

GREEN GATES PHASE 3: HABITAT CREATION AND BIODIVERSITY HUB INSTALLATION – ECOLOGICAL PROTECTION PLAN

A report for: Denbighshire County Council

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Report Validity and Confidentiality

This report aims to provide an ecological protection strategy associated with habitat creation works and installation of a Biodiversity Hub building and access route at a site known as Green Gates Phase 3, St Asaph, Denbighshire. This report should be read in conjunction with accompanying reports and drawings produced by Biodiversity Advanced Ltd and Systra associated with the site. The document has been prepared for Denbighshire County Council.

The report has been prepared by Biodiversity Advanced Ltd in line with the scope of works agreed with the client and in accordance with the specified purpose stated and to the applicable cost, time and other constraints. Works have been carried out in accordance with CIEEM guidelines and BS42020:2013. In preparing this report Biodiversity Advanced Ltd have relied upon information from the client / third parties which was not verified by Biodiversity Advanced Ltd except to the extent required by the scope of services, and Biodiversity Advanced Ltd does not accept responsibility for any omissions or inaccuracies in this information. Where field data has been collected as part of this project, the assessment is based on the data collected during the site visits and the information provided by DCC. Biodiversity Advanced Ltd accepts no responsibility for any changes subsequent to its date of collection.

This report has been prepared solely for the use by, and is confidential to the client and Biodiversity Advanced Ltd accepts no responsibility for its use by other persons. This report does not constitute legal advice. The ecological information presented in this report is valid for a period of 24 months from the date of issue.

Author Profiles

This report has been produced by Dr Katy Read CEcol CEnv MCIEEM DipSM (Director, Biodiversity Advanced Ltd) and Dr Philip Fermor CEnv MCIEEM (Director, Biodiversity Advanced Ltd).

Dr Katy Read has over 20 years experience as a professional ecologist and habitat creation expert with a proven record of working closely with clients to achieve biodiversity gains for their projects. She has considerable experience in the hydro-ecological assessment of wetland habitats, and has applied her science-led approach to habitat creation projects including wet woodlands, reedbeds, wet grassland, chalk streams and terrestrial habitats. Katy is a Chartered Ecologist (CEcol) and Chartered Environmentalist (CEnv) who adopts a professional approach to the ecological assessment schemes she works on. She has considerable experience in the production of ecological impact assessments, Habitats Regulations Assessments, and complex ecological mitigation strategies. She has acted as an expert witness at a number of planning appeals including public inquiries. She holds survey and mitigation licences for great crested newts in England and Wales and is a full member of CIEEM. Katy also has a Diploma in Safety Management, which is reflected in her professional approach to health, safety and welfare.

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Report Issue Record

Report Reference and Issue	Date	Author	Checked By
R-BA194-02	28-06-2024	Dr Katy Read CEcol CEnv MCIEEM DipSM	Dr Philip Fermor CEnv MCIEEM

EXECUTIVE SUMMARY

This report has been produced by Biodiversity Advanced Ltd for Denbighshire County Council (DCC) and provides an Ecological Protection Plan associated with a proposed habitat creation and Biodiversity Hub installation project at a site at Green Gates Phase 3, St Asaph, Denbighshire. The report has been produced to provide DCC with information regarding the ecological control measures including avoidance, mitigation, compensation and enhancement measures associated with the project to ensure compliance with ecological legislation and best practice. A step-wise approach (as set out in PPW12, February 2024) has been adopted in relation to the design of the project, using baseline ecological information to inform the design decisions.

There are no predicted impacts on statutory or non-statutory nature conservation sites from the proposed habitat creation and Biodiversity Hub installation works, either during the construction phase, or in the long term. The creation of a mosaic of habitats at the site, and enhancement and creation of additional pond habitats will provide a valuable landscape contribution which reflects the importance of non-statutory nature conservation sites within the St Asaph area for great crested newt populations.

With respect to habitats, the project has been designed to retain the key ecological habitat features which exist, namely the scattered trees, hedgerows and watercourses. Restoration and creation of pond habitats is considered to be a valuable habitat improvement at this site. It is recognised that there would be a loss of improved grassland and tall ruderal habitat extents, however the creation of wetland and species-rich grassland habitats are considered to compensate for the improved grassland loss. The proposals will provide an enhanced green infrastructure offering for the site, expanding valuable habitat links, and providing an educational facility for the local community to use to engage with nature.

No badger setts have been recorded within or adjacent to the Phase 3 land, and it has been concluded that any badger activity at the site is likely to be associated with foraging activities. Mitigation measures during the habitat creation phase are provided to ensure no impact on foraging badgers.

It has been confirmed that no tree removal or tree management works are to be undertaken at the site to facilitate the habitat creation or Biodiversity Hub installation works. If this changes and any tree removal / management works are required then mitigation measures associated with the completion of bat surveys to assess the likelihood of a bat roost being present within the trees to be removed has been recommended. If an impact is likely, compensatory measures are proposed associated with loss of bat roosting opportunities.

Avoidance measures (timing of works) are detailed to ensure that nesting birds are not disturbed or nests damaged as a result of vegetation clearance works.

Grass snakes have been recorded using the site at Green Gates Phase 3. As such, a mitigation strategy has been provided to ensure that there is no risk of killing or injury to reptile individuals as a result of the habitat creation and Biodiversity Hub installation works. In the long-term, the site will provide a greater diversity of habitats which can be used by reptiles for foraging, basking and hibernating. It is not anticipated that there would be any long-term adverse effect on reptile populations as a result of the project.

Avoidance, mitigation, compensation and enhancement measures associated with great crested newts, which are known to be present within the Green Gates Phase 3 land, are detailed in the 'Green Gates Phase 3 – Great Crested Newt European Protected Species Licence Application: Method Statement' report (ref: R-BA194-01) which should be read in conjunction with this report.

Consideration of the proposed scheme on other species such as brown hare, hedgehogs, polecat and otter has also been provided. No adverse impacts on these species are predicted.

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1. INTRODUCTION

1.1 PROJECT INTRODUCTION

- 1.1 This report has been produced by Biodiversity Advanced Ltd for Denbighshire County Council (DCC) and provides an ecological protection plan associated with habitat restoration and creation works and installation of a Biodiversity Hub building and access route at a site known as Green Gates Phase 3, St Asaph, Denbighshire. This report should be read in conjunction with Biodiversity Advanced Ltd report 'Green Gates Phase 3 – Great Crested Newt European Protected Species Licence Application: Method Statement' (ref: R-BA194-01).
- 1.2 The study area at Green Gates Phase 3 comprises the western part of the former Green Gates Farm, a site which is owned by Denbighshire County Council. The farm now includes the recently established Denbighshire Tree Nursery, and it is understood that a new nature reserve is proposed for the eastern part of the site, which will support new woodland, scrub, ponds and species-rich grassland habitats. Habitat creation proposals for the western (Phase 3) part of the site include the restoration of existing ponds, the creation of new ponds, the creation of a wetland area adjacent to two small watercourse and creation of woodland and grassland habitat areas.
- 1.3 The site is located at national grid reference SJ 019 744 with the city of St Asaph to the east and St Asaph Business Park to the immediate west and south of the study area. The A55 is located along the northern boundary of the site. The Phase 3 land is c.15ha in size and comprises three large fields with associated field boundaries, watercourses and ponds.
- 1.4 The area in which the Green Gates site sits is known to support a number of great crested newt populations, both within existing and created ponds. To the immediate west of the Green Gates Phase 3 land is St Asaph Business Park which contains a series of retained and created ponds for great crested newts, with Glascoed Nature Reserve located immediately west of the Business Park. Across these two areas, great crested newt populations fluctuate from medium – large sized populations. This report does not include an ecological protection strategy for great crested newt (or other amphibians) as this is detailed in Biodiversity Advanced Ltd report 'Green Gates Phase 3 – Great Crested Newt European Protected Species Licence Application: Method Statement' (ref: R-BA194-01) which should be read in conjunction with this report.
- 1.5 Biodiversity Advanced Ltd and Systra have worked as co-consultants on a number of projects at Green Gates. The documents detailed in Table 1.1 have been produced and are relevant to the Phase 3 proposals.

Title	Organisation	Reference	Date
Green Gates Phase 3, St Asaph, Denbighshire – Preliminary Ecological Appraisal	Biodiversity Advanced Ltd	R-BA188-01	December 2023
Green Gates Phase 3 – Great Crested Newt European Protected Species Licence Application: Method Statement	Biodiversity Advanced Ltd	R-BA194-01	June 2024
Green Gates Phase 3 – Ecological Protection Plan	Biodiversity Advanced Ltd	R-BA194-02	June 2024
Green Gates Phase 3 – Vegetation Establishment Strategy	Biodiversity Advanced Ltd	R-BA914-03	June 2024
Green Gates Phase 3 – Habitat Management Plan	Biodiversity Advanced Ltd	R-BA917-01	June 2024
Systra Design Drawings 'Proposed Layout – Area 1a' 'Proposed Layout – Area 1b', 'Proposed Layout – Area 1c' and Proposed Layout - North Field'.	Systra Ltd	23C33-DWG-12 23C33-DWG-13 23C33-DWG-14 23C33-DWG-15	June 2024

Table 1.1: Relevant Documents Produced by Project Team for Green Gates Phase 3

- 1.6 The 'Green Gates Phase 3 – Preliminary Ecological Appraisal' report (ref: R-BA188-01) provided initial conclusions and a series of recommendations to DCC in relation to potential impacts of the proposals on protected and notable species which stated:

“Desk study, species surveys and assessments associated with the site have identified that the site has the potential to support the following protected and priority species:

- ◆ *Foraging badgers (and potentially also badgers in their sett should they move into site prior to habitat works commencing).*
- ◆ *Roosting bats in some of the mature trees.*
- ◆ *Foraging and commuting bats, particularly along the watercourses, hedgerows and over the ponds.*
- ◆ *Nesting and nest-building birds within the scattered trees, hedgerows and scrub vegetation.*
- ◆ *Great crested newts (and other amphibians) using the ponds on site for breeding and the habitats for foraging and hibernating.*
- ◆ *Commuting otters using the watercourses.*
- ◆ *Polecats using the site for potentially breeding and foraging.*
- ◆ *Reptiles using the site for foraging, basking and hibernating.*

Further survey work is required to confirm whether there would be impacts on the following species as a result of the wetland habitat creation: great crested newts, bats (if there are to be impacts on mature trees) and reptiles.”

