:

- Deliberately capture, injure or kill a wild animal of an EPS;
- Deliberately disturb wild animals of an EPS wherever they are occurring, in particular, any disturbance that is likely to impair their ability to survive, to breed or reproduce, or in the case of hibernating or migratory species, to hibernate or migrate or to affect significantly the local distribution or abundance of the species to which they belong;

- Deliberately take or destroy the eggs of a wild animal of an EPS; or
- Damage or destroy a breeding site or resting place of a wild animal of an EPS.

4.44 Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended), making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place.

4.45 Any foraging bats close to the Application Site will be associated with the scrub and trees along the access track and impacts on this will be minimal and temporary.

4.46 The lighting scheme for the new proposals will not be significantly different to that already employed at the Application Site.

4.47 Therefore, a significant beneficial impact upon bats is not anticipated to arise as a result of the development.

Amphibians

4.48 Great crested newt is the only native and widespread amphibian species to be protected in the UK and is a European Protected Species (EPS), thereby, receiving protection under the Conservation of Habitats and Species Regulations 2010 as discussed previously in relation to bats.

4.49 Additional protection is also afforded to this species under the Wildlife and Countryside Act 1981 (as amended), making it an offence to:

- Deliberately capture, injure or kill a wild animal of an EPS; and
- Intentionally or recklessly disturb great crested newts whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place.

4.50 This species, together with common toad are also listed as Priority Species under the UK BAP. At a local scale, both common toad and great crested newt are Local Biodiversity Action Plan (LBAP) species alongside smooth and palmate newt.

4.51 Any amphibians including great crested newts will be associated to the pond and western edge of the access track.

4.52 Therefore, while it is accepted that amphibians including great crested newts are present in the general area, the proposed works would not require a licence and therefore, extensive survey data is not required. A licence is not required because the works do not require the loss of great crested newt habitat and pose negligible risk to individual animals. In the small areas where localised vegetation management is required, the works should be subject to NLMS, which should include an ecological watching brief and

the avoidance of undertaking works during frosty weather. Removal of dense vegetation (such as the scrub adjacent to the access track) should also be kept to a minimum.

- 4.53 Great crested newts and other amphibians are notoriously tolerant of pollution, and therefore, impacts from the emissions on the animals themselves are likely to be negligible. In addition, the land surrounding the Application Site is subject to intensive agricultural practices and therefore, comprised of resilient flora. As the emissions will be within the levels required, no impacts on the local habitats are expected, and therefore it is predicted that great crested newts and other amphibians will be unaffected by the operation of the Application Site.
- 4.54 During transportation of the building materials, the access road will be used intermittently use throughout the year. Given the irregular use of the access road and minor sub-optimal habitat present, precautionary efforts can minimise any potential harm to the species. Work should occur outside the breeding season (mid-March to mid-June). If this is not possible, pre-commencement checks and tool box talks will be conducted to site personnel prior to any works taking place.
- 4.55 Subject to these recommendations being fulfilled, no significant impacts upon birds are anticipated to arise as a result of the development.

Section 5

Summary and Conclusions

- 5.1 EDP's desk and field-based baseline investigations have demonstrated that the habitats and species present within and around the Application Site do not pose a constraint to the proposed development.
- 5.2 There are no further statutory or non-statutory protected nature conservation interests within the Application Site and none nearby that would be impacted by the proposals. Potential impacts as a result of air quality have been assessed using various sources of data and suggest that there will be no significant detrimental impacts.
- 5.3 EDP's survey confirmed that in general, Protected and Notable Species are very unlikely to be affected by the proposals, although, very minor and straightforward measures are proposed to ensure that breeding birds are not harmed during the localised vegetation removal.
- 5.4 On this basis, EDP finds that the scheme is capable of compliance with relevant planning policy for the conservation of the natural environment at all levels. There is therefore no reason, in ecological terms why planning permission should be refused.

This page has been left blank intentionally

Appendix EDP 1

Habitat Descriptions and Illustrative Photographs

- A1.1 An Extended Phase 1 Habitat Survey¹⁰ was conducted on 04 June 2019. The principal habitats within and around the Application Site are described below, with illustrative photographs provided where appropriate. The following should be read in conjunction with **Plan EDP 1**.
- A1.2 All visible plant species were recorded, and their abundance was estimated with reference to a DAFOR scale with species recorded as Dominant, Abundant, Frequent, Occasional or Rare.
- A1.3 The Application Site consists of a hardstanding compound enclosed by fencing.

