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PLANNING APPLICATION ASSESSMENT

SITE

Former Air Products Site
Station Road
Acrefair
Wrexham
LL14 3RJ

CLIENT

Clwyd Alyn
72 Ffordd William Morgan
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Denbighshire
LL17 0JD

JOB No.

1078

DATE

April 2024

GRID REFERENCE

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(centre of site)

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Document Title	Former Air Products Site, Acrefair, EIA Report
Issue No	V2
Prepared For	Clwyd Alyn
Prepared By	EDC
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Date/s of Survey	15 March 2024
	18 April 2024
Date of Issue	30 April 2024
Date of Revision	03 May 2024

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1.0 INTRODUCTION

EDC has been instructed to undertake an updated base line survey and impact assessment. The survey will address the biodiversity impacts in line with the DECCA framework, Planning Policy Wales-Edition 12, February 2024, Environment (Wales) Act 2016, (Section 6 Duty) and (Section 7) and the Welsh Assembly Government Technical Advice Note 5, 'Nature Conservation and Planning' and local development policy, to enable an assessment of impacts and mitigation to negate impact as a consideration, material to the determination of planning consent and active protected species and habitat legislation at the time of survey, and to produce biodiversity net gains based on the findings of the surveys.

The works include the construction of 159 affordable dwellings and associated infrastructure, public open space and biodiversity offset. The site is approximately 7.5Ha in area and is sited at the junction of the Llangollen Road and King Street, Acrefair. Approximately 5Ha was developed by Air products, 1 Ha was undeveloped grass land, the remaining areas are woodland over embankment, former coal sheds and the remnants of the railway cutting. Two previous surveys have been undertaken on site Marches Ecology 2021, Arbtech 2022/23.

2.0 SUMMARY

The following main points have been identified on site and are addressed fully in the main text:-

1. The site is defined as brown filed site with several decades of industrial developments being recorded.

2. A portion of the site was underdeveloped grassland, with no recent development records.

3. The main development area is formed by crushed materials from the demolition of the factory and levelled through.

4. An active badger site set is located on site.

5. An active Fox earth is recorded on site.

6. Large stone retaining wall records potential for nesting bird and roosting bat.

7. Historic record for Slow Worm to the south of the development area.

8. Historic record for Great Crested Newt to the north east of the site

9. The old railway siding floods and forms a linear pond.

10. No invasive none native species identified during site survey.

3.0 SITE

The is approximately 7.5 Ha in area and was the former Air Products Factory, which was demolished circa 2010. The site has a history of development dating back to circa 1860. Only the level area was redeveloped by Air Products. The buildings where demolished and the site was levelled to the area as shown on the aerial plans today. The site comprises of approximately 5 Ha

of the former factory area, two areas of woodland, 0.75 Ha of self-seeded woodland on a raised retained area of land to the north east of the site. This area was the former British Iron Works coke ovens and rail tracks constructed circa 1860. An area of approximately un developed grass land of about 1 Ha stood the south and alongside of the eastern boundary. Two rail lines bisected the site, the main line including Acrefair Station, demolished 1976, ran along the southern boundary of the site and an interconnecting rail line feeding the coal mines to the north west of the site, running approximately from the existing road entrance south to cross King Street. The site was redeveloped circa 1900's to form the Acrefair Engineering Works. Several large lagoons were formed and are recorded on site and adjacent to site from the 1870's through to at least the 1960's. These reservoirs/lagoons have since been drained locally. The site was redeveloped and the Air Products Site was developed on the previous works footprint, this factory was demolished circa 2010. The site being levelled and all remnants of previous development use being removed, other than the retaining wall to the woodland area and the railway cutting of the defunct main Wrexham to Barmouth railway line.



Fig 1 – Survey Area

The north western boundary abuts the A539 Llangollen Road. The road falls to the south west with a strip of self-seeded wooded embankment between the back of pavement and the site fencing/boundary. The western boundary is retained and runs parallel to the B5096 Kings street. This boundary staggers and cuts around a small area of development and runs along the old railway embankment forming the south western site boundary. The land beyond is formed by a mix of formal gardens and a woodland strip. The south eastern boundary is onto a public footpath which is also the boundary onto an area of common land, formed by rank grassland, pockets of scrub and woodland. The north eastern boundary abuts a mix of woodland, formal gardens, and new development.

4.0 EXISTING DATA

Data search from the NBN gateway and previous COFNOD local records.

AMPHIBIAN: -

There is a single field record for the protected species Great Crested Newt within 330 m to the north east the development area.

REPTILES: -

No data records for this taxon group within 500 m of the site. A single recording for slow worm recorded during the 2021 surveys. The record is outside of the development zone.

MAMMAL: -

Badger *Mele* –

No data records within 1km of the site for this species. A sett was identified on site during the 2021 surveys.

Bat *Chiroptera* –

Single record for Myotis species for the former air product site pre demolition, circa 2000.

The following species are recorded at both local and at a county level: -

Pipistrelle Pipistrellus *pipistrellus/pygmaeus*
Brown Long-eared *Plecotus auritus*
Lesser Horseshoe *Rhinolophus hipposideros*
Greater Horseshoe *Rhinolophus ferrumequinum*
Daubenton's *Myotis daubentonii*
Whiskered/Brandt's *Myotis mystacinus/brandtii*
Natterer's *Myotis nattereri*
Noctule *Nyctalus noctula*
Serotine *Eptesicus serotinus*

Hedgehog *Erinaceus europaeus* –

Several records to the north and south of the site, nearest record 25 m to the north west of the site.

BIRD: –

Approximately 87 species are recorded within 1km of the site with, approximately 25 plus species could nest within the survey area, primarily the woodland blocks and areas of scrub and ruderal herb/rank grass.

DESIGNATED SITES:

River Dee SSSi – is located at 1.2 km to south west of the site

No other European designated, none designated sites are recorded within 500m of the site.

NONE STATUTORY SITES:

