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29 WREXHAM INDUSTRIAL ESTATE

Employment Development and Nature Conservation

This leaflet is available in alternative formats

Adopted August 2009

wrexham COUNTY BOROUGH COUNCIL
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Adoption

Wrexham Industrial Estate: Employment Development and Nature Conservation was adopted by Wrexham County Borough Council in April 2009.

Contents

1. Introduction

1.1 This is one of a series of local planning guidance notes which amplifies policies in the adopted Wrexham Unitary Development Plan (UDP) and supplementary planning guidance in the Wrexham Local Biodiversity Action Plan (2002) and Local Planning Guidance Note 26: 'Landscape & Industrial Development'. This guidance will be a material consideration when the Council decides Planning Applications.

1.2 Wrexham Industrial Estate is one of the largest in Europe, covering 550ha and its continued development as a strategic employment centre is essential to foster economic growth and prosperity within the County Borough. At the same time, the Estate contains an important network of wildlife habitats that supports a diverse range of animals and plants which help make the Estate an attractive place to work and which contribute to the quality of life of people in the County Borough. Many of these species and habitats are protected by UK/EU legislation, such as the River Dee and Bala Lake/ Afon Dyfrdwy a Llyn Tegid SAC ,which places a clear responsibility on developers/landowners to avoid harming them and a duty on the Council to promote biodiversity in exercising its functions. Safeguarding and enhancing habitats of ecological importance and local landscapes is also central to the aims of achieving sustainable development and high-quality design set out in the adopted Wrexham UDP (Policies EC4, EC6) and government advice in 'Planning Policy Wales.'

1.3 This note advises developers/ landowners on the key ecological issues that they need to address before carrying out any development* on the Estate (whether or not it requires Planning Permission) and the procedures they should follow to gain planning permission and the necessary licences.

It emphasises:

- the need for an ecological assessment of the site;
- the protection of habitats that are found in preference to mitigation or off-site compensation and
- the protection of the developable area of a site from colonisation by species.

In this way it should be possible to promote economic development while also protecting and enhancing the ecology and landscape of the Estate and wider area.

1.4 Developers/landowners should be aware that a licence is often required from the Welsh Assembly Government to carry out development and site clearance works that affect protected species irrespective of whether planning permission is required. Failure to obtain a licence before commencing development or site clearance works could result in delay, prosecution, fines, confiscation of equipment, legal fees and a custodial sentence.

*'Development' refers to new buildings, extensions and demolition; access roads, turning areas and parking areas; industrial containers and pre-construction activity including site clearance and ground works.

2. Protected Species On Wrexham Industrial Estate And The Law

2.1 Wrexham Industrial Estate contains several vacant or underused plots and parts of active sites which have re-vegetated and become colonised by protected species. In addition linear, continuous and 'stepping stone' natural features, such as hedgerows, woodland and streams act as wildlife corridors through which these species migrate and disperse between habitats within and adjoining the Estate for the purposes of breeding, feeding and shelter. These habitats and routes form an important interdependent ecological network. Appendix 1 summarises a recent ecological survey of the Estate (2008) describing the species and habitats found at that time.

2.2 European Union and UK legislation protects almost all of the species found on the Estate. These are summarised in Appendix 2, but a full list of species protected in law can be found on the Defra website at www.defra.gov.uk.

2.3 Under the Wildlife & Countryside Act, 1981 (as amended by the CROW Act 2000) and the Habitat Regulations, 1994 (as amended in 2007 and 2009) it is an offence to:

- Intentionally or deliberately kill, injure or take an individual of such a species;
- Intentionally or deliberately possess any part of such a species either dead or alive
- Damage, destroy a breeding site or resting place or intentionally or recklessly obstruct access to any place or structure used by such a species for shelter, rest, protection or breeding
- Intentionally or recklessly disturb such a species whilst using any place of shelter or protection, or cause significant deliberate disturbance to such a species that may affect its survival or breeding Sell or attempt to sell any such species
- Sell or attempt to sell any such species

2.4 Species are protected throughout their life cycle (e.g. great crested newts eggs, larvae, juveniles and adults).

2.5 The Protection of Badger Act 1992 prohibits the taking, injuring or killing of badgers and any interference with their setts.

2.6 It is an offence to disturb or destroy a wild bird whilst occupying a nest; to take, damage or destroy a nest whilst in use or being built; or to take or destroy an egg of any wild bird. The nesting season is 1st March to 30th September inclusive.

2.7 The Wildlife & Countryside Act (Sch. 8) makes it an offence intentionally to pick, uproot, or destroy any wild plant

2.8 If in doubt, follow the process set out in chapter 3 and seek legal advice.

3. Action When Developing Sites On Wrexham Industrial Estate

3.1 Development and site clearance on individual sites within the Estate can have a major impact on the survival of protected species both on the site itself and in the wider network of wildlife habitats. This can occur through direct loss, such as damage to setts and ponds, and indirect loss, such as the loss of wildlife corridors, fragmentation of the network and simple development pressure.

3.2 Careful thought must be given to the design, implementation, operation and maintenance of employment development sites to ensure that protected species are safeguarded. In this way employment development can occur and valued habitats and linkages between them can be protected and enhanced.