- 1.7 Further protected species surveys associated with the Phase 3 land have been carried out by experienced and appropriately licenced ecologists from Denbighshire County Council. The survey data collected was provided to Biodiversity Advanced Ltd in raw format and the data has been incorporated into this report and used to inform this Ecological Protection Plan.
- 1.8 This Ecological Protection Plan provides a summary of the ecological baseline associated with the site and sets out the avoidance, mitigation, compensation and enhancement measures associated with the site. This report considers the impact on statutory and non-statutory sites (see Chapter 2), habitats (see Chapter 3) and protected and notable species (see Chapters 4 to 8). Details of the avoidance, mitigation, compensation and enhancement measures associated with great crested newts (and other amphibians) is given in Biodiversity Advanced Ltd report 'Green Gates Phase 3 – Great Crested Newt European Protected Species Licence Application: Method Statement' (ref: R-BA194-01) which should be read in conjunction with this report.

1.2 SITE INTRODUCTION

- 1.9 The site at Green Gates Phase 3 is owned and managed by Denbighshire County Council (DCC). The Phase 3 land is allocated in the adopted Denbighshire Local Development Plan 2006-2021¹ under PSE2 Land for employment uses. However, it is understood from DCC that subsequent to this land allocation, the area has had a number of significant overhead and underground services installed across it, making it un-viable for development for employment use.
- 1.10 Denbighshire County Council are currently working on a replacement Local Development Plan 2018 – 2033, with the plan currently at 'Deposit Consultation and consideration of representations' stage between September 2023 and May 2024². The LDP is proposed to be

¹ Available at: <https://www.denbighshire.gov.uk/en/planning-and-building-regulations/local-development-plan/adopted-local-development-plan.aspx>

² See: <https://www.denbighshire.gov.uk/en/documents/planning-and-building-regulations/ldp/replacement-ldp/denbighshire-replacement-ldp-2018-to2033-revised-delivery-agreement-december-2022a.pdf>

submitted for Examination in May 2024. This replacement LDP has not yet been adopted, and as such does not form a material consideration in planning matters.

- 1.11 The site at Green Gates was formerly tenanted out and used as a farm, predominately for horse grazing. An area to the south of the former farm building has been established as Denbighshire Tree Nursery, with tree growing areas, polytunnels, and associated equipment storage. Two small ponds were built in 2021 and form part of the Tree Nursery's Sustainable Drainage System (SuDS), taking excess water from the polytunnels before outfalling in the watercourse which flow in the northerly direction to the east of the Tree Nursery.
- 1.12 The proposed works at the site will include:
- ◆ Restoration of 2 no. existing ponds (GG4 and GG6), one of which is known to be used by great crested newts.
 - ◆ Creation of 6 no. new ponds (GG7, GG8, GG9, GG10, GG11, GG13) through reduced level excavation. It is noted that GG9 will be a large pond as it will not only provided habitat for amphibians, but will also provide a focal point for the new Biodiversity Hub building which will overlook this area of open water.
 - ◆ Creation of an area of wetland habitat (shown as GG12) at the confluence of two small watercourses (to include marginal / emergent wetland vegetation, fen and wet grassland) through reduced level excavation.
 - ◆ Diversion of a small watercourse to provide a hydrological connection to GG9.
 - ◆ Deposition of excavated material to create landscape bunds and planting of 3.25 ha of broadleaved woodland habitat.
 - ◆ Installation of 8 no. hibernacula suitable for use by amphibians and reptiles.
 - ◆ Installation of a 'Biodiversity Hub' building to be used by Denbighshire County Council for educational purposes.
 - ◆ Installation of an accessible access route to the 'Biodiversity Hub' building.
- 1.13 The proposed habitat creation works at the site will be completed using hydraulic excavators and will involve reduced level excavation and deposition of excavated material above ground. Due to the level of excavation required and the areas which will be impacted, in conjunction with the known presence of great crested newts within the Phase 3 land, it is considered that works will require GCN mitigation to be implemented, and should be completed in accordance with a GCN EPS licence issued by NRW. In the absence of mitigation, there is risk of killing and injury to individual great crested newts, and damage to places that the species potentially use for breeding and resting.
- 1.14 The proposed habitat creation works at Green Gates Phase 3 are scheduled to be completed by March 2025.

2. NATURE CONSERVATION SITES

2.1 INTRODUCTION

2.1 This chapter of the report provides consideration of the proposed habitat restoration / creation and Biodiversity Hub installation works on statutory and non-statutory nature conservation sites in the Zone of Influence of the project.

2.2 BASELINE

2.2 The baseline data associated with statutory and non-statutory nature conservation sites at the site was collected as part of the 'Green Gates Phase 3 – Preliminary Ecological Appraisal' report (ref: R-BA188-01).

2.3 The nature conservation sites set out in Table 2.1 are considered to be within the following Zones of Influence:

- ◆ 5km for records of European statutory sites (Habitats Site network);
- ◆ 2km for records of statutory designated nature conservation sites;
- ◆ 1km for records of non-statutory designated nature conservation sites.

Site Name and Designation	Approximate Distance from Study Site	Description of Nature Conservation Site
Habitats Sites (5km search)		
Coedwigoedd Dyffryn Elwy / Elwy Valley Woods SAC (and SSSI)	2.47 km south south-west	This site supports Tilio-Acerion forests of slopes, screes and ravines for which this is considered to be one of the best areas in the United Kingdom. The Annex I habitats that are a primary reason for selection of this site are: 9180 Tilio-Acerion forests of slopes, screes and ravines * Priority feature. Elwy Valley Woods is one of three sites selected to represent <i>Tilio-Acerion</i> forest across its geographic range on the Carboniferous limestone of north Wales, and is an example of the habitat with an outstanding lower-plant flora. The canopy is quite varied: ash <i>Fraxinus excelsior</i> is the commonest tree, but there is also occasional small-leaved lime <i>Tilia cordata</i> and wild service-tree <i>Sorbus torminalis</i> . There is a rich, calcicolous understorey and ground flora, and rare bryophytes include <i>Bryum canariense</i> , <i>Cololejeunea rossettiana</i> , <i>Plagiochila britannica</i> , <i>Platydictya confervoides</i> and <i>Isothecium striatulum</i> . The woods have developed along steep valley-sides and ravines that are also important for their cave systems and Pleistocene fossil mammal assemblages.
Non-Statutory Nature Conservation Sites (1km search)		
Glascoed WGR	0.36km west	This is a Wild Ground nature reserve ³ which includes a mosaic of 14 ponds, improved grasslands, ditch and 2 planted woodland compartments, some mature trees in pre-existing hedgerows, especially along the northern boundary. The site is known to support the following notable species: Birds: redwing, fieldfares, swallow, house martins, meadow pipit, chaffinch, goldfinch, magpie, great tit, bullfinch, barn owl and song thrush. Mammals: red fox, badger, brown long-eared bat, roe and fallow deer Butterflies: meadow brown and gatekeeper Dragonflies: emperor dragonfly and broad-bodied chaser Amphibians: great crested newt, smooth and palmate newt, common frog and common toad.

Table 2.1: Nature Conservation Sites within Zone of Influence (continues)

³ See: <https://www.groundworknorthwales.org.uk/wild-ground/nature-reserves/glascoed-nature-reserve/>

Site Name and Designation	Approximate Distance from Study Site	Description of Nature Conservation Site
Non-Statutory Nature Conservation Sites (1km search)		
Gwynt-Y-Mor WGR	0.73km south	No information available. This site is another Wild Ground nature reserve. It is understood that the site includes ponds designed and managed for great crested newts.
Denbighshire D032 – Coed Cord block to NW and Coed y Saeson (3 areas) WS	0.73km south	No information available. This site overlaps in part, and is adjacent to Gwynt-Y-Mor Wild Ground site.
Key: WS – Wildlife Site SAC – Special Area of Conservation SSSI – Site of Special Scientific Interest WGR – Wild Ground Reserve		

Table 2.1 (continued): Nature Conservation Sites within Zone of Influence

2.3 IMPACT ASSESSMENT

Construction Phase Impacts

- 2.4 Coedwigoedd Dyffryn Elwy / Elwy Valley Woods SAC - The Phase 3 land is located 2.47km north north-east of this SAC. This is a nature conservation site of both International and National importance, designated for its forests with an outstanding lower plant flora. There are not anticipated to be any direct or indirect impacts on this SAC from potential habitat creation activities, or the installation of a Biodiversity Hub building within the Phase 3 land, either alone or in combination with other projects and plans.
- 2.5 Wild Ground Reserves (WGR) and Wildlife Sites (WS) – Three Wild Ground Reserves and one Wildlife Site are located within 1km of the Green Gates Phase 3 land. The closest is Glascoed Nature Reserve, 0.36km west. There are no potential pathways of impact during the habitat creation works or the installation of the Biodiversity Hub building which would impact on these non-statutory nature conservation sites.
- 2.6 No ecological protection measures are therefore required in relation to the construction phase impacts on nature conservation sites from the Green Gates Phase 3 project.

Long-Term Impacts

- 2.7 Coedwigoedd Dyffryn Elwy / Elwy Valley Woods SAC - There are not anticipated to be any direct or indirect long-term impacts on this SAC from the long-term use of the site for nature conservation and education purposes, either alone or in combination with other projects and plans.
- 2.8 Glascoed WGR and Gwynt-Y-Mor WGR. These two sites are owned and managed by Wild Ground and both comprise great crested newt mitigation areas. Glascoed Nature Reserve is also known to support grass snakes, which are also present at the Green Gates site. The proposed pond restoration and pond creation works within the Phase 3 land, in addition to the terrestrial habitat creation and installation of additional hibernacula are considered to provide additional features for both amphibians and reptiles within the wider landscape, contributing to a wider habitat mosaic and providing additional habitat resilience opportunities for species within the St Asaph area.

- 2.9 No ecological protection measures are therefore required in relation to long-term phase impacts on nature conservation sites from the Green Gates Phase 3 project.
- 2.10 As no adverse impacts are predicted, no avoidance, mitigation, compensation or enhancement measures are specifically required in relation to nature conservation sites, and no monitoring is required.