Limitations

- A1.4 The timing and conditions during the surveys were in line with those set out in the guidelines and as such were not subject to any constraints.

On-site Habitats

Hard Standing

- A1.5 The access track and compound consist of hardstanding (**Image EDP 1.1**). Birch (*Betula pendula*) saplings, bird's foot trefoil (*Lotus corniculatus*) and bramble (*Rubus fruticosus* Agg.) are present sparsely within the compound which is enclosed by a fence. An industrial estate borders the compound on the western boundary. Multiple trees surround the compound including elder (*Sambucus nigra*), birch (*Betula* sp) and oak (*Quercus robur*).

¹⁰ Joint Nature Conservation Committee (2010) Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit [Online]. Available from: http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf [Accessed 04 June 2019].



Image EDP A1.1: Hardstanding compound with saplings and trees beyond fencing

Off-site Habitats

Plantation Woodland

An area of plantation woodland screens the Application Site. It contains species such as oak and birch. An additional parcel of plantation woodland comprising of oak is located south of the Application Site, adjacent to the hardstanding access track and scrub.

Scrub

- A1.6 Immediately south of the Application Site is a hardstanding access track which has a tree line along the eastern boundary. This comprises of oak and small amounts of scattered scrub. This includes elder, hawthorn (*Crataegus monogyna*), willow (*Salix* sp.) and bramble. This is approximately 2m in width.

Improved Grassland

- A1.7 The hardstanding access track has borders of <1m in width and comprise of improved grassland (**Image EDP A1.2**). Dominant species include Yorkshire fog (*Holcus lanatus*) and cock's-foot (*Dactylis glomerata*). Occasional species include black medic (*Medicago lupulina*), cow parsley (*Anthriscus sylvestris*), common nettle (*Urtica dioica*), vetch and hogweed (*Heracleum sphondylium*).
- A1.8 The field to the east of the access track is agriculturally managed, species poor semi-improved grassland and dominated by Yorkshire fog, cock's foot and meadow grass (*Poa* sp.) with frequent buttercup (*Ranunculus* sp.).



Image EDP A1.2: Hardstanding access track with oak tree line to east and semi-improved grassland to the west

Hedgerows

- A1.9 The field to the west is bound by a species poor hawthorn hedgerow. This is box cut and measures approximately 1m x 1m with occasional mature oak trees.

Ponds

- A1.10 There is a pond (P1) located within the grassland, west of the Application Site. This has 1 - 2m steep banks. The bank is covered with scrub (including bramble and rose (*Rosa sp.*)). It is heavily shaded by trees (ash, willow and oak) and is largely devoid of vegetation (**Image EDP A1.3**).
- A1.11 Two further ponds are located within the quarry (310m south east of the Application Site) which could not be accessed at the time of the survey.

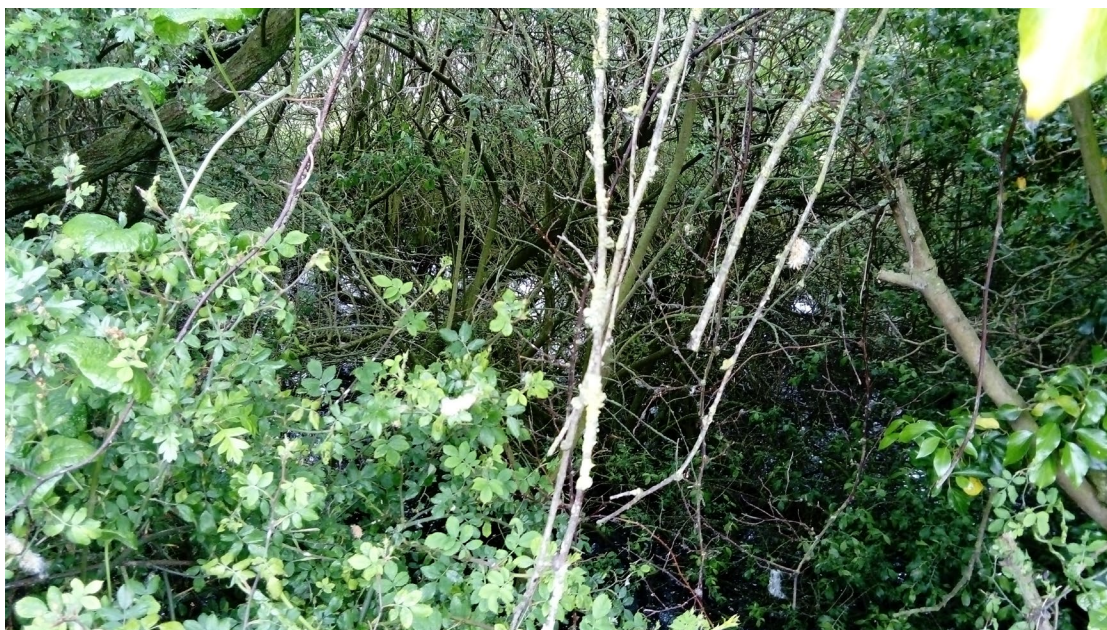


Image EDP A1.3: Pond located west of the Application Site surrounded by scrub (P1)