3.3 Before designing any development or undertaking site clearance works, developers/landowners should:

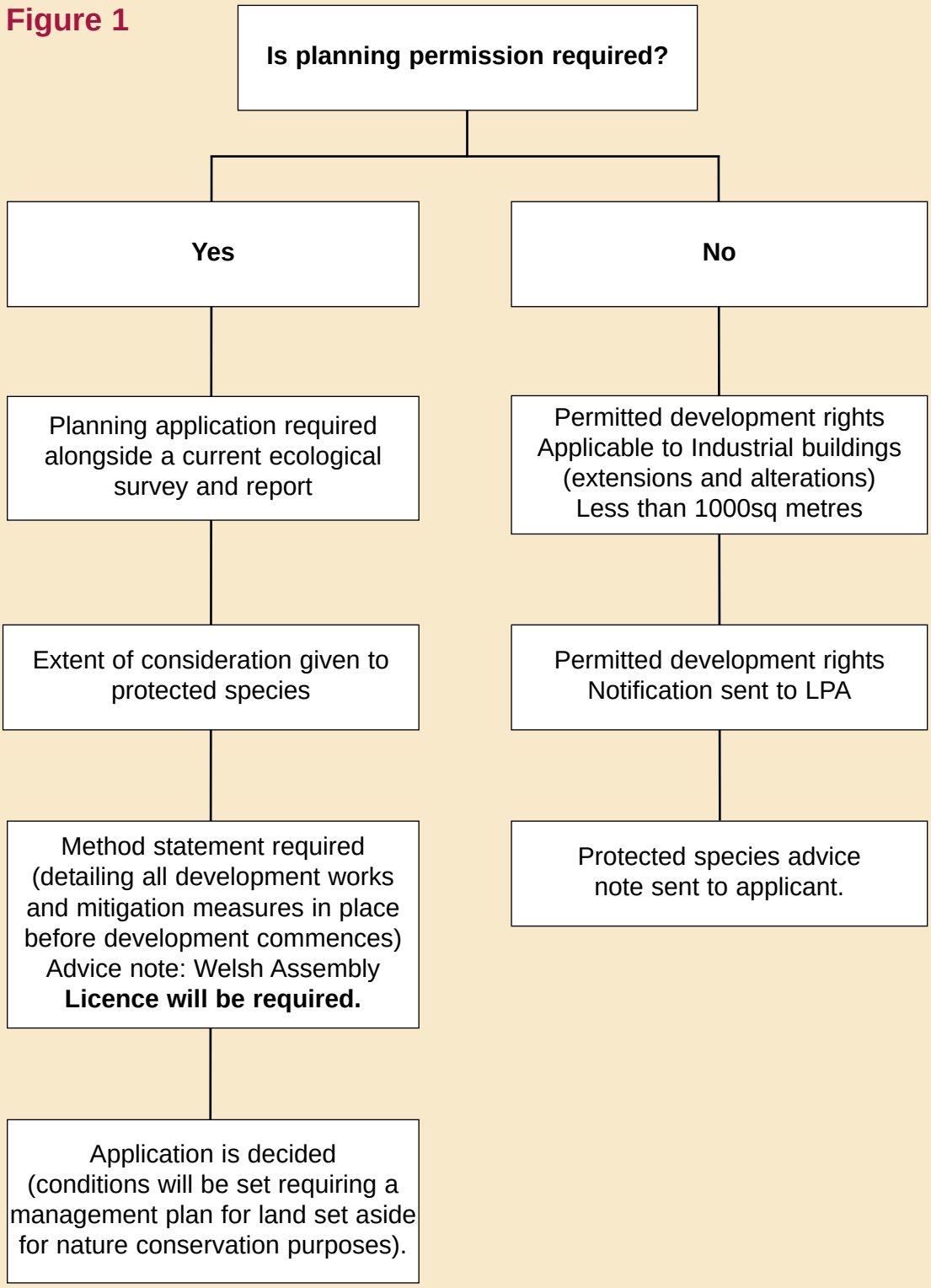
- seek and follow the advice of a competent ecological consultant. Such consultants should have a sound knowledge and experience of the habitat requirements of the species concerned and apply landscape ecology principles so that local circumstances are properly considered.
- consult the Countryside Council for Wales' (CCW) Regional Species Officer on the impact of the proposals and need for a licence.

- consult other specialist organisations, as appropriate
- consult Wrexham Council's Ecologist on ecology and planning issues.

A list of contacts for such organisations is attached as Appendix 3

3.4 Where development requires planning permission, developers/landowners must undertake the following steps when submitting an application to Wrexham Council:

Figure 1



4. Obtaining Planning Permission

A) 1) Submit a Site Appraisal/Ecological Survey

4.1 Undertake desktop and site ecological surveys to identify the number of protected species, the physical extent of their habitats within the site and any linkages to habitats within 500m of the site. The legislative back ground to this requirement can be found in Regulation 39 of the Habitat Regulations 1994; Schedules 5 & 9 of the Wildlife and Countryside Act 1981, Section 42 of the Natural Environment and Rural Communities Act 2006 and the Wrexham Local Biodiversity Action Plan

4.2 Site surveys must be undertaken at the right times of year. This means on a number of occasions throughout the breeding seasons of affected species, but not between September and February/March as hibernating animals will be missed. This potential for delay should be factored into the project management process. Such survey times may start earlier or later depending upon environmental conditions i.e. temperature, heavy rainfall and strong winds.

4.3 The level of detail that needs to be provided will depend on the size and complexity of the development and the habitats that are found. Since sites vary in size and complexity, it is not possible to advise on the cost of such appraisals; a number of quotations should be obtained.

4.4 Submit a plan showing the planning application boundary and the habitats and linkages for each identified species.

4.5 The Council will no longer condition surveys to be conducted after planning permission is granted, whether this is a new application or a renewal.NB. Some major or special forms of development require an Environmental Impact Assessment (EIA) for which there is a statutory procedure under the Town & County Planning (EIA) Regulations. Developers can seek a 'screening' opinion from Wrexham's Planning Department on whether an EIA is required. In cases where development might affect a European protected site (such as the Special Area for Conservation (SAC)) other screening and Appropriate Assessment procedures exist.

B) 2) Submit a Method Statement/ Concept Plan

4.6 Submit a statement and plan describing the works necessary to implement and operate the development, their impact on ecology and detailed proposals to protect existing habitats used by protected species for breeding, feeding, or shelter. The method statement must detail reasonable avoidance measures to avoid impacts on ecology. If it is not feasible to avoid all impacts on either the habitat or species, then both must be protected from harm with a satisfactory mitigation/ compensation strategy in place. Compensation is applicable for the loss of terrestrial/aquatic habitat on which the species depends. This statement must show how the requirements of the protected species have been integrated into the project design from the start

4.7 The statement should contain sufficient detail, such as the areas to be set aside for nature conservation where the species can be retained, enhanced or re-established; proposals to remove and exclude

developable areas from colonisation by protected species (e.g. protective fencing) and proposals for controlling vehicle movements, storage of equipment, materials etc. The statement should justify why mitigation/protection is necessary if proposed in place of protecting existing habitats (e.g. why other layouts have been discounted). If mitigation requires species to be translocated, then a minimum of up to 12 months is required for a receptor area to be created and stabilise as some protected species will take longer to colonise a receptor site.