3. HABITATS

3.1 INTRODUCTION

3.1 This chapter of the report provides consideration of the proposed works on existing habitats within the site. Where impacts can be avoided this is identified, and where mitigation and compensation are required, this is also set out. Details of the vegetation establishment proposals are included in Biodiversity Advanced Ltd report 'Green Gates Phase 3 – Vegetation Establishment Strategy' (ref: R-BA194-03) and are not repeated in this report.

3.2 BASELINE

3.2 The baseline data associated with habitat at the site was collected as part of the 'Green Gates Phase 3 – Preliminary Ecological Appraisal' report (ref: R-BA188-01). The full habitat descriptions are included in this report and are not repeated here.

3.3 Table 3.1 below details the habitats which have been recorded within the Phase 3 land, and details their inclusion (or otherwise) as 'habitats of principal importance' under the Environment (Wales) Act 2016, Section 7. The ponds and the hedgerows are listed as 'habitats of principal importance'. In addition, the mature scattered trees found within the area are also considered to be valuable existing habitats.

3.4 The mature trees around the site periphery, in addition to the hedgerows and watercourses all form a valuable part of the site's existing green infrastructure offering, providing habitat links to similar habitat areas to the west, south and east of the site. The A55 which extends along the site's northern boundary is considered to provide a barrier to green infrastructure connections to the north. Whilst the watercourses do continue to flow in a northerly direction, it is assumed that the watercourses are culverted beneath the A55 and as such, habitat connectivity is severed by this major road infrastructure.

3.5 The 'Green Gates Phase 3 – Preliminary Ecological Appraisal' report (ref: R-BA188-01) concluded that *"the habitats currently present at the site do not form a significant constraint in relation to broader habitat creation activities, but...any designs should focus on the opportunities associated with retention and enhancement of existing ecologically valuable habitats (ponds, hedgerows and mature scattered trees) as part of the scheme development"*.

3.3 IMPACT ASSESSMENT

Construction Phase and Long-Term Impacts

3.6 Although there are minimal amphibian records from the desk study, the site does provide breeding, foraging and hibernation opportunities for amphibians, including great crested newts, and woodland management contractors report seeing 'newts' at the site during their management operations.

Habitat	Wales Habitat of Principal Importance	Habitat Impacts
Fences	*	No significant impact. Fences may be replaced.
Hedgerows (intact, species-poor)	✓	Hedgerows to be retained and minimal impacts are predicted. Short-term hedgerow management may be required to facilitate access for earthworks machinery. Potential for damage to hedgerows and their root systems during construction in the absence of mitigation measures. No long-term loss of hedgerow habitat is proposed.
Improved grassland	*	Approximately 5.3 ha of improved grassland will be lost as a result of the habitat creation activities. These areas will be replaced with a mosaic of other habitats, including species-rich grassland which will compensate for the loss of habitat area through increasing the habitat quality within this site. Improved grassland habitats will be retained outside of the main habitat earthworks areas. In addition, a footprint of 249 m ² of improved grassland habitats will be permanently lost as a result of the installation of the Biodiversity Hub building and the associated access route.
Running water (streams)	*	<p>Potential changes to stream habitats due to habitat creation works to create an on-line wetland habitat area within the site and divert the line of one watercourse to create additional online features and increase sinuosity. Habitat creation works are considered likely to benefit the streams in the long-term, although there are the potential for construction impacts from pollution incidents during the works.</p> <p>Long-term benefit to the watercourses from the habitat creation works through diversity of steam habitat structure and enhancement of biodiversity quality within adjacent habitats.</p>
Dense and scattered scrub	*	No loss of scattered or dense scrub predicted. Potential for damage to scrub habitats and their root systems during construction in the absence of mitigation measures.
Scattered trees	*	No removal of mature trees proposed as part of the habitat creation works. Short-term tree management works may be required to facilitate access for earthworks machinery. Potential for damage to hedgerows and their root systems during construction in the absence of mitigation measures.
Standing water (ponds)	✓	<p>Ponds GG4 and GG6 are proposed to be restored as part of the habitat creation works. This will entail excavation and reprofiling of the ponds in order to secure the long-term presence of pond habitats at these locations. This will result in short-term damage to the ponds.</p> <p>Pond GG5 will be retained in its current condition. This pond is being encroached by willow and will likely succeed to provide a willow carr habitat. The location of the pond adjacent to a large electricity pylon, with overhead cables, means that restoration works are not proposed for health and safety reasons.</p> <p>An additional 6 no. ponds will be created within the Phase 3 land. These ponds will be designed to provide wildlife features suitable for use by a range of species. The pond provision within the Phase 3 land will be increased, thus diversifying the pond habitats and also providing a habitat resilience within the site for key species, should some ponds be dry in some years.</p>
Tall ruderal	*	Potential loss of 411 m ² of this habitat as a result of habitat creation works. Replacement with woodland planting. The loss of small areas of tall ruderal habitats is not considered to be a significant impact. Majority of habitat area to be retained.

Table 3.1: Summary of Impacts on Habitats

3.4 AVOIDANCE

Construction Phase Impacts

- 3.7 Prior to the commencement of any works, a site induction will be provided to all operatives. This induction will include information related to important habitats and protected species associated with the proposed habitat creation area, the implementation of ecological control measures, pollution prevention measures, and details of biosecurity control measures (see Biosecurity Risk Assessment in 'Green Gates Phase 3 – Great Crested Newt European Protected Species Licence Application: Method Statement', report ref: R-BA194-01). All operatives will sign to confirm that they have received and understood the induction, and will adhere to any ecological control measures identified in relation to their works. Informing contractors of site controls and ecological protection measures through education and information is considered a key element in avoiding adverse ecological impacts happening in the first instance.
- 3.8 General best practice measures should be implemented during any habitat creation and Biodiversity Hub installation works to avoid any indirect impacts (e.g., dust, diffuse pollution) on adjacent habitat. This would include the watercourses, hedgerows and adjacent mature trees. The general advice contained in the Guidance for Pollution Prevention (GPP) leaflets produced by SEPA, EA and the Environment and Heritage Service (Northern Ireland) should be adhered to, particularly the following:
- ◆ GPP1: Understanding Your Environmental Responsibilities - Good Environmental Practices.
 - ◆ GPP5: Works and Maintenance in or Near Water.
 - ◆ PPG6: Working at Construction and Demolition Sites (withdrawn in 2015, but still providing some useful guidance).
- 3.9 All fence installation (involving below-ground impacts) and habitat creation excavation works will be completed outside of the Root Protection Area (RPA) of the existing mature trees within the site. The RPA of any trees which are close to the works areas will be marked out on site by Denbighshire County Council officers prior to the fencing installation / earthworks commencing. If Tree Protection Fencing is required, this will be installed prior to the works commencing on site.

Long-Term Phase

- 3.10 No long-term avoidance measures are required in relation to habitats.

3.5 MITIGATION

Habitat Creation Phase

- 3.11 No habitat creation phase mitigation measures are required in relation to habitats.
- 3.12 However, if works are to be completed which involve fencing installation (with below-ground impacts) or significant earthworks which have the potential to impact on roots from the existing mature trees on site, Tree Protection Fencing will be installed prior to the commencement of works to ensure suitable mitigation protection for these habitat features.

Long-Term Phase

- 3.13 No long-term mitigation measures are required in relation to amphibians.

3.6 COMPENSATION

Long-Term Phase

- 3.14 The habitat creation works will result in an overall loss of c.5.3ha of improved grassland habitat. However, the creation of 0.84 ha of species-rich grassland and marshy grassland habitats, are considered to in part compensate for this habitat loss. The inclusion of species-rich grassland within the site will provide a greater botanical diversity to the grassland habitats, benefiting both the botanical composition of the site, and providing additional habitat for use by invertebrates, providing an additional feeding resource for birds and bats which will use the site. The habitat loss will be necessary to allow the creation of a greater variety of habitats within the site.

3.7 ENHANCEMENT

Long-Term Phase

- 3.15 The proposed creation of a mosaic of habitats within the Phase 3 land will result in an overall enhancement of biodiversity at the site.

3.8 MONITORING

- 3.16 Habitat monitoring within Phase 3 will likely focus on species rather than habitats, although high-level monitoring of the developing habitats will likely be completed by DCC staff. Across the whole of the DCC site at Green Gates, a target of 20% cover of scrub and woodland is required, and as such, the monitoring for the site will include canopy cover assessment to ensure that the targets are achieved.

4. BADGERS

4.1 INTRODUCTION

4.1 This chapter considers the potential impact of the proposed habitat creation and Biodiversity Hub installation works on badgers. Desk study and field survey data is used to consider the potential impacts of the proposed habitat creation activity on badgers. Where impacts can be avoided this is identified, and where mitigation and compensation are required, this is also set out. Details of any enhancement opportunities associated with the proposed project which will specifically benefit badgers is also provided.

4.2 A summary of legislation associated with badgers is provided in Appendix 1.

4.2 BASELINE

4.3 Desk study data associated with badger activity was collected as part of the 'Green Gates Phase 3 – Preliminary Ecological Appraisal' report (ref: R-BA188-01).

4.4 A desk study search (provided by Cofnod in December 2023) included data with respect to badgers from within 1km radius of the edge of the Phase 3 site. The desk study returned a total of 28 records from between 1971 and 2021. The closest record to the Phase 3 site was from c.165m north north-east (north of the A55).

4.5 Marches Ecology (2023) carried out a habitat survey within the eastern part of the Green Gates site (east of the Phase 3 land) and confirmed that evidence of badger presence (badger tracks and 'push-throughs') was recorded in the southern part of the land that they surveyed. Badger individuals were seen on camera traps used as part of this assessment works.

4.6 No badger setts or evidence of badgers was recorded by Biodiversity Advanced Ltd during the Preliminary Ecological Appraisal site visit completed in December 2023.

4.7 Denbighshire County Council ecologists complete monthly walkover visits at the Green Gates Phase 3 site and have camera traps set up within the site. During their site visits they have not identified any badger setts (Walley, *Pers. Comm.*, 2024), however, evidence of individual badgers crossing the site near to the bridge at the Tree Nursery have been recorded. In addition, a mammal track exists across the northern-most field in the Phase 3 land which connects to the bridleway and Business Park to the west. No badger latrines have been recorded during any of the site walkovers.

4.3 IMPACT ASSESSMENT

4.8 There are not considered to be any badger setts within the Phase 3 land, or within land which is within 30m of the proposed excavation areas. However, badgers are a mobile species and have been recorded to the east of the watercourse in the eastern part of the Green Gates site, and as such it is considered possible that they may pass through the Phase 3 land.