The Ty Mawr Country Park - is located at 1.2 km to south west of the site

Historical Mapping

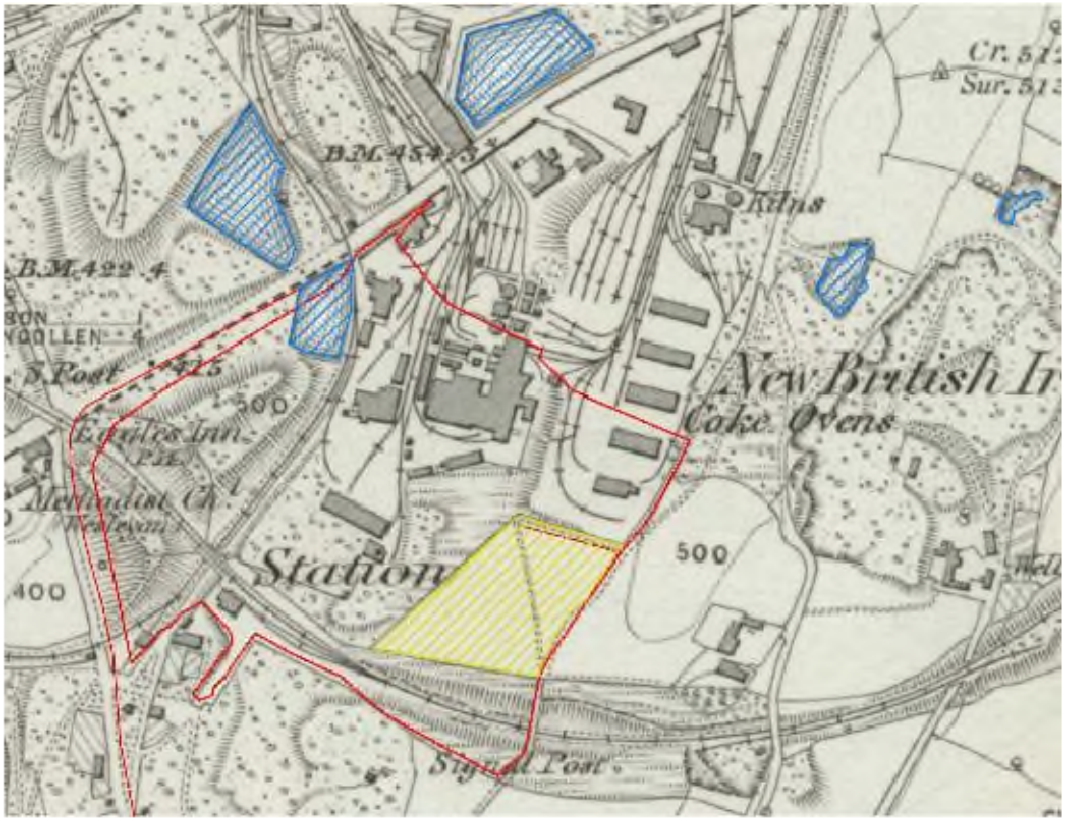


Fig 2 – OS mapping circa 1847, showing location of water bodies, undeveloped area, and site boundary

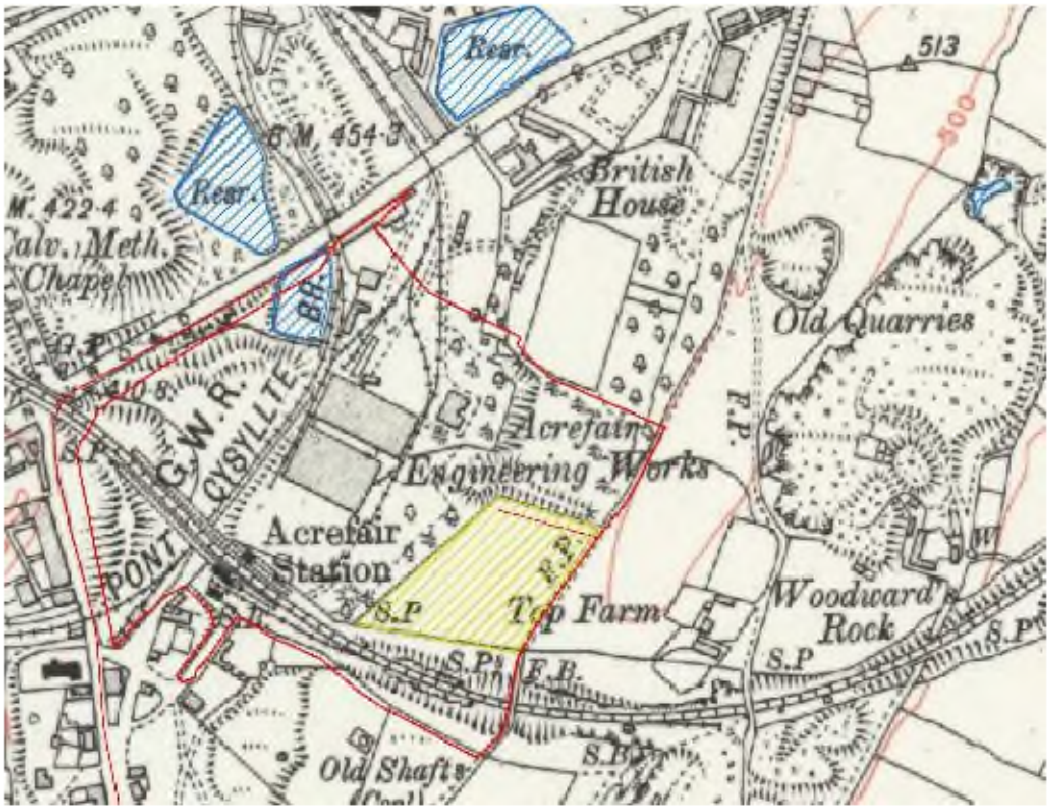


Fig 3 – OS mapping circa 1909, showing location of water bodies, undeveloped area, and site boundary



Fig 4 – OS mapping circa 1949, showing location of water bodies, undeveloped area, and site boundary



Fig 5 – OS mapping circa 1963, showing location of water bodies, undeveloped area, and site boundary



Fig 6 – OS mapping circa 1985, showing, undeveloped area, and site boundary

5.0 SURVEY AREAS

As outlined in Fig 1

6.0 LEGAL PROTECTION

Under the 1981 Wildlife & Countryside, and the 2000 Countryside Rights Of Way (CROW) Act, it is an offence to "intentionally" or "recklessly" kill, injure or take any legally protected species. In some cases, even the species' habitat and places of shelter are protected.

6.1 GREAT CRESTED NEWT/BAT/SMOOTH SNAKE/NATTERJACK TOAD/SAND LIZARD:

Both British and European laws protect the species and its habitat. In Britain it is protected under Section 9 (Schedule 5) of the Wildlife & Countryside Act 1981 (as amended), and by The European Union's "Habitats Directive" (Council Directive 92/43/EEC (a) on the Conservation Of Natural Habitats and of Wild Fauna and Flora. The Habitats Directive is implemented in Britain by the Conservation Regulations 1994. Under this legal protection (and with the minor amendments of the CROW Act 2000 in England & Wales), to be superseded by the introduction of "The Conservation of Habitats and Species Regulations 2010" which came into force on the 1 April 2010, it is an offence to:

- Intentionally or deliberately capture, kill, or injure.
- Intentionally or recklessly disturb them in a place used for shelter or protection.
- Damage or destroy a breeding site or resting place.
- Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection.
- Possess an animal, or any part of it, unless acquired legally.
- Sell, barter, exchange or transport or offer for sale or parts of them.
-

6.2 BIRDS:

All British birds, their nests and eggs are protected in law. It is an offence under Part 1 of The Wildlife & Countryside Act 1981 as amended (and with the minor amendments of the CROW Act 2000 in England & Wales) to intentionally or recklessly kill or injure any wild bird or to take, damage, or destroy any nest or egg of any wild bird. However, Schedule 1 of the Act provides an additional tier of protection so that rare species (e.g., barn owl) are specially protected by increased penalties and cannot be intentionally or recklessly disturbed when nesting.

Some native bird species are listed as rare and most threatened species under Section 41 of the Natural Environment and Rural Communities Act (2006). Ref: Environment (Wales) Act 2016, Section 7 list of species. You must have due regard for the conservation of Section 41 species as part of a planning application.

6.3 MAMMALS:

All of the British species of bat are protected under the W&C Act 1981 (as amended). This protection is also extended to the otter (Lutra lutra), and the water vole (Arvicola terrestris). **The badger** (Meles meles) is protected under the Protection of Badgers Act 1992. Included in the Act it is an offence to damage any part of a sett or destroy it; obstruct access to any entrance of a sett; or to disturb a badger when it is in its sett.