4.8 Developers should take the opportunity to site and design soft landscaping areas so that they support nature conservation. On some plots it might be worthwhile to just 'do nothing' as abandoned land with rubble heaps and scrapes can be beneficial to wildlife. If such areas are of sufficient size and width that they become effective wildlife corridors or areas of shelter, they can reduce the amount of land set aside for protection/mitigation/ compensation for nature conservation purposes

4.9 Advice on the location, size and design of areas set aside for nature conservation is given in Section F below

C) Submit a Management Plan

4.10 Submit a management plan showing how the areas set aside for nature conservation and landscaping will be managed in the long-term, ideally in perpetuity. This will include management regimes and arrangements for monitoring the effectiveness of habitat creation, restoration or enhancement and species population size following translocation for at least five years after development is completed. This plan should attempt to be submitted electronically. The location and size of areas set aside for nature conservation must be mapped with full grid reference supplied on a plan and included in the appendix. This will allow the Council to map the land in a digital format for monitoring purposes.

4.11 Describe measures that will be put in place to adjust the management plan and undertake remedial operations if habitat protection, mitigation or creation and the associated management regimes are not successful.

4.12 Submit proposals for maintaining soft landscaping areas that support nature conservation (e.g. mowing regimes at the appropriate time of year with the removal of cut grass to support wild flower planting schemes).

4.13 Land set aside for nature conservation should ideally be managed by an organisation with experience of managing habitats for nature conservation. (See Appendix 3).

4.14 The cost of long-term management for nature conservation should be taken into account in any land cost negotiations or project feasibility assessment.

4.15 Advice on the maintenance areas set aside for nature conservation/ landscaping is given in Chapter 6 below.

5. Obtaining A Licence To Do Works Affecting Protected Species

5.1 Whether or not Planning Permission is required for development or site clearance, a separate license will often be required from the Welsh Assembly Government (WAG). In making a decision on whether to grant a licence, WAG will be advised by the Countryside Council for Wales (CCW). For European protected species, licences will be granted only where the activity meets all of the following criteria:

- the harm caused is necessary to preserve public health or public safety or some other reasons of overriding public interest including those of an economic nature and beneficial consequences of primary importance for the environment, and
- there is no satisfactory alternative, and
- the action will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

6. Guidance On The Location, Size, Design & Management Of Areas Set Aside For Nature Conservation/ Landscaping

Location & Size

6.1 The Council has a sequential approach to protecting and enhancing ecology on the Estate which follows advice set out in 'Planning for Biodiversity Good Practice Guide' (RTPI 1999) and 'Biodiversity by Design: a guide for sustainable communities' (TCPA, 2004), namely:

- On-site protection of existing habitats/ development areas.
- On-site mitigation/compensation where damage to a habitat is unavoidable.
- Off-site compensation as a last resort where on-site compensation is not appropriate and re-siting would enhance the ecology of the area.

6.2 Mitigation refers to practices which reduce or remove damage to protected species and their habitats such as changing a site layout or altering the timing of development.

6.3 Compensation refers to practices which offsets any damage caused by development, such as habitat creation, restoration or enhancement (e.g. new ponds, grassland restoration, artificial badger setts, nest-box schemes and bat friendly features incorporated into a new building).

On-Site Protection of Land for Nature Conservation

6.4 Where the site appraisal/ecological survey demonstrates that protected species, habitats or wildlife corridors to the wider network of habitats on the Estate are present within or surrounding a development site, the first step is to determine how much of the site can be developed without causing disturbance or harm.

6.5 Developers should ensure that their proposals retain as many natural features as possible and that they are vigilant about the presence of protected species. Some artificial features such as rubble heaps can be retained where appropriate as they can benefit wildlife by providing shelter. There will be occasions where the survey reveals that development is possible on that part of the site with little or no ecological value.

6.6 On other occasions it will show that the whole site is of such great ecological value that no further development can occur without causing disturbance or harm; in which case is may not be possible to develop the site at all unless acceptable mitigation/compensation can be provided. Protection also refers to protecting the developable area of a site from colonisation by protected species listed in Appendix 2.

On-site mitigation/compensation

6.7 Where adverse effects on habitats are unavoidable they should be minimised. The Council will permit development affecting less valued habitats on a site only where appropriately designed on-site mitigation/compensation would enhance the nature conservation value of the site and/or the network of wildlife habitats of which it forms a part. This will never be a matter of convenience, but must be supported by sound advice from the developer's professional ecologist in consultation with CCW.

6.8 In providing mitigation or compensation, an equivalent area of land must be provided unless it can be demonstrated that a smaller area of better quality would enhance the ecology of the site or the wider area. This will be hard to do given that the ecology of the area is often dependent on providing quite large foraging areas for protected species. The quality of a habitat should never be reduced as a result of compensation (e.g. replacing a pond and foraging area with just a pond).

Off-site compensation

6.9 The Council will generally not support the complete removal of protected species and habitats from development sites within the Estate. This is both harmful to the extent and diversity of the network of wildlife habitats and counter-productive as the site will soon be re-colonised by species, presenting landowners with the same issues.

6.10 Off-site provision may be appropriate, as a last resort, where the developer provides expert evidence demonstrating that:

- relocation of the habitat/species from the site will enhance the nature conservation status of the species and the network of habitats as a whole, and
- on-site compensation is impossible (e.g. due to the restricted size of the site, economic viability or unusual decontamination requirements), and
- compensation would be provided within 250m of the habitat lost, in order to facilitate migration of affected species and to preserve the overall network of wildlife habitats, and
- an equivalent area of land is provided, unless it can be demonstrated that a smaller, better quality habitat would enhance the ecology of the area, and
- habitat corridors and buffer strips to hard development are provided within the original site to help maintain the network of habitats

6.11 In exceptional circumstances where on-site or off-site provision is not appropriate (e.g. because a suitable site is not in the ownership of the developer or where there are overriding Planning Policy reasons in support of the development), developers may provide a commuted payment in lieu of compensation. This must be sufficient to enable the Council to purchase an equivalent area of land for nature conservation; to implement mitigation/enhancement on existing sites and/or to guarantee management of land within or adjacent to the Estate (such as the 3 designated wildlife sites). This will be secured by way of a Section 106 Legal Agreement.

Protecting Land Set Aside for Nature Conservation

6.12 Construction and site operations that may damage protected animals and plants in existing and newly created/restored habitats can be minimised by a number of well-established methods:

- Habitats should be fenced off (e.g. newt-proof fencing) to exclude development works, site compounds etc and a protected buffer provided around the fence to prevent disturbance (from noise, dust etc). This will not only protect the habitat, but also help retain the full extent of the developable area of the site by preventing colonisation by protected species. Extreme care should be taken in the use of machinery to erect this fencing to avoid damaging plants and animals and this should normally be carried out by a specialist newt fencing contractor.