4.4 AVOIDANCE

4.9 No avoidance measures are necessary, as there will be no potential for impact on badger setts.

4.5 MITIGATION

Construction Phase

- 4.10 During the habitat creation and Biodiversity Hub installation works, all excavations should be closed overnight or a form of egress provided to prevent pitfall danger to badgers, hedgehogs, otters, other small mammals, which may pass through the site overnight.
- 4.11 If, immediately prior to the commencement of construction works at the site, a potential badger sett is found, a badger monitoring survey will be required to establish current use of the sett. If excavation works are required within 30 m of an active badger sett, a badger licence may be required from Natural Resources Wales, prior to any works within the zone of influence of the badger sett.

Long-Term Phase

- 4.12 No mitigation is required in relation to long-term impacts on badgers as a result of the habitat creation and Biodiversity Hub installation works at the site.

4.6 COMPENSATION

- 4.13 No compensation measures for badgers are necessary.

4.7 ENHANCEMENT

- 4.14 No enhancement measures for badgers are necessary. It is considered likely that the habitat creation works at the site will enhance the opportunities for use of the site by badgers in the long-term as the scrub and woodland areas mature and the wooded landscape deposition areas could provide potential sett-building habitat in the long-term.

4.8 MONITORING

- 4.15 No long-term monitoring measures for badgers are necessary.

5. BATS

5.1 INTRODUCTION

5.1 This chapter considers the potential impact of the proposed project on bats. Desk study data is used to consider the bat species which are likely to be found using the site. Where impacts can be avoided this is identified, and where mitigation and compensation are required, this is also set out. Details of any enhancement opportunities associated with the proposed project which will specifically benefit bats is also provided.

5.2 A summary of legislation associated with bats is provided in Appendix 1.

5.2 BASELINE

5.3 The baseline data associated with bats was collected as part of the 'Green Gates Phase 3 – Preliminary Ecological Appraisal' report (ref: R-BA188-01). The desk study provided numerous records of bats, which are summarised in Table 5.1.

Bat Species	Protection	Number of Records	Approximate Closest Record from Study Site	Notes
Brown long-eared bat <i>Plecotus auritus</i>	E(A)A S.7 HabRegs SchII WCA Sch5 Sect 9.1 UKBAP, LBAP	2	426m south-east	Records from 1968 to 1985.
Lesser horseshoe bat <i>Rhinolophus hipposideros</i>	E(W)A S.9 HabRegs SchII WCA Sch5 Sect 9.1 UKBAP, LBAP	3	217m	Records from 2018. Closest record from Green Gates farmland to the west.
Myotis bat <i>Myotis</i> sp.	E(W)A S.7 HabRegs SchII WCA Sch5 Sect 9.1	6	143m west.	Records from 2009 to 2018. Closest record from Green Gates farmland to the west.
Noctule bat <i>Nyctalus noctula</i>	E(W)A S.9 HabRegs SchII WCA Sch5 Sect 9.1 UKBAP, LBAP	11	143m west.	Records from 1998 to 2018. Closest record from Green Gates farmland to the west.
Pipistrelle bat <i>Pipistrellus pipistrellus</i>	E(W)A S.9 HabRegs SchII WCA Sch5 Sect 9.1 LBAP	13	143 m west.	Records from 1987 to 2018. Closest record from Green Gates farmland to the west.
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	E(W)A S.9 HabRegs SchII WCA Sch5 Sect 9.1 UKBAP, LBAP	10	143 m west.	Records from 1998 to 2018. Closest record from Green Gates farmland to the west.
Whiskered bat <i>Myotis mystacinus</i>	HabRegs SchII WCA Sch5 Sect 9.4	1	Within 1km square to east	Record from 1987. 1km radius data only – specific location not known.

Key:

HabRegs SchII – The Conservation of Habitats and Species Regulations 1999. Schedule II - European protected species of animal. **LBAP** – Denbighshire Biodiversity Action Plan Priority Species. **E(W)A S.7** - The Environment (Wales) Act 2016. Section 41 (England) - Species 'of principal importance for the purpose of conserving biodiversity'. **WCA Sch5 Sect 9.1** – Wildlife and Countryside Act 1981 (as amended). Schedule 5, Section 9.1 - animals protected from intentional killing and injuring. **WCA Sch5 Sect 9.4** – Wildlife and Countryside Act 1981 (as amended). Schedule 5, Section 9.4 – (a) animals which are protected from intentional damage or destruction to any structure or place used for shelter or protection. (b) animals which are protected from intentional disturbance while occupying a structure or place used for shelter or protection. (c) animals which are protected from their access to any structure or place which they use for shelter or protection being obstructed. **UK BAP** – UK Biodiversity Action Plan Priority Species.

Table 5.1: Bat Species Records within 1km Radius at Green Gates Phase 3

- 5.4 Enfys Ecology (2018) completed a Preliminary Ecological Appraisal and Protected Species Surveys of the land within the eastern part of the Green Gates Farm site in 2018. Enfys Ecology (2018) completed a series of protected species surveys at the site which identified that the eastern site had low potential to support bat roosts and moderate potential for foraging / commuting bats. Bat transect surveys were completed which recorded common and soprano pipistrelle, noctule, *Myotis* sp. and lesser horseshoe bats.
- 5.5 The mature trees within, and adjacent to, the Phase 3 land could provide bat roosting opportunities. The habitats within the Phase 3 site also provide good foraging and commuting habitat along the trees, hedgerows and watercourses, and foraging habitat around the ponds.
- 5.6 It is understood that a bat roost has been confirmed within the former Green Gates farm buildings, although details of the roost type and bat species have not been confirmed yet (Walley, *Pers. Comm.*, 2024). The proposed works within the Phase 3 land will not have any impact on these buildings or the bat roost recorded there.

5.3 IMPACT ASSESSMENT

Construction Phase

- 5.7 It is understood (Walley, *Pers. Comm.*, 2024) that DCC do not propose to carry out any active tree removal / tree management works specifically as part of the habitat creation project.
- 5.8 However, should any trees need to be removed or subject to significant pruning to facilitate the habitat creation works, in the absence of mitigation, there is a risk of death or injury to bat species, and potentially a breach of the legislative protection that bat species receive. If tree removal / tree management is required, then the mitigation and compensation measures set out below will need to be applied.

Long-Term Phase

- 5.9 The creation of a mosaic of habitats including ponds, wetland areas, species-rich grassland, scrub and woodland within the Phase 3 site will provide additional extensive foraging habitats for bats and in the long-term there will be significant habitat benefits for bat species as a result of the proposed Phase 3 project.

5.4 AVOIDANCE

Habitat Creation Phase

- 5.10 The Phase 3 habitat creation project has been designed to minimise impacts on existing mature trees within the site, with no tree removal proposed, thus avoiding the potential adverse effects of tree loss on bat species.
- 5.11 The habitat creation and Biodiversity Hub installation works are scheduled to be completed between October 2023 and March 2024. During this period bats will generally be hibernating, and as such any potential impacts on bat foraging / commuting routes from construction-phase lighting will be avoided. It is recognised that the works will be completed during a period when lighting may be required due to the shorter days, however, as bats will generally not be active during this period, any significant impacts will be avoided.

Long-Term Phase

5.12 No avoidance is required with respect to bats during the long-term phase.

5.5 MITIGATION

Construction Phase

- 5.13 The bat mitigation strategy aims to prevent killing, injury or disturbance of bats that may be roosting within the site.
- 5.14 It is understood that there will be no tree loss as a result of the proposed habitat creation or Biodiversity Hub installation works. However, should the need for tree removal / tree management works be required, further survey work will need to be completed to determine whether bats are roosting within them.
- 5.15 The Bat Conservation Trust 'Bat Surveys for Professional Ecologists – Good Practice Guidelines' (Collins, 2023) provides the following guidelines for surveys of trees. Initially a Daytime Bat Walkover (DBW) to determine the suitability of the trees to support bat roosts, and assess the requirement for further bat surveys. The trees which will be impacted should be assessed to determine whether they are considered to have the following suitability for bat roosting (from Collins, 2023, Table 4.2):
- ◆ NONE – either no Potential Roosting Features (PRFs) or highly unlikely to be any.
 - ◆ FAR – Further Assessment Required to establish if PRFs are present within the tree.
 - ◆ PRF – a tree with at least one PRF present.
- 5.16 If the DBW identifies that trees which will be impacted are classified as trees with 'FAR' or 'PRF', then further assessment will be required, including a Ground Level Tree Assessment (GLTA) to map and categorise the trees which are to be impacted by the works. This activity should ideally be carried out during the winter months.
- 5.17 Collins (2023) then recommends that a PRF inspection survey be completed, to further categorise the roost features within the trees. If the trees are categorized as only having PRF which could support individual bats (rather than potential maternity bat roosts), they would be categorized as PRF-I and as such, no further surveys would be required (although compensation would still be needed to maintain the overall resource availability, see Section 5.6). However, if the trees are categorised as PRF-M, then bat activity surveys may need to be completed to assess the likelihood of bat roosts being present within the trees to be removed. Bat activity surveys generally include Night-time Bat Walkover visits (one per season for medium suitability habitat for bats) accompanied by automatic detector surveys (left in place for 5 consecutive nights per month between April and October in habitats within medium suitability for bats).
- 5.18 Collins (2023) suggests that whilst emergence surveys of trees can be completed, these are no longer recommended due to the difficulties of identifying roost locations using this survey technique.
- 5.19 If a bat roost is found during the survey works within a tree identified for removal, a licence from Natural Resources Wales will be required prior to removal, and details of the mitigation proposed will need to be provided in a Method Statement which accompanies the licence application.

- 5.20 Reason and Wray (2023) state that *“as tree-roosting bats move roost frequently, it is important to consider the entirety of the tree resource available to bats, and which could be impacted, rather than focus on individual trees (particularly for larger schemes). This approach should be taken into account during mitigation design, and when determining any management required (including tree-safety works)”*.
- 5.21 Reason and Wray (2023) go on to suggest that *“when managing or removing trees with PRFs, it may be necessary to employ reasonable avoidance measures to reduce the likelihood of killing or injuring bats. These measures should only be used once all survey options have been exhausted, as they are time-consuming, costly and put the arborist at increased risk. The most widely used avoidance measure is section-felling”*.
- 5.22 Reasonable avoidance measures which could be applied if bat roosts are not identified include:
- ◆ Section-felling of trees (see Reason and Wray, 2023, Section 6.5.8 to 6.5.13).
 - ◆ Blocking of any PRFs during autumn surveys and then felling of trees over winter (see Reason and Wray, 2023, Section 6.5.14 to 6.5.19).
- 5.23 If mitigation is required, full details of the mitigation proposals should be determined subsequent to the completion of relevant baseline bat surveys.