Some native species are listed as rare and most threatened species under Section 41 of the Natural Environment and Rural Communities Act (2006). Ref: Environment (Wales) Act 2016, Section 7 list of species. You must have due regard for the conservation of Section 41 species as part of a planning application.

6.4 REPTILES:

All of the British species of reptile are protected under the W&C Act 1981 (as amended). See above for Smooth Snake, Natterjack Toad and Sand Lizard.

- Intentionally or deliberately kill or injure.

All native reptiles are listed as rare and most threatened species under Section 41 of the Natural Environment and Rural Communities Act (2006). You must have due regard for the conservation of Section 41 species as part of a planning application.

7.0 LIMITATIONS

None identified.

8.0 METHODOLOGIES

8.1 GREAT CRESTED NEWT:

A walkover survey to identify any potential breeding pools and refugia sites within the survey area was conducted. This was followed up by a desktop survey to identify any local records for this species within 500m of the site. eDNA sampling

8.2 REPTILES:

Walkover to identify any potential basking/foraging areas for this species, and visual sightings.

8.3 BADGER:

Search for field signs (paths, latrines, foraging) indicating the presence of this species and if discovered an extended search up to 30m beyond the survey boundary for the presence of a sett(s).

8.4 BATS:

Walkover to identify any potential roost or foraging habitat within the survey area.

8.5 WATER VOLE:

Walkover to identify any field signs, i.e., feeding stations, latrines, burrows etc. and an assessment of habitat suitability together with connectivity.

8.6 BIRDS:

An assessment of habitat suitability for nesting sites.

8.7 HABITATS:

The site was surveyed following the NCC (JNCC) methodology. Habitat types across the site were mapped and individual species found within the boundaries of the survey area were recorded including a biodiversity site assessment.

9.0 RESULTS

9.1 *GREAT CRESTED NEWT:*

A single eDNA record within a waterbody to the rear of Hampden Arms approximately 330m to the north east of the site. The historic mapping shows extensive water bodies being within the site and adjacent to the site until circa 1963. Following the decommissioning and levelling of the site, materials were placed at the entrance to the old railway cutting and a boundary wall has been formed underneath the pedestrian high level footpath bridge. This area floods seasonally forming a linear water body. It has been noted on previous surveys that this area was dry, however during this seasons surveys this water body was present at an approximate depth of 1m.

A follow up eDNA sampling was undertaken on the 18 April 2024 and forwarded to ADAS for analysis, the results of the test where negative for the protected species Great Crested Newt.

No other water bodies with connectivity are recorded within the latest guidance with regards to terrestrial range for this species of 1.6km.

9.2 *MAMMALS*

9.2.1 BADGER:

The previous surveys recorded a badger sett within the woodland block to the north east of the site. The previous recorded location was inaccurate. The sett is split into two areas, 4-hole, inactive and a 9-hole active sett with 5 active holes. The sett is closer to the development than previously recorded. The woodland area still records remnants of historic development associated with the iron works to the under store. The woodland area is raised relatively to the main development platform, with the area being retained behind a stone walling to an approximate height of 3-4m. partially along the western edge of the woodland. The southern boundary is sloped down to the adjacent ground as is part of the western embankment. This area of embankment records recent slippage.

Badger tracks are recorded across the site with areas of foraging a single dung pit being recorded. Most of the tracks run south and along the south western boundary. Exit points through the boundary are recorded along the north western boundary and under and old gate way onto the public footpath on the south eastern boundary and down the old railway embankment then following the old cutting south west.

9.2.2 *BATS:*

No recent records are available for the site, the general area does support numerous species locally as would be expected. The majority of the site is open and devoid of trees/ shrubs etc, reducing the potential for foraging cover for the smaller species of bat. The woodland perimeters

and woodland blocks offer greater cover and potential for foraging bats. The seasonally retained water body within the former railway culvert has a higher potential for foraging, giving cover to the area with the tree lined embankments.

The majority of the tree stock is classed as immature self-seeded stock, consisting of Ash, Sycamore, Elder, Birch, young Oaks, and Willow. The large woodland block records some semi-mature softwoods.

The site is devoid of structure other than the section of stone retaining wall. The wall does record some voids between the coursing which were clean and open. The walling faces north east offering single species use and overwintering due to the lack of direct sun light, therefore offering a stable structure suitable for hibernation, none breeding bats, where exposure to solar gain is a critical factor.

9.2.3 *HEDGEHOG:*

The data search recorded this species in the proximity of the site. The nearest record was just outside of the boundary at the junction of Llangollen Road and King Street, it is assumed that this record was from a road kill due to its location. The boundaries directly onto King Street and the Lower sections of Llangollen Road are formed by embankments and retaining walls. These structures exclude small mammals which do not have the ability to climb. The remaining boundaries are open and offer good connectivity to the wider habitats.

The immediate open development area offers little refugia for this species with the greater potential being to the rear of the gardens on the south western boundary.

9.2.4 *FOX:*

A single active earth has been recorded on the south western embankment abutting Kings Street within the woodland area.

9.3 REPTILES

The data search did not produce any records for this site or adjacent sites, however an extensive tray and tile survey undertaken by Marches ecology 2021, did record a single record for Slow Worm. The majority of the site is open with little vegetation for cover in the main development area. The perimeter areas offer the greater potential primarily along the south western boundary. The immediate adjacent habitats/gardens offer greater refugia for reptiles and it was within the old access track to the station where the slow worm record was recorded.

9.4 BIRDS

The NBN data sets records 87 bird species within 1km of the survey area. Of the species recorded the recorded habitats offer potential nesting sites for 25 plus species. The main development zone which was the former factory footprint offers a reduced potential for nesting birds due to the area generally devoid of suitable nesting habitats. The areas with greater nest potential are the scrub pockets, gorse blocks located to the perimeters of the site and areas of transitional ruderal herb scrub to the woodland blocks. The walk over survey recorded Chiffchaff, Wren, Dunnock, Great and Blue Tit, Gull, Snipe, Woodpigeon, Crow, Magpie and Robin.

As previously noted for bats the site is devoid of structure other than the stone resting wall, This record historic nest material in some of the voids and also offers potential for crevice nesting birds, wren, wagtail, redpoll etc., the wall is orientated towards the north east, resulting in no solar gain a beneficial factor for structures with potential nest sites

9.5 HABITATS

The walk over survey recorded little variation to habitat than those identified in Arbtec 2022/2023 and Marches Ecology 2021, however we disagree on the classification of the raised bank area located between the southern western boundary of the woodland block and the north eastern boundary of the former railway cutting. It can be clearly seen form the historic mapping for the site that this area has never been developed and is shown as open grassland. The walk over survey does record that this area has received a top soil strip during the remediation works. The south eastern boundary records stock piled soils which are assumed to be the former top soils from this area.

The previous surveys record a variation in plant diversity for this area, recording 'some particularly rich areas of unimproved grassland'

The classification of habitats and species recorded during the walk over survey are mapped on the attached habitats plan 1078-EDC-Habitat Plan-SS-01

10.0 DECCA ATTRIBUTES

Diversity: maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits.

Extent: incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance.

Condition: The condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc.