- The hydrology of habitats should be maintained through the retention of pools, ditches etc; through careful site design and the use of such features as sustainable urban drainage systems, wildlife-friendly kerbstones and newt-friendly gully pots. Ecological consultants will know likely companies to source these.

- Site preparation should be carefully planned and supervised (e.g. undertaking site clearance outside of the bird-nesting season (not 1st March to 30th September).

- Care should be taken to avoid accidental spillage of chemicals, petrol, tar and other toxic substances from tankers and other vehicles, which may damage nearby habitats. Contingency plans should be in place following site risk assessments to avoid and put measures in place for such unforeseen occurrences.

Designing Land Set Aside for New Nature Conservation

6.13 Appendix 4 summarises mitigation/ compensation measures for particular types of habitat and species, but more detailed advice, specific to each protected species, can be found on the Natural England website at www.naturalengland.org.uk. or the Countryside Council for Wales site at www.ccw.gov.uk

Designing Landscaping Schemes for Nature Conservation

6.14 It is important to integrate new development within the landscape of the Estate and adjoining countryside. This affects the visual character and quality of the Estate as well as the perceptions of the Estate amongst existing users and those considering economic investment in the County Borough.

6.15 To date, developers have been encouraged to provide 'business park' landscaping, typically including ornamental tree and shrub planting, grassed frontages, low mounding and attractive fencing set behind planting, where security is necessary. Screening of storage and processing areas has also been important.

6.16 The ecological importance of the Estate requires landscaping schemes submitted for Planning Permission to better integrate the landscape and ecological requirements of the site. If landscaping areas are designed in this way they will be counted as contributing to any mitigation/compensation land that needs to be set aside as a result of unavoidable harm to lesser quality habitats. The Council will therefore support soft-landscaping schemes designed to enhance nature conservation through:

- The retention of significant trees and vegetation which contribute to character, visual integration and biodiversity. Adequate space is needed within the layout for these not to be compromised by development.

- Screen-planting of native trees and shrubs along boundaries may act as wildlife corridors where they do not separate patchesof open grassland.

- Extending woodland edges to create bigger, more suitable areas of habitat that will act as 'stepping stones' from one habitat to another one

- The creation of new wildlife corridors such as linear woodland, scrub or grassland dependent on the range of animal and bird species the corridor is to support. These should link existing habitats and support the development of a wider network throughout the Estate. Applications for development adjacent to the following road corridors will be expected to provide such corridors.

  - Clywedog Road - near to River Clywedog

  - Bridge Road North - near to Wildlife Site and ponds

  - Ash Road South - near to Wildlife Site and ponds

  - Redwither - Road, near to Wildlife Site and River Clywedog

  - Oak Road - near to Wildlife Site and River Clywedog

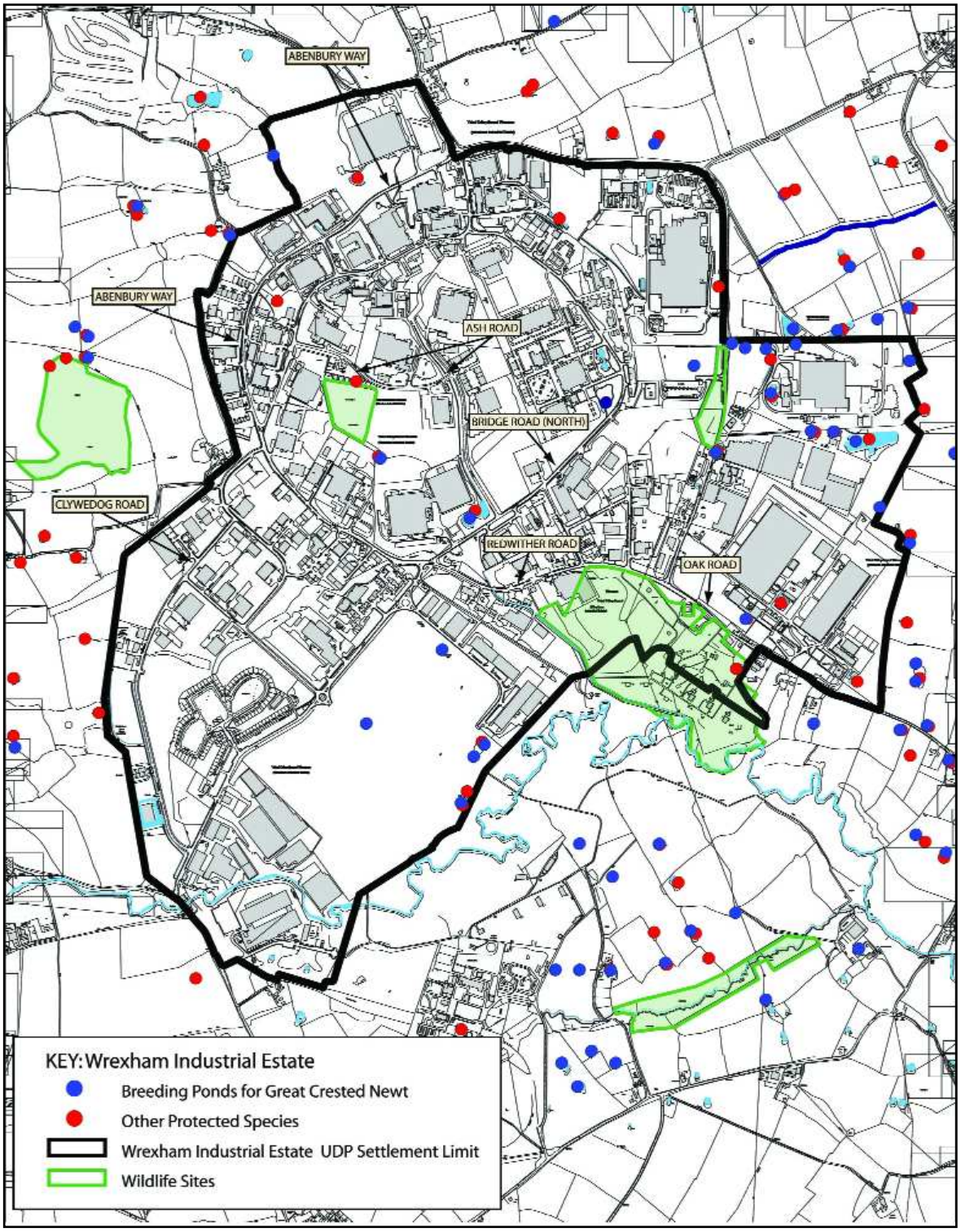
  - Abenbury Way - close to watercourses

6.17 A 'business park' setting, of formal planting and frontages, is appropriate in those parts of the Estate where development faces key roads. However, it can be achieved through formal avenue tree planting and swathes of shrub planting, using native species acquired locally. Long species-rich grassland can be maintained as shorter margins along roadside verges, but cut at the end of September when the flowers have seeded. The creation of less intensive landscaping schemes and the use of less intensive maintenance regimes may help reduce the overall cost to landowners/ employers.