Appendix EDP 2 Ecological Desk Study

Methodology

- A2.1 The desk study is an important element of undertaking an initial Ecological Appraisal of a site proposed for development, since it enables the initial collation and review of contextual information such as designated sites together with known records of Protected and Priority Species observed within 2009 to 2019.
- A2.2 EDP undertook an ecological desk study for the Application in June 2019 to check for information on designated sites and Protected Species within both areas potential Zol, as measured from the red line boundary.

Results

Statutory Designations

- A2.3 The Application Site itself is not covered by any statutory designations, however, 11 statutory sites occur within the search radius. Many of these designations overlap between an International and National designation status. The sites and further details are given in **Table EDP A2.1**.

Table EDP A2.1: Statutory Sites of Nature Conservation Importance within the Application Site's Potential Zol

Site Name	Designation	Size (ha)	Grid Ref.	Approx. Distance from Site	Interest Feature(s)
Llay Bog	SSSI (Wales)	2	SJ322554	450m South	Botanical Interest - species include: Sphagnum mosses, a variety of sedges, marsh cinquefoil (<i>Potentilla palustris</i>), marsh pennywort (<i>Hydrocotyle vulgaris</i>), alder-birch carr with purple moor grass (<i>Molinia caerulea</i>).
Alyn Waters	Local Nature Reserve	100	SJ319547	830m South	Largest country park in Wrexham with woodland, grassland and riparian habitats. Former country estate with quarrying background.
Chwarel Singret	SSSI (Wales)	<1	SJ345562	2.2km West	Geological Interest

Site Name	Designation	Size (ha)	Grid Ref.	Approx. Distance from Site	Interest Feature(s)
Marford Quarry	SSSI (Wales)	16	SJ357560	3.3km West	Entomological Interest – diverse butterfly and moth assemblage associated to the flora which is indicative of calcareous and gravel substrate.
Coedwig Ffosil Brymbo Fossil Forest	SSSI (Wales)	<1	SJ29585345	3.5km South-west	Geological Interest
Midlands Meres and Mosses Phase 2 <i>Including:</i> Vicarage Moss	Ramsar (Wales & England) SSSI (Wales)	1593 21	SJ359541	 3.8km South-east	Nationally important series of SSSIs which demonstrate open water and peatland sites. Geomorphological and Botanical Interest - largest example of a basin mire in Clwyd, the vegetation being distinctly zoned with sphagnum, sedges and heather.
Coed Talon Marsh	SSSI (Wales)	11	SJ271580	4.8km North-west	Botanical Interest – largest and one of the best examples in Clwyd of southern mesotrophic mire which has a restricted range. Large areas of willow carr, fen vegetation and sedges.
Berwyn A Mynyddoedd De Clwyd/Berwyn and South Clwyd Mountains <i>Including:</i> Llandegla Moor	SAC (Wales) SSSI (Wales)	27,221 576	– SJ225535	7.2km South-west	Nationally important series of SSSIs which have blanket bog, base rich scree, crevice dwelling plants, dry heath, dry grassland and quaking bogs. Botanical and Fauna Interest - habitat example of heather (<i>Calluna vulgaris</i>) dominated dwarf-shrub heath.