Connectivity: This refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species, and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity

Aspects of ecosystem resilience (adaptability, recovery, and resistance): ecosystem resilience is a product of the above four attributes. Adaptability, recovery, and resistance to/from a disturbance are defining features of ecosystem resilience.

11.0 RECOMMENDATIONS AND BIODIVERSITY NET GAIN

The development proposals and Biodiversity enhancements follows the 'step- wise approach' so as to maintain and enhance biodiversity, build resilient ecological network, and deliver net

benefits for biodiversity. The approach is to ensure any adverse environmental impacts identified on site are avoided, where feasible. The impacts are to be minimised by offering mitigation as required. The enhancement implemented is to be managed and monitored by the housing association site maintenance and management team in a combined public open space and wildlife enhancement areas management plan, this is to ensure long term site safe guard and enhance and maintain the favourable conservation status of the flora and fauna identified within the site boundaries

As identified in planning policy Wales, enhancement can include on-site, locally relevant, habitat creation and/or could be part of the development itself favouring the use of native species using biodiverse nature-based solutions such as SUDS, green roofs, grassland management for wildflowers or reptile refugia, woodland expansion, and wetland creation.

11.1 DIVERSITY:

The proposed development site is classed as a brown field with the last development being demolished and the site levelled circa 2010. The site has seen intensive industrial use over the last 150 years. A small portion of the site approximately 15% of the overall site records no historical industrial development, however this as most of the site has seen a top soils strip and the materials bunded pending reuse, this is considered to be standard pre development site preparation works. The woodland blocks are not included within the development footprint and will be retained. None of the trees are considered to be mature and several record ivy cover.

The former Barmouth to Wrexham railway was decommissioned as part of the Beeching cost saving exercises and is still shown on the 1960 OS mapping. The original railway cutting is still visual on site, however some fill has been placed over the track bed and some fly tipping is recorded off the pedestrian footpath bridge, to which this area records seasonal flooding.

The woodland areas are considered to be species poor which have self-seeded on pre-existing railway embankments and former coke ovens, the under store is shaded and dominated by ivy, the tree species in the main block consist of ash, sycamore, elder and a few soft woods. The majority of the site consists of crushed rubbles, over pushed, and levelled, with thin soils. The vegetation has started to redevelop; however, this is relatively recent. The species recorded are typical of a regenerating site on nutrient poor soils. None of the floral species are considered to be of national or local importance. (Marches Ecology 2021, Arbtech 2022/3)

Flora:

The scheme looks to introduce a more diverse planting across the site post development, to include formal and none formal plantings. The immediate areas to the housing will be planted with low maintenance formal plantings, a percentage to be selected to provide foraging opportunities for insects (blossom) and birds (berries), and year-round cover and nesting sites for birds.

The proposals are to develop the central corridor by seeding with a more diverse species rich grassland mix. To introduce swales formed to retain water before feeding into the attenuation pond. To introduce a species rich hedgerow to connect the two woodland blocks on the south eastern boundary. All three of the retained woodland blocks are to be enhanced by selective felling and replanting with more diverse native species. The woodlands are to be managed to form small glades to introduce more natural light to the under store to promote a more diverse floral content.

Presently the existing railway cutting is considered to be hazardous, due to the deep water, the steep sided embankments, the rock walls, and tall retaining walls. It is proposed that this area is filled and reprofiled to the former track bed to create a more manageable and diverse area for public access. The lost retained water body is to be negated for by the introduction of the swales, seasonal attenuation pond and a small newly constructed wildlife pond on site.

The grassland areas are to be managed to form graduation in sward height. The formation of a gradual profile from short sward through to scrub borders to the perimeters of the site, the introduced seed and fruit bearing plants are to be managed to benefit wildlife.

To define between amenity management and habitat management, knee rails will be introduced to demark the management regimes. The grassland habitats will be managed to form a gradual profile from short sward through to scrub borders to the perimeters of the site, the introduced seed and fruit bearing plants will be managed to benefit wildlife.

To improve diversity within the developed area bat and bird boxes will be introduced. As the housing is constructed using timber frame methodologies, (to be confirmed) boxes will be face mounted, see drawing ref: 1078 MIT-01 and Proposed Landscape Masterplan 3104-001 Rev E

Fauna:

The survey did identify fauna within the site boundaries, slow worm, Badger, and Fox with local records for Hedgehog. The layout allows for maintain connectivity for badgers to their existing foraging area across the site as well as providing areas of species rich grassland within the landscape plan. The fox earth is to be retained and the immediate woodland to be enhanced by selective felling and replanting with more diverse native species. The woodland block to the north east of the site is presently accessible from the public footpath, a fence is to be introduced to reduce public access to this sensitive area.

Enhancement is to be implemented for both slow worm and Hedgehog. In the case of Hedgehog, the plot boundaries will be constructed so as not to restrict movement by this species through and across the site. Refugia will be developed for both Hedgehog and slow worm by forming linear clawdd walling to the perimeters of green spaces

Historically the site and the immediate adjoining areas recorded large water bodies, assumed for the process of the iron works. These water bodies have been lost over time, the only waterbodies retained locally are the small waterbody to the rear of Hampden Arms to the north of the site and the seasonal water body within the onsite railway cutting. The Hampden Arms waterbody recorded a positive eDNA for Great Crested Newt (2015) showing that amphibians are still recorded locally. The water body on site has been tested for eDNA April 2024, the results however were negative for GCN. This water body for several reasons will require to be drained and the area filled, this nett loss is to be negated. As part of the landscaping plan a series of interconnecting swales are to be constructed across the site to connect to a seasonal attenuation pond. Secondary to this a new wildlife pond is to be formed adjacent to the old waterbody size to be approximately 10 – 20 m2

11.2 EXTENT:

The former development areas within the site boundaries are considered to be species poor for both flora and fauna, with no species being recorded of local or national importance. The woodland blocks and the original area of unimproved grassland (pre topsoil strip) offer the greater diversity on site. The site has little connectivity to the south western and north western boundaries due to the road networks; the boundaries open up to areas of informal gardens, the linear corridor of the old railway track bed and the common land. The introduction of the proposed biodiversity enhancement, will improve the local ecosystem by increasing biodiversity, this with the existing connectivity to the adjacent habitats natural and formal will promote enhancement of the site over time, if monitored and managed accordingly.

11.3 CONDITION:

The existing development footprints area considered in its present condition as being species poor with little potential for improvement. The wider habitats of the perimeter woodland, consisting of self-seeded woodland pioneer species over former railway embankments and historic industrial process areas is also considered to be species poor, pertaining mainly to the woodland under store, dominated by ivy. The development footprint receives periodic pre development grass/scrub management, the woodland blocks are presently unmanaged.

As part of the development proposals the main areas will be enhanced by introducing both formal and wildlife enhancement landscape schemes. To improve and maintain condition an appropriate management and monitoring strategy is to be undertaken.

11.4 CONNECTIVITY:

The south western and north western boundaries of the site are considered to have restricted connectivity due to the retained structures, on third party landholdings and the existing road network system. The north eastern south eastern and western boundaries are onto a mix of unmanaged formal gardens woodland blocks and common land, with a mixed sward of grasses and scrub/ruderal blocks.

The site records an active badger sett, as part of the initial surveys the foraging/desire lines have been mapped over three survey periods. Generally, all surveys have confirmed similar paths/tracks across the site formed by large mammals (mix fox badger). The road layout and introduced landscaping area have taken this into consideration to enable continuing connectivity for these species groups.