Managing Land Set Aside for Nature Conservation

6.18 When a development is completed it will be necessary to manage the site to avoid damage to habitats/species and to prevent those species re-colonising the developable area of the site. Affected areas could include woodland, grassland and wetland that were in place before the development, or which have been created or enhanced as part of the development as well as newly landscaped areas. Appendix 5 provides examples of the kind of habitats and management regimes that may be suitable on the Estate. The management will need to be tailored to the needs of the habitats and species found on any particular parcel of land.

Appendix 1: Wrexham Industrial Estate Ecological Survey 2008



Protected Species Found In Wrexham Industrial Estate

Great Crested Newt

This newt grows to 15cm in length and is dark brown or black with a warty, rough skin; an underside that is bright orange with black spots and sides that are stippled with tiny white dots. In the spring, the male develops a ragged crest along its back and a separate straight edged crest along the top of its tail. Females, particularly in the breeding season when they are swollen with eggs, are bulky in appearance, but lack the crest. Young newts ('efts') are mottled with black and have a tiny filament at the end of the tail.

Newts and other amphibians, like frogs and toads, live on land for the majority of the year, but return to ponds and water-filled ditches at various times for breeding, feeding or shelter. They migrate (up to 500m) to ponds in the spring and hibernate on land within features such as brick rubble, spoil heaps, log piles and will burrow down into the soil during the winter. They require ponds and terrestrial habitat so proposals for a replacement pond may not be suitable. In general they should be retained in situ and translocated only a last resort.

Badger

Badgers grow up to 1m long and weigh from 10 to 13kgs. They are largely nocturnal, and retiring and live in social or family groups. They are omnivorous and eat a wide variety of foods, but their main diet consists of up to 200 earthworms per day.

Their setts comprise many entrances with underground chambers and a labyrinth of tunnels and involve the excavation of tonnes of soil. They prefer sloping sandy embankments in a variety of habitats including woodland, roadsides, grassland, copses, scrub and old quarries.

Distances travelled from the sett depend on a number of factors including the season; with winter restricting their food range and food patch that different clans of badgers will defend. They are less active during the winter, when breeding occurs, and cubs are normally born in February.

Dingy and Grizzled Skipper Butterflies

The Dingy Skipper is the larger of the two butterflies with a wing span of 27-34mm. There is normally one generation each year, but in hot summers there may be a partial second brood in August. Eggs are laid singly on young leaves of the food plants usually in sheltered situations and the larvae feed through the summer months. Pupation occurs the following spring. Adults usually emerge from early May to the end of June, but can emerge as early as mid-April in warm springs. Its main food-plants are Common Bird's-foot-trefoil; Horseshoe Vetch; and Greater Bird's-foot-trefoil.

The Grizzled Skipper is smaller with a wingspan 23-29mm. There is normally one generation each year, but there can be a partial second brood in July and August. The eggs are laid singly on food plants growing in warm positions, next to either bare ground or short vegetation (5cm). The larvae over winter as pupae, which are formed within cocoons of

leaves and silk amongst low vegetation (under 30cm). Adults emerge from the end of April until mid-June. In warm springs this may be as early as mid-March and in late years can fly until mid-July. Its main food-plants are wild strawberry, creeping cinquefoil, barren strawberry; dog rose, salad burnet; tormentil; and wood avens.

Both species are found in habitats characterised by warmth, shelter and sparse vegetation. Typical sites include woodland edges, woodland clearings, large woodland rides, unimproved grassland, hillsides and valleys.

Water Vole

Water Voles are large and often mistaken for a rat. They have dark fur around the body and a short fat face and vary from 12-20cm in length and 70-320g in weight. They eat grasses and waterside vegetation. They tend to be more active during the day than at night. They deposit distinctive black, shiny faeces in latrines located throughout and at the edges of their range during the breeding season. They usually have up to five litters a year from May to September. In mild springs the first of these can be born in March or April, though cold conditions can delay breeding until May or June. There are about five young in a litter, which are born below ground.

They occur mainly along well-vegetated banks of slow flowing rivers, ditches, dykes and lakes. Male voles live along about 130m of water bank while female's ranges over about 70m. They excavate extensive burrow systems into the banks of waterways with sleeping/nest chambers at various levels in the steepest parts of the bank and underwater entrances to provide a secure escape route. 'Lawns' of closely cropped grass, occasionally with piles of chopped food, may surround burrow entrances.

Bat

Most bats found locally are essentially nocturnal insect-eating species. They usually have a single offspring each year and live for up to 20 and, exceptionally, 30 years. They become torpid in winter as insect numbers decline, hibernating in roof spaces of buildings, bridges, hollow trees and dark caves.
The highest densities of bats occur where insects are most numerous such as wetland and woodland edges. Many species, particularly the smaller ones, follow linear features such as hedges, tree lines or waterways and are reluctant to cross wide open spaces. Any building, structure, cave or tree has potential to be used by bats. A bat survey should be undertaken only if such features would be impacted upon by the development/site clearance.

Otter

Otters are usually between 55 and 110cm long and weigh 5-12kg. They are aquatic carnivores and feed on fish. They live and breed in and near open water and watercourses, favouring habitats along rivers, but will also use marshes, lakes, reedbeds, ponds, streams, ditches and adjacent scrub and woodland. They are territorial and their home range may extend up to 40km along a stretch of water.

Lapwing

The Lapwing is a pigeon-sized, black, green and white bird with a wispy crest and broad rounded wings. They eat many agriculturally harmful insects. They are ground nesters and usually nest on wet/dry undisturbed grassland but, in their absence will nest in a variety of habitats from flat roofs on buildings to bare ground with short vegetation. They have been sighted on the Estate and are thought to breed on top of industrial units on Clywedog Road.