Long-Term Phase

- 5.24 No long-term mitigation is required in relation to bats.

5.6 COMPENSATION

- 5.25 If no tree loss is required, then no compensation measures are necessary with respect to bats.
- 5.26 However, if tree loss is necessary, and those trees which are removed contain Potential Roosting Features (PRF), Reason and Wray (2023) suggest that tree planting can be used to compensate for the losses of PRF from trees which are removed to facilitate works, although it is recognised that the time taken for newly planted trees to grow and develop features suitable for use as bat roosts, means that this compensation measures may not provide suitable replacement features within a sensible timeframe.
- 5.27 They go on to recommend that veteranisation is a tool to help speed up the processes of habitat development that normally takes many decades. Veteranisation techniques mimic the effects of the natural tree ageing process and decay, as well as events such as lightning strike/storms and damage caused by deer, grey squirrels, and woodpeckers. Reason and Wray (2023) state that instant features provide short-term (perhaps 2-5 year) habitat that is created by cutting the required features into the tree. It is recognised that these will change over time as the tree continues to grow. Future features can be created by wounding the tree in such a way that the woundwood response will create the desired feature in the medium term.
- 5.28 Figure 6.2 from Reason and Wray (2023) suggests that re-creation of PRF's could include:
- ◆ Option 1 - using man-made arboreal features (dead wood, hazard beam)
 - ◆ Option 2 - habitat / tree veteranisation on nearby trees (installing bat boxes, created lifted bark, creation of 'wood-pecker holes' and stem cracks)
 - ◆ Option 3 (last resort) - use artificial bat boxes.
- 5.29 Reason and Wray (2023) conclude that if veteranisation is considered an appropriate option it is essential to involve a suitably-experienced arborist who understands tree physiology and can

create features which are very close to natural features, rather than simply cutting a 'bat box' into a tree.

5.7 ENHANCEMENT

- 5.30 The restoration and creation of ponds, wetland habitats, species-rich grassland, scrub and woodland areas, alongside the retained scrub, watercourses and mature trees within the Phase 3 land is considered to provide a significant enhancement of the site for foraging bats as the proposed habitats are likely to result in an increased number of insects at the site, providing a food source for bats species. As the habitats at the site establish and develop it is considered likely that the use of the site by bats could change, as different species will utilise different habitat niches.
- 5.31 The long-term retention of the mature trees at the site and the creation of additional woodland habitats, will continue to provide long-term bat roosting opportunities. Adoption of the veterinsation techniques at suitable trees could provide additional enhancement of these trees for bat roosting.

5.8 MONITORING

- 5.32 If tree removal results in the loss of trees with PRFs from the site, it is recommended that the bat activity surveys are repeated in Year 5 post completion of the works, to assess the use of the site by bats and also to consider the effects of the habitat creation activities on bat use across the wider site.

6. BIRDS

6.1 INTRODUCTION

6.1 This chapter considers the potential impact of the proposed habitat creation and Biodiversity Hub installation works on birds. Desk study data is used to consider the bird species which are likely to be found using the site. Where impacts can be avoided this is identified, and where mitigation and compensation are required, this is also set out. Details of any enhancement opportunities associated with the proposed project which will specifically benefit birds is also provided.

6.2 Legislation associated with nesting birds is provided in Appendix 1.

6.2 BASELINE

6.3 The baseline data associated with use of the site by birds was collected as part of the 'Green Gates Phase 3 – Preliminary Ecological Appraisal' report (ref: R-BA188-01).

6.4 The desk study data also provided a large number of records of birds, including those of conservation concern (Stanbury et al, 2021), from within the 1km search radius. Particularly notable species include:

- ◆ Species recorded on-site: buzzard; raven; great spotted woodpecker; and red kite.
- ◆ Birds of Conservation Concern (BoCC) Red list species: cuckoo; grasshopper warbler; greenfinch; fieldfare; herring gull; house sparrow; house martin; lapwing; lesser redpoll; linnet; marsh tit; merlin; mistle thrush; skylark; spotted flycatcher; starling; tree sparrow; and, twite.
- ◆ Birds of Conservation Concern (BoCC) Amber list species: black headed gull; black redstart; bullfinch; common sandpiper; dipper; dunnoek; green sandpiper; sedge warbler; short-eared owl; song thrush; snipe; tawny owl; whitethroat; wheatear; willow warbler; woodcock; whooper swan; and, wren.

6.5 Table 6.1 details the bird species recorded on site by Biodiversity Advanced Ltd during a site visit on 11-12-2024.

Common Name	Scientific Name	Conservation Status (BoCC)
Blackbird	<i>Turdus merula</i>	-
Blue tit	<i>Cyanistes caeruleus</i>	-
Buzzard	<i>Buteo buteo</i>	-
Crow	<i>Corvus corone</i>	-
Grey heron	<i>Ardea cinerea</i>	-
Long-tailed tit	<i>Aegithalos caudatus</i>	-
Kestrel	<i>Falco tinnunculus</i>	-
Magpie	<i>Pica pica</i>	-
Redwing	<i>Turdus iliacus</i>	Not assessed
Robin	<i>Erithacus rubecula</i>	-
<u>Key:</u> BoCC: Birds of Conservation Concern 5: the Red List Birds (2021)		

Table 6.1: Bird Species Recorded on Site on 11-12-2023

6.6 Denbighshire County Council Biodiversity Team have completed bird surveys at the Green Gates Phase 3 site in 2022 and 2024 and provided spreadsheets with raw point and line data. The surveys include approximately monthly visits and so will illustrate use of the site by breeding wintering and passage bird species.

6.7 Table 6.2 provides a summary list of the species recorded by DCC Biodiversity Team during the survey visits in 2022 and 2024.

Species Code	Common Name	Scientific Name	Recorded in 2022	Recorded in 2024	Conservation Status (BoCC)
B.	Blackbird	<i>Turdus merula</i>	✓	✓	-
BC	Blackcap	<i>Sylvia atricapilla</i>	✓	✓	-
BF	Bullfinch	<i>Pyrrhula pyrrhula</i>	✓	✓	BoCC Amber
BT	Blue tit	<i>Cyanistes caeruleus</i>	✓	✓	-
BZ	Buzzard	<i>Buteo buteo</i>	✓	✓	-
C.	Carrion crow	<i>Corvus corone</i>	✓	✓	-
CA	Cormorant	<i>Phalacrocorax carbo</i>	✓	-	-
CC	Chiffchaff	<i>Phylloscopus collybita</i>	✓	✓	-
CH	Chaffinch	<i>Fringilla coelebs</i>	✓	✓	-
D.	Dunnock	<i>Prunella modularis</i>	✓	✓	BoCC Amber
FF	Fieldfare	<i>Turdus pilaris</i>	✓	-	BoCC Red
GC	Goldcrest	<i>Regulus regulus</i>	✓	-	-
GD	Goosander	<i>Mergus merganser</i>	-	✓	-
GL	Grey wagtail	<i>Motacilla cinerea</i>	✓	-	Not assessed
GO	Goldfinch	<i>Carduelis carduelis</i>	✓	✓	-
GR	Greenfinch	<i>Chloris chloris</i>	✓	✓	BoCC Red
GS	Great spotted woodpecker	<i>Dendrocopos major</i>	✓	✓	-
GT	Great tit	<i>Parus major</i>	✓	✓	-
H.	Grey heron	<i>Ardea cinerea</i>	✓	✓	-
HG	Herring gull	<i>Larus argentatus</i>	✓	-	BoCC Red
HM	House martin	<i>Delichon urbicum</i>	✓	-	BoCC Red
HS	House sparrow	<i>Passer domesticus</i>	✓	-	BoCC Red
J.	Jay	<i>Garrulus glandarius</i>	✓	-	-
JD	Jackdaw	<i>Corvus monedula</i>	✓	✓	-
K.	Kestrel	<i>Falco tinnunculus</i>	✓	✓	-
LT	Long-tailed tit	<i>Aegithalos caudatus</i>	✓	✓	-
M.	Mistle thrush	<i>Turdus viscivorus</i>	✓	✓	BoCC Red
MA	Mallard	<i>Anas platyrhynchos</i>	✓	✓	Not assessed
MG	Magpie	<i>Pica pica</i>	✓	✓	-
MP	Meadow pipit	<i>Anthus pratensis</i>	✓	✓	Not assessed
MS	Mute swan	<i>Cygnus olor</i>	✓	-	-
PH	Pheasant	<i>Phasianus colchicus</i>	✓	✓	Not assessed
PW	Pied wagtail	<i>Motacilla alba</i>	✓	✓	-
R.	Robin	<i>Erithacus rubecula</i>	✓	✓	-
RE	Redwing	<i>Turdus iliacus</i>	✓	✓	Not assessed
RN	Raven	<i>Corvus corax</i>	✓	✓	-
SH	Sparrowhawk	<i>Accipiter nisus</i>	✓	✓	BoCC Amber
SI	Swift	<i>Apus apus</i>	✓	-	BoCC Red
SK	Siskin	<i>Carduelis spinus</i>	✓	✓	-
SL	Swallow	<i>Hirundo rustica</i>	✓	✓	-
SN	Snipe	<i>Gallinago gallinago</i>	✓	-	BoCC Amber
ST	Song thrush	<i>Turdus philomelos</i>	✓	✓	BoCC Amber
WH	Whitethroat	<i>Curruca communis</i>	✓	✓	BoCC Amber
WK	Woodcock	<i>Scolopax rusticola</i>	✓	✓	BoCC Red
WP	Woodpigeon	<i>Columba palumbus</i>	✓	✓	BoCC Amber
WR	Wren	<i>Troglodytes troglodytes</i>	✓	✓	BoCC Amber
WW	Willow warbler	<i>Phylloscopus trochilus</i>	-	✓	BoCC Amber

Key:
BoCC: Birds of Conservation Concern 5: the Red List Birds (2021)

Table 6.2: Bird Species Recorded on Site by DCC 2022 and 2024

6.8 Tables 6.1 and 6.2 show that the site provides nesting and feeding habitat for a range of bird species in the hedgerow, scattered scrub and tree habitats. In addition, the extensive presence of voles on the site provide good feeding grounds for local raptors and owls.