Hedgerows have been introduced on the western boundary to connect the two woodland blocks, this to enhance the connectivity for small mammals, including hedgehog, between the woodland blocks and the wider habitats.

The introduction of wildlife friendly fencing around the site and between plots to enable movement for hedgehog etc., across and through the site.

The filling of the former railway cutting to the top of the retaining wall/rockface will greatly enhance connectivity for species within this area.

The overall approach will maintain and enhance the existing connectivity across the site and to the wider habitats.

11.5 ASPECTS OF ECOSYSTEM RESILIENCE:

As part of the EIA the desk top studies undertaken have taken into consideration information contained in SoNaRR, Area Statements, Local Nature Plans, Local Nature Recovery Action Plans, Local Biodiversity Action Plans, and data held by Local Environmental Record Centres have been taken into account where available. Aspects of global warming have also been attempted to be assessed and addressed as part of the scheme, i.e. location of bird and bat boxes/bricks, resilience to drought in the choice of plantings, control of flooding, by introducing SUDS and water bodies.

On implementation of the scheme and its enhancements a monitoring/management plan has been drafted to ensure continuing site safe guard going forward. The management plan should be reviewed as more data becomes available from the impacts of global worming locally to allow the prescriptions to be amended and implemented accordingly.

This approach taking the above factors into consideration, Diversity, Extent, Condition and Connectivity, will be able to managed and maintain ecosystem resilience in medium to long term.

12.0 ENHANCEMENT

12.1 AMPHIBIANS:

The population status for GCN in North East Wales is considered to be good and stable with wide distribution.

The local data search identified historic records for this species locally and the loss over time of large to medium water bodies. The eDNA result for the existing water body on site showed a negative, however this result is for a single species and does not include potential presence in the future or for common newt, frog, or toad.

Base on the above and the wider use of water bodies by fauna and as a biodiversity enhancement the following is recommended:-

Recommendation

- A small pond is constructed as conservation gain. The pond is to be approximately 10 – 20 m2.
- The linear swales should be constructed in sections and designed to retain water, with the ability to interconnect and flow during wet periods

12.2 MAMMALS:

12.2.1 BADGER:

The site survey records an active sett within 10 m of the development boundary, located within the north eastern woodland block. The sett is located on high ground and is presently on the woodland side of the fencing in this area. Some signs of collapse of the bank are recorded on the site side of the fence line. The woodland block has open access onto a public foot path on its eastern edge.

The site surveys record movement across the site through and alongside of the eastern, south eastern, south western, and north western boundaries by this species. Latrines and snuffle holes are also recorded alongside of these boundaries ref: 1078-EDC-Habitat Plan-SS-01

Recommendation

- Prior to works being undertaken a follow up survey is to be undertaken and an assessment of impact by the proposed construction phase on the badger sett is to be undertaken. If it sis considered that the works are likely to disturb/impact on the sett then a license under the Badger act is to be sort to ensure the works are undertaken lawfully

Connectivity

- Access through all perimeter/security fencing to be retained
- Connectivity is to be retained and enhanced across the site
- Traffic calming is to be introduced to across the roads at strategic points to aid safe badger movement

Conservation Gain

- Introduced species rich grassland to be introduced, this will enhance foraging across the wider site.
- Sensitive management of the existing woodland blocks to increase the biodiversity of the woodland under store.
- Introduce over seeding in the newly managed areas of the woodland blocks with a woodland mix, to include blue bell etc. for enhanced foraging.
- A new secure fence to be introduced between the public footpath and the north eastern boundary of the woodland, this is to reduce public access to a sensitive area.

12.2.2 BATS:

The local data records a single presence on site for Myotis. Presently no transect surveys have been undertaken on site, this recommended to inform the development of the site area lighting scheme to enable dark corridors to be developed

The following recommendations are therefore being recommended to ensure the potential for bats to roost, forage and transect the site.

Recommendation

- Transect surveys are to be undertaken across the site to establish foraging roots and to aid the development of dark corridors and inform the street lighting and security lighting plan.

Connectivity

- The boundary features where feasible will be enhanced by introducing species rich native hedgerows interplanted with native tree stock. The introduction in time will create wind breaks for cover for smaller insect species and for shading from any light pollution, especially along the newly introduced connecting hedgerow between the woodland blocks.

Lighting

Research with regards to impacts from lighting on bats has identified that lighting which emits ultra violet radiation attracts flying insects. This has been recorded as being potentially beneficial to some foraging species of bat, namely Pipistrelle, Noctule, Leisler's, however high levels of ultra violet radiation has been found to have an adverse impact on other bat species, Horseshoe, Myotis species, which forage in low light levels. Historically lights emitting low levels of ultraviolet radiation, SONS etc have been recommended but with the requirement for lighting on adoptable roads, lighting with a low carbon footprint and the movement towards promoting dark skies, lighting is moving towards the installation of LED lighting. Although this type of lighting is more efficient, it does emit a level of ultraviolet radiation

- Therefore shading, filtering, and directional lighting is to be promoted where feasible.

- Any lighting plans provided by the electrical engineers are to show compliance with the above requirements as part of the scheme and specifically in proximity to the retained hedgerow boundaries, where L.A. highway lighting approvals allow

It is to be considered that the greatest impact on lighting on bats is at emergence and if this is directly onto a roost entrance it is shown that a delayed emergence can occur, this however is not a factor to be considered as this is newly created housing stock.

Security lighting is likely to be requested to be fitted to the rear plots; this is to be discouraged by the housing association, where properties abut, back on to the woodland blocks or areas identified as foraging corridors.

- Therefore, any fixed security lighting is to include automatic control to include timed and light sensitive switching, with an average illumination time of approximately 1 to 2 minutes, this approach is to be promoted to reduce the impact.

Conservation Gain

- The introduction of a small pond, will greatly enhance the foraging potential for bats locally, specifically Pipistrellus pygmaeus.

- Variation to grass sward and improved species enrichment will promote a greater diversity of foraging insect for bats.

- Introduction of insect species rich tree species, *Quercus robur/pedunculate* etc.

- Bat boxes are to be located on the perimeter plots facing the boundary habitats, hedgerows, or the internal POS areas. The bat boxes are to positioned so as to face all aspects, north, south, east, and west and spread across properties as the layout allows. The positioning of the bricks should take into consideration of the mandatory LA adoptable lighting schemes.

- The bat boxes to be surface mounted, not to be positioned over windows or doorways and adjacent to bedrooms.

- Bat boxes to be Schwegler Universal Bat Box 1FFH or 1FQ or similar approved

- The existing stone retaining wall is to be maintained in a safe stable condition with minimum pointing of the potential roost points.

- 4 no winter hibernation boxes are to be fixed to the face of the stone retaining wall at high level the boxes are to be Schwegler 1WQ or similar approved

This approach will ensure that the long-term favourable conservation status for this species is maintained and enhanced by the conservation gain proposed.

12.2.3 HEDGEHOG:

The survey did not identify this species within the site boundary. The local area does record this species; however, the north western and part of the south western boundaries have restricted access to the site due to the existing retaining walls and road network. The remaining boundaries are open and the habitats are deemed to be favourable to support this species. Therefore, the enhancement of the site and careful design of the boundaries can be considered to be a potential conservation gain for this species locally.