Appendix 3: Legal Protection For Species Found On Wrexham Industrial Estate

UK Legislation: The Wildlife & Countryside Act, 1981 (as amended).		EU Legislation: The Conservation (Natural Habitats & c.) Regulation's 1994 (as amended).	The NERC# Act and UK / Local Biodiversity Action Plan.
Birds Sch.1M Migrant, R Resident	Animals Sch. 5/6	Regulation 39 - European Protected Wild Species	Section 42 & UK BAP / L BAP species
Hobby (M*)	Bats**	Bats**	Polecat **
Barn owl (R**)	GC Newt**	Great crested newt**	Skylark **
Kingfisher (R**)	Otter*	Otter*	Common lizard**
Curlew (R*)	Water Vole**	Otter*	Grizzled, white-letter hairstreak and dingy skipper
Hobby (M*)	Bats**		Lesser Silver Water Beetle**
Fieldfare (M**)	Lesser Silver Water Beetle**		Cornflower*
Black Redstart (R*)	Grass snake **		Bullfinch * *
Peregrine (M**)	Common lizard**		Common toad **
Redwing (M**)			Yellowhammer*
			Hedgehog*
			Kestrel **
			Snipe*
			Lapwing **
			Ground beetle**
			Ground snake**

The Natural Environment and Rural Communities Act
** known to be present on the Estate
* possibly present on the Estate

Appendix 4: Contact details for Organisations with Ecology Expertise

Clwyd Badger Group	www.badgers.org.uk/clwydbadgergroup/
Bat Conservation Trust Clwyd Bat Group	www.bats.org.uk batservices@btinternet.com
Welsh Biodiversity Partnership	www.biodiversitywales.org.uk/
Butterfly Conservation	www.butterfly-conservation.org
Countryside Council for Wales for advice on ecology and licences for works affecting protected species	www.ccw.gov.uk
Ecology consultants. Use professional bodies & directories (e.g. ENDS Environmental Consultancy Directory (Environmental Data Services) & Directory of Ecologists and Environmental Managers (IEEM)).	www.endsdirectory.com www.ieem.org.uk
Environment Agency (Wales) for advice on impact on major watercourses & disposal of contaminated silt	www.ccw.gov.uk
Flora Locale	www.floralocale.org/
Forestry Commission	www.forestry.gov.uk/
Joint Nature Conservation Committee – for advice on Habitat Regulations 1997	www.jncc.gov.uk/page-1379
Natural England for advice on mitigation and compensation measures for each of the protected species	www.naturalengland.org.uk
National Wildflower Centre	www.landlife.org.uk/
North East Wales Wildlife	www.newwildlife.org.uk
North Wales Wildlife Trust	www.wildlifetrust.org.uk/northwales
Pond Conservation	www.pondconservation.org.uk/
Herpetological Conservation Trust	www.herpconstrust.org.uk/
Wrexham County Borough Council Planning Department	www.planning@wrexham.gov.uk

Appendix 5: Typical Mitigation/ Compensation Measures

Development Activity	Habitat/Species	What can be Created and Managed
Development close to a watercourse	Habitat: ponds, rivers, other water feature	Enhance or create a new water feature. Create a habitat suitable for otters, water voles & amphibians
	Species: water voles	Ditches with vegetation, undisturbed bank side vegetation
	Species: otters	Undisturbed habitat by rivers.
	Species: kingfishers	Trees by rivers/streams. Undisturbed bank sides
Barn or rural building conversion	Species: bats, barn owls	Incorporate owl lofts, bat roosts and other suitable spaces within the conversion, extension or renovation. Provide nest and bat boxes, retain mature/decaying trees, suitable planting and habitat links
Developments affecting greenfield sites	Habitat: Grassland & wildflower meadows	Area of wildflower-rich grassland strips/verges. Plant native species of local or regional genetic origin and allow natural expansion/colonisation
Development affecting/ adjacent to woodland, hedgerows, lines of trees and scrub	Habitat: Woodland Species: Barn owls other birds	Retain as many trees as possible. Plant new trees, erect suitable nest boxes. Plant native species of local or regional origin and allow natural expansion/ colonisation
Development affecting old and veteran trees including any felling or lopping	Habitat: Mature trees Species: Barn owls other birds	Maintain existing mature trees. Pollard or coppice. Plant new trees to succeed old ones. Plant native species of local or regional origin and allow natural expansion/colonisation
Major commercial industrial site	Species: Newts and other amphibians	Create accessible ponds with some shading. For Great Crested Newts provide grassland for foraging with habitat piles or patches of scrub for shelter/ protection. These should be linked to other natural areas by terrestrial and aquatic habitat corridors.
	Species: Common lizard and other reptiles	Create undisturbed area of habitat and basking area of bare ground/short grass on south facing slopes. Create log piles.
	Species: Other birds	Swift, swallow and house martin boxes attached to buildings. Other bird boxes on trees etc. Native planting particularly trees with berries/seeds
All forms of development	Habitat/Species: All	Detailed guidance and advice on the design and management of sites for nature conservation can be found on the Nature England website.

Appendix 6: Management Principles For The Kinds Of Habitats Found On The Estate

Woodland

Felling non-native species, such as Sycamore regeneration, to encourage native canopy species.

Where trees are determined to be dangerous appropriate works (e.g. removing overhanging deadwood, crown reduction or felling) may be necessary. Stumps of dead trees and cut deadwood should be retained.

Wherever possible retain lying and standing dead wood as it has considerable ecological value.

Eliminate Himalayan Balsam from wetter areas by uprooting, if possible before the plant is in flower and sets seed. Treatment should be successful in 2-3 years as Himalayan Balsam is an annual.

Eliminating Japanese Knotweed by cutting and treating with specialised herbicide.

Widening woodland edges and creating an understorey by planting the following mixture:

- Crataegus monogyna Hawthorn 20%
- Corylus avellana Hazel 15%
- Ilex aquifolium Holly 10%
- Prunus spinosa Blackthorn 10%
- Rosa canina Dog Rose 10%
- Salix cineria Grey Willow 10%
- Sambuscus nigra Elder 5%
- Malus sylvestris Crab Apple5%
- Viburnum opulus Guelder Rose 5%

NB. Trees may be protected Preservation Order or Planning Conditions. Before felling or pruning is undertaken it is advised that checks are made with Wrexham's Planning Department to determine whether consent is needed for the works.

Rides and Glades

Rides and Glades are linear and open areas respectively within Woodland.
A good network of these open areas within woodland makes a significant contribution to woodland flora and fauna by supporting large amounts of light-demanding species that might be absent elsewhere. They provide nectar sources for insects, corridors between different areas of young growth and a refuge for many species. To maximise sunlight, rides should be kept 1.5 times as wide as the height of bordering trees (e.g. where the trees are 10m high the rides should be 15m wide).