- 6.9 The site is also used during the winter period by a number of species. Snipe and woodcock, both wading bird species, were recorded at the site during the DCC surveys.

6.3 IMPACT ASSESSMENT

Construction Phase

- 6.10 Whilst in the long-term, the proposed Phase 3 works are considered likely to provide extensive areas diverse habitat which will be of benefit to a range of different bird species, it is recognised that during the habitat creation phase, there is a potential risk to nesting birds from the works which are proposed to take place.
- 6.11 These risks are generally associated with vegetation removal during the bird nesting season, and also potentially disturbance of nesting birds from habitat creation activities. As the works (including ecological enabling works) are scheduled to be completed between September 2024 and March 2025, the risk to nesting birds is in general avoided.
- 6.12 However, if works are not completed over the winter period, in the absence of avoidance or mitigation, there is a risk to nesting and nest-building birds from vegetation clearance and habitat creation disturbance, should birds chose to nest within the site. Any damage and disturbance of an active nest would constitute an offence under the Wildlife and Countryside Act 1981 (as amended).

Long-Term Phase

- 6.13 In the long-term, inappropriate vegetation management could result in killing, injury or disturbance to nesting bird species, if management activities are not appropriately timed.

6.4 AVOIDANCE

Construction Phase and Long-Term Phase

- 6.14 To avoid any risks to nesting or nest-building birds, vegetation clearance and / or vegetation management should be undertaken outside the bird nesting season. The bird nesting season is weather dependent but generally extends between March and September inclusive (peak period March to August).

6.5 MITIGATION

Habitat Creation Phase and Long-Term Phase

- 6.15 If it is not possible to carry out vegetation clearance and / or management works outside of the nesting bird season, then any vegetation to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, for example via the implementation of an appropriate buffer zone (species dependent) around the nest in which no disturbance is permitted until the nest is no longer in use.

6.6 COMPENSATION

- 6.16 No compensation measures are required, either during the construction phase or the long-term phase of the proposed Phase 3 project.

6.7 ENHANCEMENT

- 6.17 The creation of a diverse mosaic of ponds, wetland habitats, species-rich grassland, scrub, hedgerows and woodland habitats, is considered to provide a significant enhancement of the site for numerous bird species as the mosaic of habitats are likely to result in an increased number of insects and amphibians at the site, providing a food source for birds species. As the habitats at the site establish and develop it is considered likely that the use of the site by birds could change, as different species will have different habitat requirements.

6.8 MONITORING

- 6.18 No monitoring of bird species is required.

7. REPTILES

7.1 INTRODUCTION

7.1 This chapter considers the potential impact of the works with the Phase 3 land on reptiles. Desk study and field survey data is used to consider the presence / absence of reptiles within the site. Where impacts can be avoided this is identified, and where mitigation and compensation are required, this is also set out. Details of any enhancement opportunities associated with the proposed project which will specifically benefit reptiles is also provided.

7.2 A summary of legislation associated with reptiles is provided in Appendix 1.

7.2 BASELINE

7.3 The baseline data associated with reptile records was collected as part of the ‘Green Gates Phase 3 – Preliminary Ecological Appraisal’ report (ref: R-BA188-01).

Species	Protection	Number of Records	Approximate Closest Record from Study Site	Notes
Reptiles				
Grass snake <i>Natrix helvetica</i>	WCA Sch5 Sect 9.1 E(W)A S.7 UKBAP, LBAP	7	2m. Along southern edge of study site.	Records from 2003 to 2022. Recorded along southern edge of study site in 2011 and 2021.
<p>Key: LBAP – Denbighshire Biodiversity Action Plan Priority Species E(W)A S.7 - The Environment (Wales) Act 2016. Section 41 (England) - Species ‘of principal importance for the purpose of conserving biodiversity’. WCA Sch5 Sect 9.1 – Wildlife and Countryside Act 1981 (as amended). Schedule 5, Section 9.1 - animals protected from intentional killing and injuring. UK BAP – UK Biodiversity Action Plan Priority Species</p>				

Table 7.1: Reptile Species Records within 1km Zone of Influence from Green Gates Phase 3

7.4 Table 7.1 shows that grass snake have been recorded along the southern boundary of the Phase 3 land. Records from this location were provided from 2011 and 2021.

7.5 Enfys Ecology (2018) completed a Preliminary Ecological Appraisal and Protected Species Surveys of the land within the eastern part of the Green Gates Farm site in 2018 (to the east of Phase 3). Reptile surveys were completed in September 2018 and no reptiles were recorded.

7.6 The habitats within the Phase 3 land are considered to provide good basking, foraging and hibernation opportunities for reptiles such as grass snake, slow worm and potentially common lizard. The piles of grass cuttings were noted at the site in December 2023, located close to the former Green Gates farm buildings, and also within the Phase 3 land which could act to provide optimal breeding locations for grass snake in particular.

7.7 Reptile survey mats were installed along the boundaries of the fields in the Phase 3 land by DCC 05-04-2024. A total of 7 no. survey visits were completed by DCC. The results of the surveys are presented in Table 7.2 and the location of the mats where species were found are shown in Figure 7.1.

Survey_ID	Date	Surveyor	Temperature (°C)	Weather conditions	Wind	Cloud cover	Survey Start	Survey End	Observation Time	Cover ID*	Species found	Number of species	Notes on species	Notes
1	05/04/2024	Evie Challinor	12-14	Cloudy sun	4	70	10:07	10:54	-	-	-	-	-	-
2	12/04/2024	Evie Challinor	11-13	Windy, patchy sun	6	75	09:14	10:17	09:24	49	<i>Bufo bufo</i>	1	-	Sub-optimal conditions, gusty winds
									09:36	93	<i>Bufo bufo</i>	1	-	
3	23/04/2024	Evie Challinor	11-13	Patchy cloud, sun	2	40	09:10	10:23	09:05	49	<i>Bufo bufo</i>	1	-	-
4	07/05/2024	Evie Challinor	13-15	Hazy sun	1	n/a	11:00	12:07	11:33	49	<i>Bufo bufo</i>	1	-	-
5	10/05/2024	Evie Challinor	15-17	Patchy cloud, sun	1	50	09:43	11:03	09:56	49	<i>Bufo bufo</i>	1	-	-
									09:43	81	<i>Natrix natrix</i>	1	Sub-adult, under mat	
6	16/05/2024	Evie Challinor	13-15	Patchy cloud, sun	1	40	10:18	11:11	10:50	93	<i>Bufo bufo</i>	1	-	-
7	30/05/2024	Evie Challinor	14-16	Patchy cloud, sun	4	30	17:22	18:33	17:30	49	<i>Bufo bufo</i>	1	-	-
									17:39	93	<i>Bufo bufo</i>	1	-	

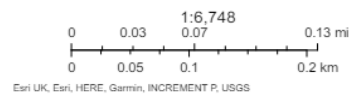
*See Figure 7.1 (a & b) for location of reptile survey mats (Cover ID).

Table 7.2: Reptile Survey Results for Green Gates Phase 3
(from Denbighshire County Council Biodiversity Team)

2024 Records



05/06/2024



2024 Records



05/06/2024

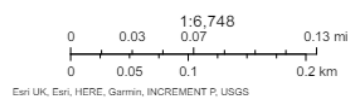


Fig 7.1 (a & b): Reptile Survey Results at Green Gates Phase 3 - Species Record Locations (from Denbighshire County Council Biodiversity Team)

- 7.9 During the reptile survey, a single sub-adult grass snake was recorded along the southern boundary of the southern field in the Phase 3 land during the survey visit on 10-05-2024
- 7.10 Common toads were also recorded regularly during the reptile surveys along the eastern and western boundaries of the Phase 3 land.

7.3 IMPACT ASSESSMENT

Construction Phase

- 7.11 As grass snake have been recorded within the Phase 3 land during surveys completed in 2024, there is a potential risk of the proposed earthworks associated with the habitat creation works and the Biodiversity Hub installation works resulting in killing or injury of reptile individuals, in the absence of mitigation.
- 7.12 It is recognised that during the habitat creation period, there will be a loss of foraging habitat from within the fields in the Phase 3 land which is currently likely to be used by grass snake for foraging. However, as the works will be mainly completed between October and March (inclusive) the impact of the temporary loss of this foraging habitat is reduced, as reptiles will be hibernating during much of the works period. The works will not impact on the mature trees and hedgerow habitats which surround the fields in Phase 3, as these areas will continue to be available for reptiles to use the basal structures and tree roots for hibernation.

Long-Term Phase

- 7.13 In the long-term, the habitat creation project will likely benefit reptile species due to the creation of a mosaic of different habitats within the site which could be used by reptiles for foraging, basking and hibernation. The scheme has been designed to include the creation of 8 no. hibernacula (one associated with each restored / created pond) within the site which will provide hibernation opportunities for both reptiles and amphibians.

7.4 AVOIDANCE

Construction Phase

- 7.14 As detailed above, the habitat creation works will be delivered between September 2024 and March 2025. Whilst reptiles are generally known to be active until the end of October and may come out of hibernation in March, this is weather dependant. The majority of the habitat creation works, which will not impact on an existing reptile hibernation features, will be completed during this hibernation period, and as such significant risks to hibernating reptiles can be avoided.

Long-Term Phase

- 7.15 No long-term avoidance measures are required in relation to reptiles.

7.5 MITIGATION

Construction Phase

- 7.16 As discussed in Section 1.1, the site is known to support a small population of great crested newts, and as such, mitigation works associated with amphibians will be completed in

accordance with an EPS GCN licence from NRW. Reptile mitigation activities will be carried out in conjunction with the proposed GCN mitigation set out in Biodiversity Advanced Ltd report 'Green Gates Phase 3 – Great Crested Newt European Protected Species Licence Application: Method Statement' (ref: R-BA194-01).