Conservation Gain

- The landscape and site boundaries are to consider the movement of large and medium sized mammals across the site and specifically the locally recorded biodiversity species Hedgehog, therefore careful design of the garden boundaries is to be considered to allow passage from area to area for this species.

- If enclosed fencing is to be used, then Hedgehog friendly gravel boards are to be used, this will allow access for locally threatened biodiversity species like Hedgehog which are impacted heavily by closed gardens.

- Schwegler Hedgehog Domes are to be building into the introduced clawdd walling with a 150 mm pipe cut horizontally to form a 100 mm height with a length of 300 mm leading from the front face of the clawdd to the dome.

This approach will ensure that the long-term favourable conservation status for this species is maintained and enhanced by the conservation gain proposed.

12.3 REPTILES:

The surveys or the immediate development area did not record this species, nor did the desk top surveys identify this taxon group locally. A single record for slow worm was recorded on the former railway station link road which access the site on the south western boundary. The site itself in this area is considered to have a low potential in its present condition for this species, however the abutting unmanaged formal gardens and habitats on this boundary offer the greater potential.

Recommendation

- Prior to works being undertaken, the immediate area to the south western boundary is to be searched and the grass, scrub is to be removed. A temporary reptile exclusion fence is to be installed alongside of this boundary to restrict migration of reptiles to the wider development area during the construction phase. This is to ensure no animals are harmed during the construction phase.

Connectivity

- The site habitats in this area are to be managed to a short sward to discourage colonisation during the construction phase

- The boundary features where feasible will be enhanced by introducing species rich native hedgerows interplanted with native tree stock.

Conservation Gain

- Clawdd walls to be introduced in a linear plan to the open areas along the south western boundaries.

- The drystone walls to the front face of the clawdd will offer cracks and openings for the use by common lizard as refugia/hibernacula.

- The dry-stone wall to be constructed from limestone, to provide a thermal mass for heat retention and basking for reptiles.

- The clawdd walls to be approximately 1m high with a drystone wall front backed, with sods and earth to a width of 1m with a back slope. The top of the walls is to be planted with scrub, bramble, gorse etc. The walls should have a minimum length of 2m x 2m

- Grassland in front of the walling to be managed to a short sward to aid basking and monitoring.

This approach will ensure that the long-term favourable conservation status for this species is maintained and enhanced by the conservation gain proposed.

12.4 BIRDS

The former development footprint has limited nesting potential for birds, being limited to the woodland blocks, pockets of scrub and tall ruderal herb.

Recommendation

- If works are to commence when birds are likely to be nesting, (assessment by experienced ecologist) then secondary pre works nesting bird surveys are to be undertaken and the requisite reasonable avoidance measures under taken until the area is deemed clear.

Conservation Gain

- Bird boxes are to be sighted on the new building. The boxes are to be positioned on the eastern elevations of the building, so as not to overheat in the strong mid-day sunlight.

- The boxes should be a mix of Sparrow, Starling, and Tit. All nest boxes to be positioned beneath soffit height or to the underside of the barge board soffits of the mono gables.

- Sparrow/Starling Boxes to be WoodStone Estella Nest Boxes or similar approved

- Any hedgerow enhancement to be of native species, and any standard trees planted should be selected to provide foraging opportunities for insects (blossom) and birds (berries), and year-round cover and nesting sites for birds.

- Evergreen dense planning should be considered for early nesting, preferably to the southern areas of the site.

- Existing grassland management to be retained to provide short and long swards to promote foraging by different species of bird requirements, tall ruderal for finches etc, short sward for corvids, blackbird, gulls etc.

This approach will ensure that the long-term favourable conservation status for this species is maintained and enhanced by the conservation gain proposed.

12.5 HABITATS:

The walkover surveys identified the dominant habitat to be disturbed semi-improved neutral grassland. The survey area is bordered by housing and road networks to the north west, south west and part of the north east of the site all classed as species poor habitats The woodland blocks consist mainly of pioneer species with a species poor under store. The woodland blocks are self-seeded on previously developed industrial areas and former railway embankments and track. The bordering habitats to the south east and south west offer the greater biodiversity.

Recommendation

- Select and reuse the retained top soils previously bunded within the area of unimproved grassland located between the woodland blocks on the south western boundary. Soils and associated seed bank used to form the hedgerow and buffer strip between the access road and site boundary. To plant twin row species rich hedgerows to south eastern boundary.

Conservation Gain

As part of the planning application a landscape plan covers this area, the plan includes grass land areas, borders, and individual tree planting. The plan has been developed to include formal planting and wildlife areas, set out to maintain and enhance connectivity. The scheme will be managed to retain variable sward and features, to include a small wildlife pond, interconnecting swales, newly introduced native hedgerows and management and enhancement of the existing woodland blocks.

Careful consideration is to be undertaken to ensure no plantings specified are contrary to the INNS species lists for the North Wales areas i.e., Cotoneaster, Japanese Rose, Pirri-Pirri-Bur, Montbretia, Buddleia etc. see drawing ref: 1078 MIT-01 and Proposed Landscape Masterplan 3104-001 Rev E

- The immediate areas to the housing to be turf, turf to be selected where feasible to have a diverse seed mix.

- Newly formed wildlife areas and borders to receive a species rich meadow seed mix to be approved, suggest species richness:-

Papaver rhoeas	Corn Poppy
Rhinanthus minor	Yellow Rattle
Anthyllis vulneraria	Kidney Vetch
Armeria maritima	Thrift
Campanula glomerata	Clustered Bellflower
Centaurea nigra	Common Knapweed
Echium vulgare	Vipers Bugloss
Galium verum	Lady's Bedstraw
Helianthemum nummularium	Rock Rose
Hypochaeris radicata	Cats Ear
Liguisticum scoticum	Scots Lovage
Lotus corniculatus	Birdsfoot Trefoil
Primula veris	Cowslip
Scorzoneroides autumnalis	Autumn Hawkbit
Silene dioica	Red Campion
Silene latifolia	White Campion
Silene uniflora	Sea Campion
Centaurea nigra	Common Knapweed
Ranunculus acris	Meadow Buttercup
Ranunculus repens	Creeping Buttercup
Rumex acetosa	Common Sorrel
Trifolium pratense	Red Clover)

Trifolium repens	White Clover
Dianthus deltoides	maiden pink
Malva sylvestris	common mallow
Origanum vulgare	wild marjoram
Plantago major	Greater Plantain
Taraxacum officinale	Dandelion
Cirsium arvense	Creeping Thistle
Viola riviniana	Dog Violet
Rumex acetosella	Sheep's Sorrel
Potentilla reptans	Creeping cinquefoil
Cirsium arvense	Creeping thistle
Rubus fruticosus	Blackberry

Alnus glutinosa	Common alder
Ilex aquifolium	Holly
Quercus robur	Pedunculate oak
Sorbus aucuparia	Mountain Ash

Agrostis capillaris	Common Bent
Alopecurus pratensis	Meadow Foxtail
Cynosurus cristatus	Crested Dog's Tail
Festuca rubra ssp commutata	Chewings Fescue
Poa pratensis	Smooth-stalked Meadow G

- To planting native tree specimens within the developments POS and wildlife areas and adjacent to hedgerows.