Grassland

Grazing is preferred as it provides a range of habitats of various sward heights and may be appropriate on mitigation/compensation land on the periphery of the estate. Mowing can be effective if the area is split into four quadrats that are cut in rotation over a five-year cycle. If a well-chosen selection of wildflowers are planted they will flower between May and September to support invertebrates (e.g. ground beetles are an important food source for birds, especially on intensively managed sites where there is less prey).

Grass can be cut and used for hay or silage. From a nature conservation perspective no chemicals should be used and a single late cut is preferred for haymaking. Cutting in spring is usually between April and May (depending if spring is early or late) and will usually suppress grass growth rate for 2-3 months but in some cases another cut will be needed. Thereafter an end of season cut will be needed in September to October when all flowers have flowered and set seed and all ground-nesting birds have reared their young. If the site is wetter and more fertile up to four cuts per year might be required at times dependent on the wildflowers sown. It is essential to collect the grass cuttings or they

will act as a green manure and smother low growing wildflowers.

If a 'do nothing' approach is preferred this still requires the grassland to be managed either through grazing or cutting, but leaving the grassland as it is and not doing any soil preparation or sowing of wildflowers to allow natural development. If this result is not satisfactory the grassland should be enhanced through sowing a selection of wildflowers suited to the type of grassland.

Wetland/ Ponds

Traditionally, the best time of year to manage a pond is late autumn and winter, when most plants and animals are dormant or have left the pond. If great crested newts use the pond, work should be carried out only between November and January and with a licence from WAG.

For some wildlife works in November to January will still lead to harm or disturbance (e.g. juvenile newts). Therefore works should always be carried out as sensitively as possible a little bit at a time, never removing all of one type of habitat or plant. In the case of plants, the removed vegetation should be left on the bank overnight to allow animals to escape.

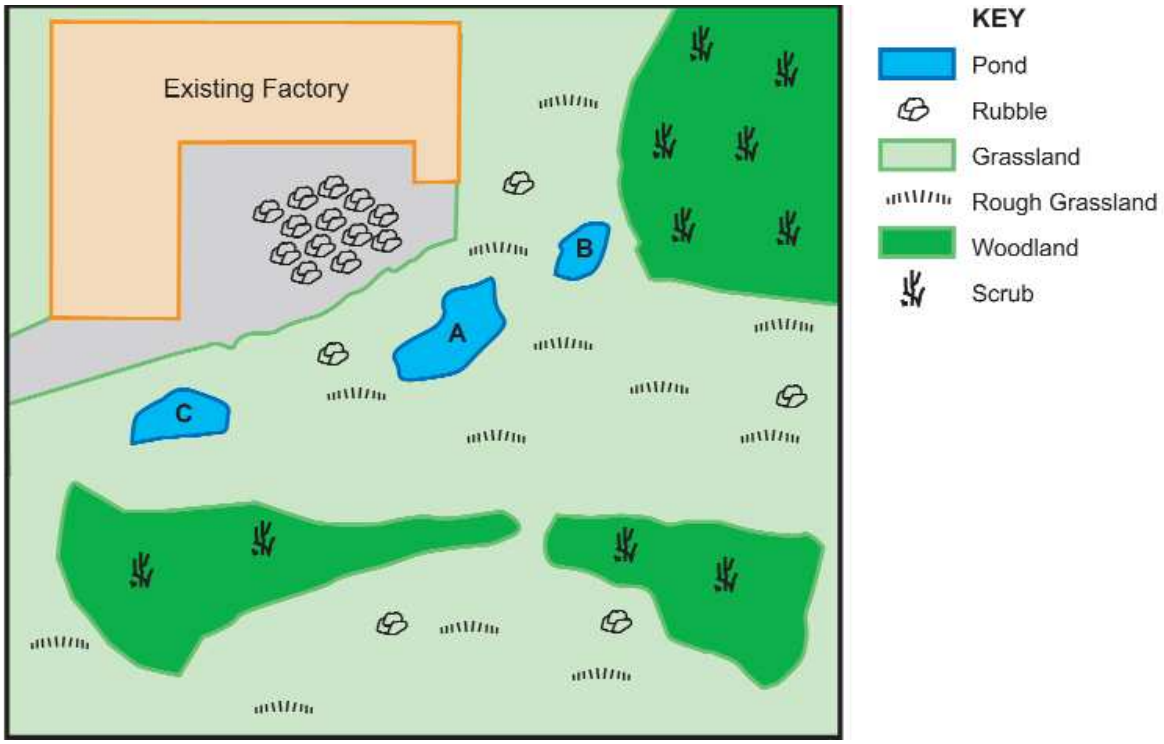
In cases where there is no invasive plant growth or silting, it may not be necessary to manage the pond. There is value in the natural processes the pond goes through, but it will be necessary to monitor for invasive or non-native plants.

Floating plants like duckweed, blanket weed and the invasive water fern can create dense growth, which forms a thick mat over the entire water area. This blocks out light, prevents oxygen getting into the water and can be dangerous for animals as it looks solid. A small amount of algae or duckweed occurs naturally in ponds with clean water and some small beetles live out their lives within them. The problem is caused by too many nutrients in the water (especially nitrates and phosphates) which cause them to enjoy unrestricted growth.

Occasionally silt should be dredged from ponds as it will decrease the depth of water. Clean silt can be disposed of on land within the site where it will not damage other habitats or get washed back into the pond. It can also be spread on agricultural land provided it can improve the soil.
Where a pond is located close to a road it may collect water polluted with heavy metals, petrocarbons etc. Contaminated silt may have to be disposed of via landfill, which can be costly and will require documentation on the substances it contains. Contact the Environment Agency (Wales) for more information and any necessary licence.