7.17 The following mitigation approach will be adopted in relation to reptiles:

- (1) Prior to the installation of exclusion fencing, the grassland within the works areas will be cut to a height of 150mm above ground level, and any arisings removed from the working area. The area will then be left for a minimum of 2 nights to allow any amphibians or reptiles to move out of the area and into adjacent habitats, as the 'cover' of grassland habitats would be reduced.
- (2) In order to facilitate the reptile trapping works and ensure capture of all individuals, any reptile refugia / hibernacula will be dismantled by hand as part of the enabling works. This will encourage any reptiles to move from the works area into the surrounding retained habitats and will also ensure that reptiles do not start to utilise these features towards the end of the trapping period.
- (3) Vegetation will be cleared along the line of existing permanent exclusion fencing adjacent to the electricity sub-station and the Phase 3 land. This work will be completed under supervision of an Ecological Clerk of Works (ECoW).
- (4) Exclusion fencing will be installed in accordance with English Nature (2001) specification (see Figure 7.2). The fencing will be installed by an experienced fencing contractor, under the supervision of an Ecological Clerk of Works. Any fencing installation works will be completed during the 'active' season for great crested newts and reptiles, generally considered to be between April and October (inclusive).
- (5) Drawing 23C33-DWG-E.1.1 in Appendix 2 shows the proposed layout of exclusion fencing at the Green Gates Phase 3 works area. Along the inside of the cells of GCN exclusion fencing, pitfall traps will be placed in the ground at 10m centres, with carpet tiles also placed at 10m centres along the fencelines. Reptile refugia (0.5 x 0.5m squares of roofing felt) will also be placed within the works area at 10m centres. These refugia will be positioned to maximise the capture rate of reptiles (ie the locations will be where direct sunlight will fall onto the tiles to warm them).
- (6) Trapping and translocation of GCN and reptile individuals from inside the working area will be completed for a period of 30 days, assuming that the weather conditions are ideal for GCN and reptile capture (ie not too dry, above 5°C overnight, <F4 wind overnight). The traps and carpet tiles will be checked in the morning during the optimal time period for captures.
- (7) The weather conditions during the night and during the day will be recorded using local weather data (from available Apps e.g. BBC weather / Met Office weather). Trapping will cease only when there has been a period of 5 clear days at the end, with optimal weather conditions, during which no GCN or reptiles have been captured.
- (8) It is recognised that the proposed grassland vegetation management works, alongside the increased density of carpet tiles, pitfall traps and reptile refugia proposed represent an increased trapping effort from that which may be necessary for a small GCN and reptile population. As such, if <5 GCN and <5 reptiles have been captured during the first 15 days

of trapping, assuming that the trapping works have been completed in optimal weather conditions (i.e. not too dry, not too windy, not too cold) and there have been no captured in the last 5 days of the trapping effort, then the trapping effort will cease.

- (9) During the trapping period, the exclusion fencing will be checked daily by the project ecologist during their trapping visits. Any repairs necessary will be completed immediately.
- (10) Once trapping works have been completed, the topsoil within areas where excavation is will be stripped under supervision of an Ecological Clerk of Works.

Recommended design for exclusion fence (temporary amphibian fence), drift fence, and pitfall trap placement. This design can be used for a variety of capture and exclusion/retention purposes (see text and [Figure 5: Common fencing and trapping patterns](#)).

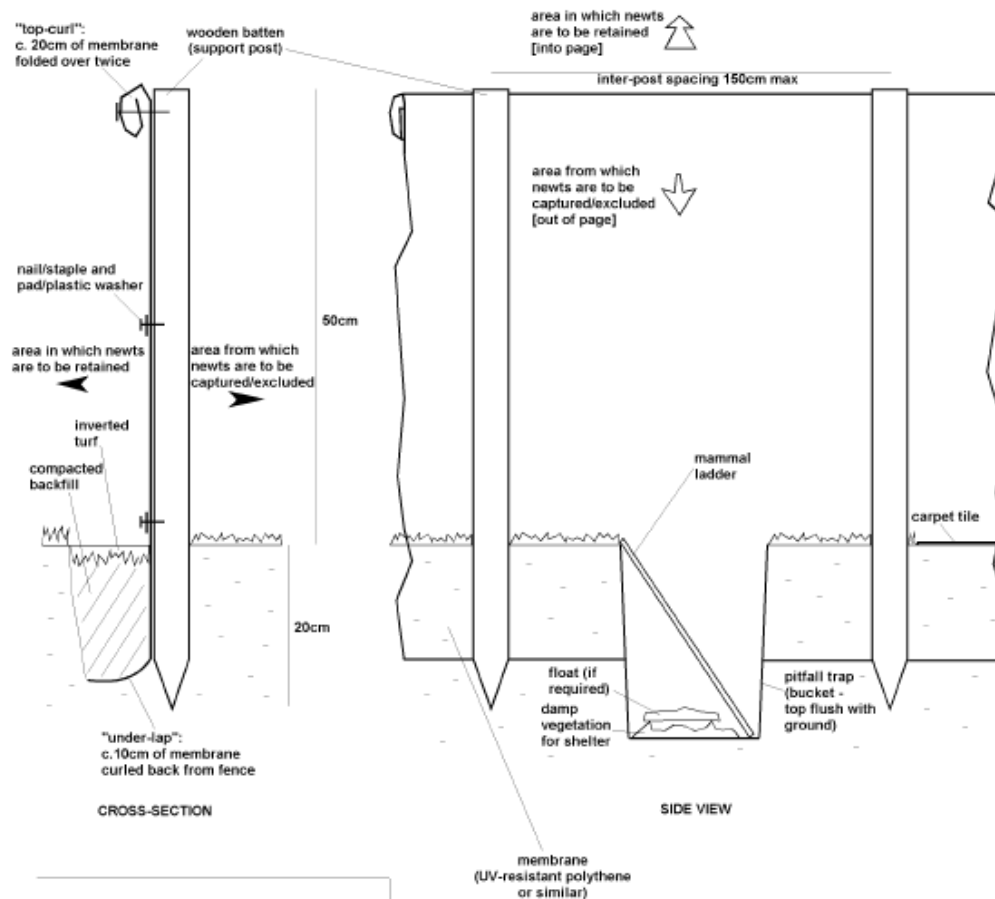


Fig. 7.2: Great Crested Newt Mitigation Guidelines (English Nature, 2001) Fencing Specification

- 7.18 Any reptiles found during the trapping and translocation works, and the supervised soil strip, will be translocated to a receptor area close to Ponds GG1, GG2 and GG3 near to the Denbighshire Tree Nursery. The location of the receptor site is shown on Drawing 23C33-DWG-E.2.1 in Appendix 2.
- 7.19 During the works period (ie after trapping has ceased), the integrity of the exclusion fence will be checked daily by the habitat creation Contractor. A record of fencing checks will be completed and retained by the Contractors. Any repairs necessary will be completed immediately. If the exclusion fencing is not removed immediately on completion of the habitat creation works and the installation of the Biodiversity Hub building and associated access, and fencing needs to remain in place for any period of time, it will be checked by Denbighshire County Council every

two weeks between November and February (inclusive), and weekly between March and October (inclusive).

Long-Term Phase

7.20 No long-term mitigation measures are required in relation to reptiles.

7.6 COMPENSATION

7.21 No compensation measures are required in relation to reptiles either during the habitat creation phase or during the long-term phase.

7.7 ENHANCEMENT

7.22 The creation of a mosaic of habitats including ponds, wetland areas, species-rich grassland and scrub and woodland areas will benefit reptiles, particularly grass snake, providing an enhanced site for foraging and hibernating with good habitat links to other areas with good reptile habitat in the surrounding land to the west, south and east.

7.23 The scheme has been designed to include the creation of 9 no. hibernacula within the site which will provide additional hibernation opportunities for both reptiles and amphibians, enhancing the provision of hibernation features at the site.

7.24 Figure 7.3 (from English Nature, 2001) provides a schematic design for a hibernaculum. It is proposed that hibernacula be created in the areas where excavated material will be deposited. The inclusion of hibernacula within the Phase 3 study site would be considered an enhancement for reptiles.

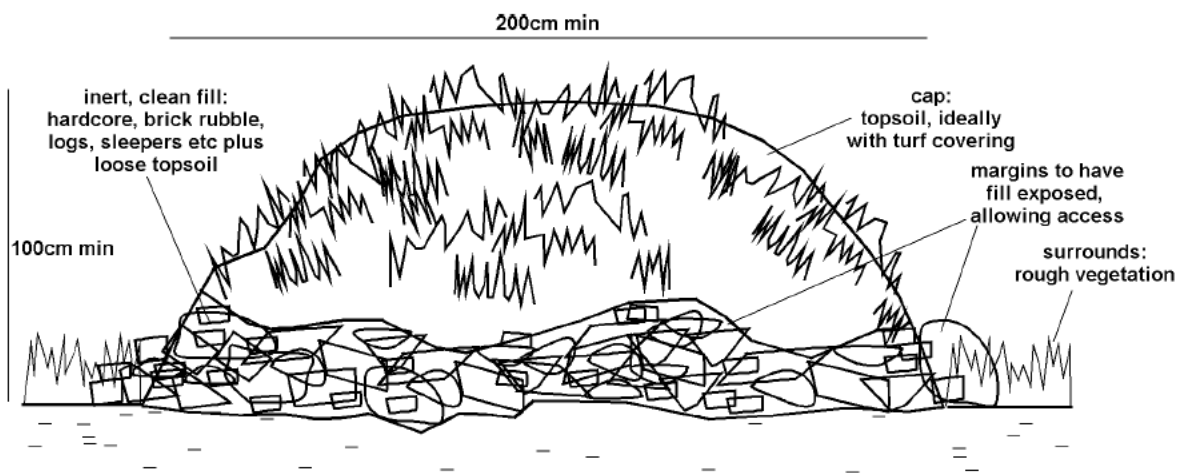


Fig. 7.3: Design of Proposed Hibernacula (from English Nature, 2001)

7.8 MONITORING

7.25 As grass snake are known to be present at the site at Green Gates Phase 3, and reptile individuals will be translocated as part of the proposed mitigation strategy, some post-project monitoring should be completed.

7.26 A scheme of monitoring has been designed for great crested newts (see Biodiversity Advanced Ltd report 'Green Gates Phase 3 – Great Crested Newt European Protected Species Licence

Application: Method Statement', ref: R-BA194-01) to fulfil the requirements of the GCN EPS licence. It is proposed that reptile monitoring at the site adopts the same monitoring structure as the GCN monitoring schedule as detailed in Table 7.3.