- To forming small sections of linear clawdd embankments with a drystone wall frontage as shown on the indicative plan ref:1078 MIT-01

- To installing a knee rail between the grassland areas/amenity areas and the habitat areas. This is to define grass management between habitat and amenity grass management prescriptions.

- To form a small pond with native marginal aquatic, care to be taken to choose less invasive plant stock relative to the pond size. The pond is to offer a water source for mammals and birds.

- Manage and thin some of the tree stock within the woodland blocks and interplant with more invertebrate favourable species, Oaks, Small Leave lime, Alders.

- Form some open glades within the woodland blocks and seed with a woodland mix to improve biodiversity

- Tree planting to include fruit/bearing baring stock, Malus, Prunus etc.

- Monitor and manage ash die back and remove deceased stock and replace with suitable alternatives, Rowan, Alder etc.

13.0 MANAGEMENT AND SITE SAFEGUARD

13.1 Management Objectives

The Management of the land shall be aimed at achieving the following main objectives: -

- Enhance the newly formed habitats, and retain and improve the semi-natural habitats within the un-developed areas of the scheme.

- To improve the quality and abundance of roosting and nesting features within the development scheme by erecting Bat Boxes and Bird Boxes on the new properties.

- To manage the land so that protected species are conserved. The protected/biodiversity species recorded locally are

  Slow Worm
  Bats
  Badger
  Hedgehog
  Nesting Birds

- To introduce new hedgerows with native planting, to improve connectivity for bats, Reptiles, and terrestrial mammals such as hedgehog.

- To make an adequate record of the biological and physical features of the site and undertake an annual monitoring program.

- Provide long-term site security and management for these ecological enhancements.

13.2 Tenure

The land is in the ownership of and is to be developed by the owner's chosen contractor and maintained by Clwyd Alyn Housing Association Limited. The development will provide a development of housing association properties.

The development is managed and the site is retained in the ownership of the housing association. The management and maintenance of the properties, public open spaces and habitats within the site boundaries are the sole responsibility of Clwyd Alyn Housing Association Ltd.

In the event that the site manager ceases to operate, an alternative approved housing association will take over the tenure, housing associations in Wales are guaranteed by the Welsh Assembly Government.

13.3 Conservation Management

Buildings

The housing association is to retain, replace as required the newly erected bat boxes and bird boxes in consultation with their retained ecologist.

Additional external lighting is to be avoided. Bats are very susceptible to disturbance from light and any lighting near the bat access should be minimized as far as possible.

The housing association is to agree to consult NRW prior to undertaking any other operation or work in areas adjacent to those used by the bats. The housing association will also be responsible to obtain all other consents from other relevant bodies before works commence.

Access is to be agreed to the bat boxes and bird boxes to the housing for the purpose of maintenance and monitoring.

Habitats

Due to global warming and the change in cyclical weather patterns within the UK, the seasons given within the plan have to take into account seasonal variation and management times should be altered accordingly at the discretion of the ecological managers.

As the enhancement scheme develops, adaptation of the management plan to best serve any variations to the management as required and in line with prescriptions laid out and accordance with DECCA - ***Aspects of ecosystem resilience*** (adaptability, recovery, and resistance)

Created Habitats years 1 to 5 (Habitats)

Habitat	Aim	Management	Timing
Sown grassland and site margins	Decrease time taken for grassland sward to close by encouraging tillering	Once grasses reach 100 mm height, areas to be cut to 50 mm sward height.	single cut April – May annually
	Prevent overspread or over spray by invasive flora control management.	Agree good practices with contractors, offset treatments, prevailing weather conditions	All times
	Assess and manage scrub encroachment in grassland	Periodic cutting and pulling of invasive stock, management of others. Allow approx. 20-40% to develop into dense stands.	spring autumn annually
Created Water Bodies	Monitor invasive emergent flora	Remove flora species by hand	spring annually
	Monitor for fish to newly formed ponds only	Removal of fish either by 'electro fishing' or drain down to remove fry.	As required October
	Monitor for algal blooms	Introduction of bales of barley straw. If problem persists analyse water for high nitrate concentrations	monitor, spring, summer, autumn
Scrub Plantings and Tree stock	Monitor plantings for failure or dieback	Remove dead stock and replant	spring annually
	Prevent chocking by adjacent plantings until stock is established	Selective trimming or strimming	May to September annually
	Check tree guards and supports	Reposition, adjust, and remove as required.	Monthly
	Check stock for vermin damage, disease etc.	Assess problem and address with specific management	Monthly
Clawdd/ Hibernacula	To maintain access to hibernation areas and refuges by Fauna	Check openings and clear any soil, turf coverings etc. and clear obstructions without damage to scrub cover	Summer annually

Restored Habitats Cyclical Management, Created Habitats Year 5 onwards

Habitat	Aim	Management	Timing
Grassland and field margins	To retain good grass sward structure	Single seasonal cut, min cut height of 150 mm. Cut to be post seed drop each season. Not before end July, suggested August-September. Min 500 mm offset to hedgerow base, to establish dense corridor at all times.	Single cut late Autumn, to coincide with arable crop foraging and new crop planting.
	Prevent overspread or over spray by invasive flora control management	Agree good practices with contractors, offset treatments, prevailing weather conditions	All times
	Assess and manage scrub encroachment in grassland	Periodic cutting and pulling of invasive stock, management of others	spring autumn annually
Water Bodies	Maintain areas of open water to the pond perimeters	Clear by hand or by machine. Areas to be checked prior to works for water vole activity. Removed material to stock piled adjacent to pond edge for approx. 2 days to allow inverts to return to water body	As required
	Monitor invasive emergent flora	Remove flora species by hand or machine in the case of Typha and Phragmites. Removed material to stock piled adjacent to pond edge for approx. 2 days to allow inverts to return to water body.	As required
	Monitor for algal blooms	Introduction of bales of barley straw. If problem persists analyse water for high nitrate concentrations	monitor, spring, summer, autumn
	Prevent total shading of southern elevation	Remove or cut back scrub, tree growth. If the pond is water body is susceptible to evaporation, allow	Autumn annually

		partial shading to western elevation.	
Scrub Plantings and Tree stock	Maintain good hedgerow form	Monitor and allow hedge cutting seasonally to prevent leggy growth. 33% of hedgerows with slowest growth to be uncut each season.	autumn annually
	Prevent hedgerows from becoming leggy	New hedgerows to be laid in their 8-year dependent on their establishment rate. Leggy hedgerows to be laid	As required
	Check tree guards and supports	Remove and adjust as required	six monthly
	Check stock for vermin damage, disease etc.	Assess problem and address with specific management	Monthly
	Maintain scrub densities	Selective coppicing dependent on species, allow approx. 20-40% to develop into dense stands.	annually October
	Retain areas of deadwood	All trimmings and cut timber to be retained and formed into habitat piles. Any deceased stock to be removed and burnt.	Annually
Clawdd/ Hibernacula	To maintain access to hibernation areas and refuges by Fauna	Check openings and clear any soil, turf coverings etc. and clear obstructions without damage to scrub cover	Summer Annually

Public access and effect	Reduce disturbance and public impacts to habitats	Discourage over access by dog walkers, remove litter and debris to ponds and general areas. Protect as required Water Vole burrows, nest sites etc.	Periodic monitoring

Species Monitoring	Bat	Two external surveys to be carried for evidence of use	May September
	Reptile	Monitoring through placement of reptile trays placed within the grassland	Annually April September

	Birds	Field surveys to list species nesting activity and diversity.	Annually March to June
	Mammals	Field surveys to log burrows, tracks, paths, and latrines	On attendance
	Flora	Record species development and diversity	seasonally
	Invasive species	Monitor and remove as required, see attached list	monthly

Note:

Monitoring of Bird nesting and mammal activity to be logged incidentally during work operations, specific in-depth surveys are not required, i.e., bird species log and nesting activity if identified, badger, tracks, runs, latrines to be logged on observation during site monitoring visits. Similarly, during the site visits a log of any recorded invasive species are to be logged and notified accordingly to NRW/COFNOD

Site visits are set either Monthly, Bi-monthly, by identified month, etc. It is assumed on delivering the cost of the seasonal works that the work load is identified per visit i.e., that all works needed to be undertaken that month as identified in the schedules is undertaken as one visit as opposed to individual tasks being priced as individual standalone visits.