Site Name	Designation	Size (ha)	Grid Ref.	Approx. Distance from Site	Interest Feature(s)
<i>And</i> Ruabon/Llantysilio Mountains and Minera	SSSI (Wales)	4795	SJ215495		Sphagnum, heather and a large and diverse bird assemblage. Botanical, Fauna & Geological Interest – dry dwarf shrub heath, dominated by heather, disused quarry workings are used by hibernating lesser horseshoe bat and a diverse assemblage of birds noted.
River Dee And Bala Lake/Afon Dyfrdwy A Llyn Tegid <i>Including:</i> Noted as two separate SSSIs: Afon Dyfrdwy (River Dee) and River Dee (England)	SAC (Wales) SSSI (Wales) SSSI (England)	1309 1490	SJ423503 SH930351 – SJ 311695	7.5km East	Cross border area which is designated for bullhead, river lamprey, brook lamprey, floating water plantain, otter, sea lamprey, Atlantic salmon and water crowfoot. Geological, Riparian Habitat Interest – noted for migratory fish, depend upon the whole river ecosystem and above SAC citation.
Deeside and Buckley Newt Sites <i>Including:</i> Buckley Claypits and Commons	SAC (Wales) SSSI (Wales)	208 100	– SJ29106407	8.2km North	Nationally important series of SSSIs which are a strong hold for great crested newt. Fauna and Geological Interest - Largest known breeding populations of the great crested newt in Great Britain. Torch night counts revealed 100+ on several occasions.

Site Name	Designation	Size (ha)	Grid Ref.	Approx. Distance from Site	Interest Feature(s)
Johnstown Newt Sites	SAC (Wales)	SJ298459	70	8.7km South	Nationally important series of SSSIs which are a strong hold for great crested newt.
<i>Including:</i> Stryt Las A'r Hafod	SSSI (Wales)		69		Fauna and Geological Interest - largest known breeding populations of the great crested newt in Great Britain. Torch night counts revealed 250+ on several occasions.

Non-statutory Designations

- A2.4 There are no Wildlife Sites within the Application Site but six occur within 1km. These results are summarised in **Table EDP A2.2**.

Table EDP A2.2: Non-statutory Designations of Nature Conservation Value within the Potential Zol

Site Name	Grid Reference	Hectares (Ha)	Approx. Distance from Site	Interest Feature(s)
Wildlife Sites				
Alyn Waters	SJ323548	116	500m South-west	Regenerating neutral grassland with semi-natural broadleaved woodland. Interesting species include several orchids, yellow rattle and yellow-wort. Breeding skylarks and otter presence.
Blast Road Pond	SJ317555	3	560m South-west	A fishing lake with mare's tail and an unimproved grassland slope with diverse species mix.
Rhydun Hall Grassland	SJ311569	3	850m North-west	Grassland adjacent to River Alyn with frequent meadowsweet, black knapweed and Yorkshire fog. Some broadleaved woodland and scrub.
Nant-y-Gaer and Llay Valley	SJ337557	12	860m East	Semi-natural woodland mainly sycamore and ash. Semi-improved neutral grassland and grazed oak woodland present.
Sydallt Wood	SJ307557	9	960m West	Riparian woodland with planted beech and oak. Diverse storey levels with semi-improved neutral grassland. Diverse with several uncommon species.
Hope Mountain	SJ292556	129	980m West	Broad leaved woodland, scrub, bracken, neutral, acid

Site Name	Grid Reference	Hectares (Ha)	Approx. Distance from Site	Interest Feature(s)
and Ffrwdd Wood				and calcareous grassland, marshy grassland and swamp. Diverse and abundant mix of flora species including fleabane, field scabious and great knapweed.

Priority Habitats

A2.5 The Application Site does not contain any Priority Habitats, and none occur within 500m.

Protected and Notable Species

A2.6 As per COFNOD, no protected species were returned from within the Application Site, however, there are multiple notable species within 1km as detailed in **Table EDP A2.3**.

Table EDP A2.3: Notable Species Records within the Potential Zol

Scientific Name	Common Name	Grid Ref	Approx. distance from Site	Date	Status
Birds					
56 bird species within 1km (closest record of lapwing at 100m East) Barn owl, barnacle goose, black-headed gull, bullfinch, coal tit, common gull, common sandpiper, cormorant, curlew, dipper, dunlin, dunnock, fieldfare, gadwall, garden warbler, goldcrest, green woodpecker, herring gull, hobby, house martin, house sparrow, kestrel, kingfisher, lapwing, lesser black-backed gull, lesser redpoll, lesser whitethroat, linnet, little ringed plover, long-tailed tit, mallard, marsh tit, meadow pipit, mute swan, oystercatcher, pintail, red kite, redwing, sand martin, shelduck, shoveler, skylark, Slavonian grebe, song thrush, spotted flycatcher, starling, swallow, swift, teal, tree sparrow, tufted duck, wheatear, whitethroat, wigeon, willow warbler, woodcock.				2018 - 2009	WCA S.1 NERC S.41 RSPB Welsh Birds Red & Amber LBAP
Reptiles and Amphibians					
<i>Triturus cristatus</i>	Great crested newt	Multiple records from pond located immediately east of Application Site and stream within wooded area. Nearest record at 15m East.		2018 - 2011	EPS S7 LBAP
<i>Lissotriton helveticus</i>	Palmate newt	Multiple records from pond located immediately east of Application Site and stream within wooded area. Nearest record at 15m East.		2018 - 2011	LBAP