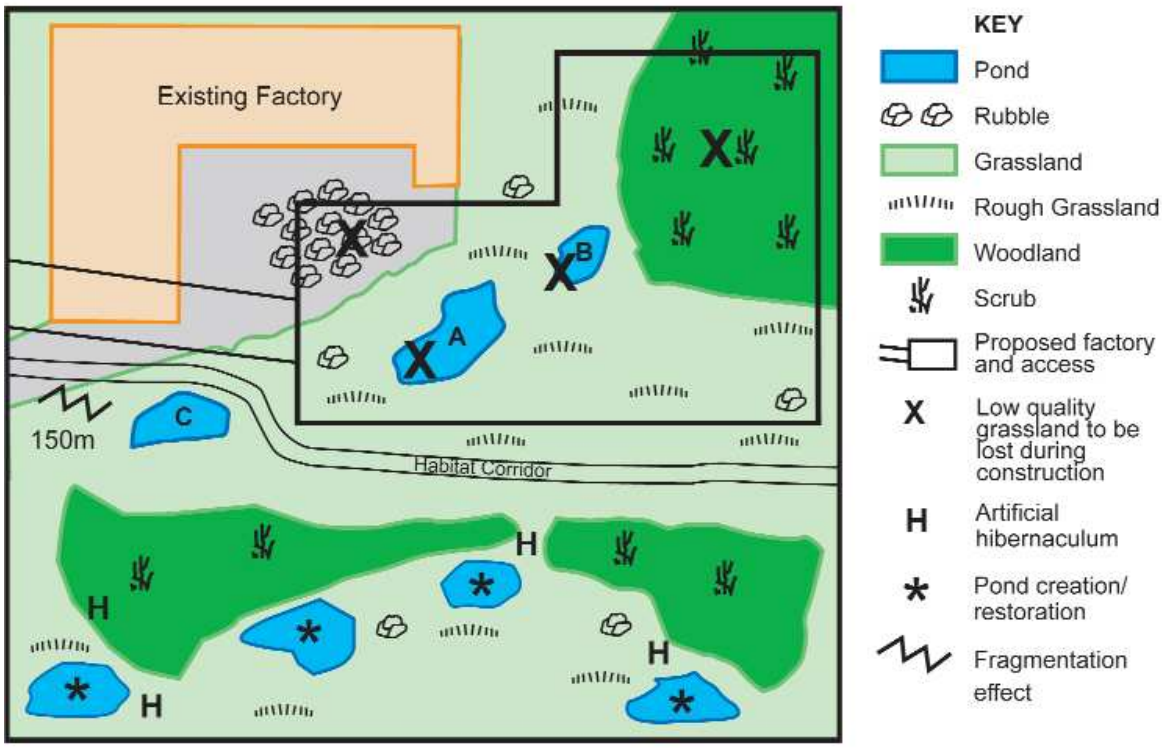
Sustainable urban drainage systems are encouraged within any future design of a development scheme. They include features like attenuation ponds and soakways. These are a natural way to collect excess surface water but also serve as to provide additional habitat for wildlife.

Appendix 7:
Example: Proposed Factory On Site With Great Crested Newts



A. Site Appraisal/Ecological Survey

Great crested newts found in ponds B and C (17 & 9 newts respectively) with many more in refuges formed by disused building foundations. Rough grass & scrub form foraging area. Smooth newts, frogs & toads also found in the ponds. Little disturbance as the site is fenced. No other habitats within 500m.



B. Method Statement/Concept Plan

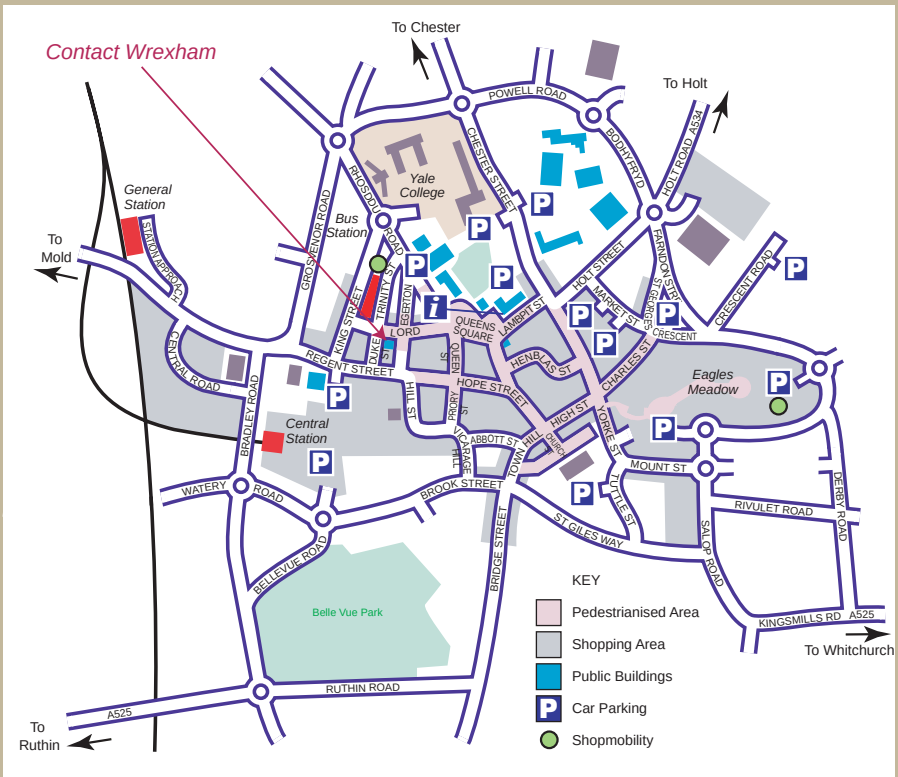
Factory will result in total loss of habitats within the development footprint & fragmentation of the rest of the site, causing isolation, interference & changes to hydrology of pond C & possible increased mortality from new kerb/gully pot drainage system. To protect/mitigate/compensate for species & habitats lost it is proposed to:

- capture and exclude newts from ponds A and B (February to June) with fencing and pitfall traps over the development footprint and repeat searches (May/June)
- create/enhance habitats on part of the site formally of low value for newts: this will replace lost woodland, ponds and scrub and provide 4 new ponds in compensation, bunds along the site boundary, secure fencing & screening, new places for hibernation, refuges & a landscaped corridor designed to encourage nature conservation)
- pond infilling and site clearance to occur in August
- construction to include sustainable urban drainage system to prevent major changes in hydrology

Disclaimer

The above example is provided as guidance only to illustrate a typicalmitigation/ compensation scheme for great crested newts. For all other species the mitigation and compensation proposed and provided will vary depending on the species. Such mitigation/ compensation requirements for other species i.e. badger; bats and butterflies should be discussed with your consultant ecologist.

Contact Details



Contact

If you require any further information regarding the Wrexham Industrial Estate: Employment Development and Nature Conservation (April 2009) Guidance Note, please contact the Planning Policy Section at the address below or visit our web site.

Planning Policy Section,
Wrexham County Borough Council,
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Friday 8.45am - 4.45pm

Special arrangements may be made with individual officers for meetings outside these hours on request.

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Please call 01978 292019 for your copy.

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