Example:

The above schedule 'Public Access and Effect' has four identified tasks to be undertaken, all of these tasks can be undertaken on the same visit, i.e., the fence checks, litter picking and grass cutting can be undertaken at the same time. It is therefore anticipated that the costs are delivered in this format.

13.4 Invasive Species

Careful consideration to the landscape plan is to be undertaken, to ensure that no INNS (Invasive Non-Native Species) species are inadvertently introduced as part of the scheme. Any management works should be undertaken following the development of a biosecurity risk assessment to ensure that any management works undertaken do not introduce any INNS species and that any management of INNS species identified on site are removed from site in an approved method so as not to contaminate, adjacent or any sites the materials are deposited.

Monitor for:

Azolla filiculoides	Water fern
Cabomba caroliniana	Fanwort
Cotoneaster microphyllus	Cotoneaster
Cotoneaster simonsii	Cotoneaster
Crassula helmsii	Australian swamp stonecrop
Eichhornia crassipes	Water hyacinth
Elodea candensis	American or Canadian Waterweed or Pondweed

Elodea nuttallii	Western Waterweed
Fallopia japonica	Japanese knotweed
Gunnera tinctoria	Giant rhubarb
Heracleum mantegazzianum	Giant hogweed
Hyacinthoides hispanica	Spanish bluebell
Hyacinthoides hispanica x H. non-scripta	Garden bluebell
Hydrocotyle ranunculoides	Floating pennywort
Impatiens glandulifera	Himalayan balsam
Lagarosiphon major curly waterweed	
Myriophyllum aquaticum	Parrots feather
Pistia stratiotes	Water lettuce
Robinia pseudoacacia	False acacia
Rhododenron ponticum	Rhododendron
Rhododendron ponticum x catawbiense	
Rhododendron ponticum x maximum	
Salvinia molesta	Giant salvinia

13.5 Monitoring

Post-development monitoring will be carried out for two consecutive years following the completion of the development works.

Bat-

Monitoring each year will comprise two external inspections of the bat boxes for signs of use. If evidence of activity is identified am emergence survey is to be undertaken by a licensed bat worker (May/September). Any vandalism is to be reported to the site managers Clwyd Alyn and any adaptation or repair is to be overseen by the retained ecologist.

Badger-

Monitoring each year will comprise two walk over surveys to log mammal tracks, dung pits/latrines, snuffle holes and size and condition of the Badger sett and the security fencing to the woodland. Checks to fence lines etc to ensure connectivity is being maintained

Reptile-

Reptile trays are to be bedded in within the rank grassland to the southern boundaries of the site. Check surveys of the trays to be undertaken, April/May, August/September for evidence of presence for Slow Worm.

Amphibian-

One seasonal torch count, approximately mid-April to check for presence of amphibians and general health of the water body.

All data collected by the retained ecologist are to be uploaded to NRW and the COFNOD data centre.

13.6 Mechanism for ensuring delivery of post-development works

The housing stock and development site are retained in the ownership of Clwyd Alyn Housing Association. All funding for maintenance and monitoring is undertaken by Clwyd Alyn Housing association. The housing association is to appoint an ecological land manager to undertake the monitoring and maintenance of the wildlife areas, all costs to be index linked going forward. In the event of the housing association ceasing to trade, the site will be taken up by an equally approved housing association guaranteed by the Welsh Assembly Government. If some individual units are sold into private holdings, the standard agreement is to secure a service charge as part of the land transfer to offset management costs, including wildlife management costs.

In the interim period of appointing an ecological land manager the responsibility of the management of the wildlife areas will be undertaken by either their main contactor or in house management teams under the supervision of the retained ecologist all in accordance with the management plan

13.7 Ecological Compliance Audit

The initial works and mitigation will be overseen by the ecological consultants for the duration of the works to ensure compliance with the planning approvals. The management plan is to be adopted and that it should apply to the next 2 seasons years following the completion of the development, but this should include the site owners or their successor in title or future occupier' in the event that the site management and control of the site is taken over by a third party within the next 2 years.

A compliance audit scheme will be undertaken to demonstrate compliant implementation of the provisions of the planning approvals and conditions. To facilitate and inform this assessment, specified parameters (performance indicators), which are listed below, will be used to assess component and overall performance of this project. This assessment will then indicate whether performance is satisfactory and in compliance with legal or other requirements or conditions.

No	Requirement	Performance Indictor	Pass (Yes/No)
1	A suitably experienced licensed ecologist will be appointed and retained during the construction phase, to provide on-site advice.	Ecologist adviser retained on site:	
2	Prior to undertaking ground works the retained ecologist will undertake a check survey to identify any variation to survey. If the works are to be undertaken during the bird nesting season a pre works nesting bird survey is to be undertaken	Brief report on findings to be produced. Any variations to be adapted into the scheme.	
3	Implementation of surveillance or monitoring of schemes, during and post development.	6 (1) Has identified or required implementation of surveillance or monitoring been undertaken during the implementation phase of the project and results submitted to LA	

		6 (2) Has identified or required implementation of post project surveillance or monitoring been undertaken and results submitted to NRW, COFNOD and NBN gateway	
4	Following completion of mitigation works, an ecologist is to inspect the buildings and created habitats to ensure ecological works have been carried out as specified in plans or in the method statements	Have mitigation works have been carried out as specified in the method statement or plans?	
5	Following completion of each phase of compensation/mitigation works, the bat specialist will inspect the building to confirm bat roost safeguard or Construction; and that that exit points have not been blocked or illuminated of replacement bat roosting sites at each phase of the project	Inspection will aim to confirm that bat exit points are not blocked and not illuminated	
6	Implementation of works during identified or specified times	Inspection of log, or other documentation confirming works have been undertaken during specified or conditioned times	

Tim Hodnett

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April 2024

13.0 ADDENDUM – SITE PHOTOGRAPHS



Photo 1 – North western corner looking south east – retained woodland block to the left and the raised unimproved grassland area to the right.



Photo 2 – North western boundary looking south west – Llangollen Road falls away going south leaving an embankment. Tree line in ownership of WCBC Highways.



Photo 3 – South western corner of the site looking towards the old rail way cutting, land falls away to the right parallel with Kings Street.



Photo 4– Extent of water body within the old railway cutting, retaining wall to the right and rock wall to the left. Water about 1m deep



Photo 5 – Stone retaining wall base of woodland block to be retained