Scientific Name	Common Name	Grid Ref	Approx. distance from Site	Date	Status
<i>Lissotriton vulgaris</i>	Smooth newt	Multiple records from pond located immediately east of Application Site and stream within wooded area. Nearest record at 15m East.		2018 - 2011	LBAP
<i>Natrix helvetica</i>	Grass snake	Multiple records within industrial estate to the north and woodland to the west. Nearest record at 520m North.		2016 - 2010	S7 LBAP
<i>Bufo bufo</i>	Common toad	Multiple records from pond located immediately east of Application Site and stream within wooded area. Nearest record at 15m East.		2018 - 2011	S7 LBAP
Mammals					
<i>Meles meles</i>	Badger	SJ324570 SJ323549	810m North-east 950m South	2014 - 2009	PBA LBAP
<i>Erinaceus europaeus</i>	Hedgehog	SJ331555 SJ3355	940m South-east Within 2km	2013 2012	S7 LBAP
Bats					
No records of bats within the last ten years. Pre-2008 records of common pipistrelle, brown long eared, myotis and soprano pipistrelle within 1km.					EPS S7 LBAP
Flora					
28 flora species within 1km. Predominantly aquatic, marsh, grassland and woodland indicators, all located within non-statutory designated sites, with nearest record at Alyn Waters. Alder buckthorn, alternate-leaved golden-saxifrage, annual pearlwort, bluebell, buckler-fern, butterbur, common broomrape, common cudweed, common water-crowfoot, cranberry, dune helleborine, fly honeysuckle, grass vetchling, intermediate polypody (fern), large bitter-cress, lombardy-poplar, marsh fragrant-orchid, marsh yellow-cress, narrow buckler-fern, red goosefoot, rose, skullcap, slender tufted-sedge, small-flowered crane's-bill, smith's pepperwort, stinking iris, thread-leaved water-crowfoot, viper's-bugloss.				2016 - 2011	WCA S8 Red Data Book Listed Local importance LBAP
Invertebrates					
<i>Bembidion obliquum</i>		SJ314558	640m East	2015	Red Data Book Listed
<i>Lestes sponsa</i>	Emerald damselfly	SJ315560	455m East	2015	LBAP

Scientific Name	Common Name	Grid Ref	Approx. distance from Site	Date	Status
<i>Leucania comma</i>	Shoulder-striped wainscot	SJ325553	590m South	2014	S7 LBAP
<i>Erynnis tages</i>	Dingy skipper	SJ325566	680m North-east	2013	Red Data Book Listed
<i>Coenonympha pamphilus</i>	Small heath	SJ325566	680m North-east	2009	Red Data Book Listed

Note: BoCC = Birds of Conservation Concern, EPS = European Protected Species, S7 = Environment (Wales) Act 2016 (Section 7) (Priority Species), PBA = protection of Badgers Act.

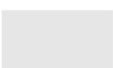
This page has been left blank intentionally

Plan

Plan EDP 1

Extended Phase 1 Habitat Plan
(edp5748_d001b 05 July 2019 AG/ZH/CR)



-  Site Boundary
-  Scattered Trees (Broad-leaved)
-  Intact Species-poor Hedgerow and Trees
-  Quarry
-  Broad-leaved Plantation Woodland
-  Improved Grassland
-  Dense Continuous Scrub
-  Ponds
-  Hardstanding
-  Buildings

client			
Biogas Technology Limited			
project title			
Land at Llay Hall Farm, Wrexham			
drawing title			
Plan EDP 1: Extended Phase 1 Habitat Plan			
date	05 JULY 2019	drawn by	AG
drawing number	edp5748_d001b	checked	ZH
scale	1:2,000 @ A3	QA	CR



Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

This page has been left blank intentionally



the environmental
dimension partnership

CARDIFF
02921 671900

CHELTENHAM
01242 903110

CIRENCESTER
01285 740427

SHREWSBURY
01939 211190

info@edp-uk.co.uk
www.edp-uk.co.uk



**Landscape
Institute**
Registered practice

IEMA Transforming the world
to sustainability

**URBAN
DESIGN
GROUP** REGISTERED
PRACTICE



The Environmental Dimension
Partnership Ltd. Registered as a
Limited Company in England and
Wales. Company No. 09102431.