Activity	2025	2026	2027	2028	2029	2030
Green Gates Phase 3						
Reptile population monitoring. Monitoring to include use of artificial survey refugia placed within the Phase 3 site and allowed to 'bed in' for at least 2 weeks prior to the survey visits. Surveys to be completed in suitable weather conditions for reptiles to be using the refugia.	7-visit survey, Apr-Jun or Sep	3-visit survey, Apr-Jun or Sep	3-visit survey, Apr-Jun or Sep	3-visit survey, Apr-Jun or Sep	3-visit survey, Apr-Jun or Sep	7-visit survey, Apr-Jun or Sep

Table 7.3: Proposed Reptile Population Monitoring Schedule – Green Gates Phase 3

8. OTHER SPECIES

8.1 INTRODUCTION

8.1 This chapter of the report provides clarification regarding other species considerations in relation to the proposed habitat creation and Biodiversity Hub installation works at Green Gates Phase 3.

8.2 BROWN HARE

8.2 Records of brown hare were provided by the desk study search from c.0.8 km north of the Phase 3 study area. This species generally lives in open exposed habitats (such as those found in the fields in the Phase 3 land), making a small depression in the ground among long grass known as a form, rather than living in a burrow. The Phase 3 land currently provides good brown hare habitat, due to the long sward recorded in the improved grassland. The creation of ponds, wetland habitats and woodland and scrub within the study site would potentially reduce the area of longer-grassland habitat for this species, although this is not considered to be a significant constraint, and no avoidance, mitigation or compensation measures are required.

8.3 HEDGEHOG

8.3 Five records of hedgehog were provided by the desk study search. The habitats within the Phase 3 study site provide suitable foraging, breeding and hibernation habitat for hedgehogs. The creation of wetland habitats within the study site would potentially reduce the area of longer-grassland habitat for this species, although it would provide a more complex mosaic of habitats which could still be used by hedgehogs. The proposal to create habitats within the Phase 3 land is not therefore considered to be a significant consideration for this species. No avoidance, mitigation or compensation measures are required. In the long-term, the site will provide additional habitat for hedgehogs in the proposed woodland and scrub areas.

8.4 OTTERS

8.4 The desk study search identified an old record of otter to the east of the site, associated with the River Elwy at St Asaph. The watercourses on the site, particularly the watercourse between the Phase 3 land and the Green Gates land to the east, are fast-flowing and could be used by otter for commuting. No evidence of otter holts or otter presence at the site was recorded during the site visit by Biodiversity Advanced on 11-12-2023, or during any of the site visits completed by Denbighshire County Council ecologists between January and May 2024, although their occasional presence cannot be discounted.

8.5 In order to ensure that construction activities associated with habitat creation works do not result in any risk to otters which may be commuting through the site along the watercourses within and adjacent to Phase 3, construction controls must be put in place by the Contractor during the construction phase.

5.1 General best practice measures should be implemented during any preparatory and pond construction works to avoid any indirect impacts (e.g., dust, diffuse pollution) on the adjacent watercourse habitat. The general advice contained in the Guidance for Pollution Prevention (GPP) leaflets produced by SEPA, EA and the Environment and Heritage Service (Northern Ireland) should be adhered to, particularly the following:

- ◆ GPP1: Understanding Your Environmental Responsibilities - Good Environmental Practices.

◆ GPP5: Works and Maintenance in or Near Water.

- 8.6 Prior to any works to either of the watercourses within the Phase 3 land, a search should be made along the vegetation adjacent to the watercourses to ensure that no otter holts have been constructed, and that there is no evidence of significant use of the watercourses by otters.
- 8.7 No material storage should take place within 10m of banks of the watercourses associated with the Phase 3 land.
- 8.8 All excavations should be closed overnight or a form of egress provided to prevent pitfall danger to otters, (and other mammals including badgers, hedgehogs and other small mammals), which may pass through the site overnight.

8.5 POLECAT

- 8.9 Polecat have been recorded on the camera traps set out at the Green Gates farm site. Their presence on site is therefore confirmed. Polecat are protected under the Wildlife and Countryside Act, 1981 (as amended) and their numbers are now increasing in rural Wales. Polecats live in lowland wooded habitats, marshes, along riverbanks, or even in farm buildings or dry stone walls. They particularly prey on rabbits and may be found in rabbit burrows. It is not known if the species is breeding at the site at Green Gates. Polecat young are born between May and June. Given the proposed timing for the habitat creation works to be completed (between September 2024 and March 2025) there will be no vegetation clearance which may result in potential damage to breeding polecats (which may be using rabbit burrows). Potential impacts on this species have therefore been avoided.

9. SUMMARY

- 9.1 Chapters 2 to 8 provide a summary of the ecological protection measures works proposed to ensure that the habitat creation and Biodiversity Hub installation works do not result in adverse impacts on nature conservation sites, habitats, individuals or populations of the species recorded at / adjacent to the site. This chapter provides a summary of the proposed ecological control measures proposed and sets out a timetable for the various activities detailed, which has been developed in line with the great crested newt mitigation proposals and habitat creation and vegetation establishment activities detailed in accompanying reports for this site.
- 9.2 There are no predicted impacts on statutory or non-statutory nature conservation sites from the proposed habitat creation and Biodiversity Hub installation works, either during the construction phase, or in the long term. The creation of a mosaic of habitats at the site, and enhancement and creation of additional pond habitats will provide a valuable landscape contribution which reflects the importance of non-statutory nature conservation sites within the St Asaph area for great crested newt populations.
- 9.3 With respect to habitats, the project has been designed to retain the key ecological habitat features which exist, namely the scattered trees, hedgerows and watercourses. Restoration and creation of pond habitats is considered to be a valuable habitat improvement at this site. It is recognised that there would be a loss of improved grassland and tall ruderal habitat extents, however the creation of wetland and species-rich grassland habitats are considered to compensate for the improved grassland loss. The proposals will provide an enhanced green infrastructure offering for the site, expanding valuable habitat links, and providing an educational facility for the local community to use to engage with nature.
- 9.4 No badger setts have been recorded within or adjacent to the Phase 3 land, and it has been concluded that any badger activity at the site is likely to be associated with foraging activities. Mitigation measures during the habitat creation phase are provided to ensure no impact on foraging badgers.
- 9.5 It has been confirmed that no tree removal or tree management works are to be undertaken at the site to facilitate the habitat creation or Biodiversity Hub installation works. If this changes and any tree removal / management works are required then mitigation measures associated with the completion of bat surveys to assess the likelihood of a bat roost being present within the trees to be removed has been recommended. If an impact is likely, compensatory measures are proposed associated with loss of bat roosting opportunities.
- 9.6 Avoidance measures (timing of works) are detailed to ensure that nesting birds are not disturbed or nests damaged as a result of vegetation clearance works.
- 9.7 Grass snakes have been recorded using the site at Green Gates Phase 3. As such, a mitigation strategy has been provided to ensure that there is no risk of killing or injury to reptile individuals as a result of the habitat creation and Biodiversity Hub installation works. In the long-term, the site will provide a greater diversity of habitats which can be used by reptiles for foraging, basking and hibernating. It is not anticipated that there would be any long-term adverse effect on reptile populations as a result of the project.
- 9.8 Avoidance, mitigation, compensation and enhancement measures associated with great crested newts, which are known to be present within the Green Gates Phase 3 land, are detailed in the

'Green Gates Phase 3 – Great Crested Newt European Protected Species Licence Application: Method Statement' report (ref: R-BA194-01) which should be read in conjunction with this report.

- 9.9 Biosecurity measures, as detailed in the 'Green Gates Phase 3 – Vegetation Establishment Strategy' report (ref: R-BA194-03), will be used to ensure that there is no risk to the existing or proposed habitat at the site, or adjacent sites from the introduction of Invasive Non-Native Species (INNS) and / or undesirable invasive species.
- 9.10 Consideration of the proposed habitat creation scheme on other species such as brown hare, hedgehogs, polecat and otter has also been provided. No adverse impacts on these species are predicted.
- 9.11 Table 9.1 sets out the proposed works timetable to ensure ecological protection measures are adhered to, and optimal habitat creation / vegetation establishment activities can be achieved. The timetable is based on grant of planning permission for the scheme in August 2024. Should planning permission not be granted by this time, this proposed timetable of works should be reviewed and revised. It is understood (Walley, 2024, *Pers. Comm.*) that the habitat creation works need to be completed by the end of March 2025, to accord with Denbighshire County Council's current funding allocation.

Activity	July-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25
Enabling Works:											
Pre-works checks for badger and otter to confirm no setts / otter holts within or adjacent to working area.	x										
Confirmation that no works to trees which may contain bat roosts are required to facilitate works.	x										
Toolbox talk to include ecological protection measures and Biosecurity Risk Assessment to be given to exclusion fencing contractors prior to commencement of installation.			x								
Cutting of above-ground vegetation within works area to height of 150 mm. Arisings removed from works area. Removal of reptile refugia / hibernacula by hand. Under GCN licenced Ecological Clerk of Works supervision. Cutting to be completed at least 2 days prior to fencing installation starts.			x								
Installation of exclusion fencing around works area (see Drawing E.1.1, Appendix 2). Under GCN licenced Ecological Clerk of Works supervision.			x								
Trapping and translocation of GCN and reptiles using carpet tiles, pitfall traps and reptile refugia tiles. Minimum 15 days trapping (if <5 GCN or <5 reptiles found) in suitable weather conditions, with 5 clear days at end of trapping period. Extend to 30 days if weather conditions are sub-optimal and / or >5 GCN or >5 reptiles have been found and captures continue. Carried out by licenced ecologist. Any GCN / reptiles found translocated to Receptor Site (see Drawing E.2.1, Appendix 2).			x	x							
Removal of internal exclusion fencing between trapping 'cells' and completion of destructive habitat searches. To be done only after trapping period is completed. Under licenced Ecological Clerk of Works supervision. Any GCN or reptiles found translocated to Receptor Site (see Drawing E.2.1, Appendix 2).			x	x							

Table 9.1: Proposed Timetable of Works (continues)

Activity	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25
Phase 3 Habitat Creation / Biodiversity Hub Installation Works:											
Toolbox talk to include ecological protection measures and Biosecurity Risk Assessment to be given to habitat creation and Biodiversity Hub installation contractors prior to commencement of works.			x								
Implementation of pollution control measures throughout works period.			x	x	x	x	x	x	x		
Covering of trenches or excavations overnight, or provision of ramps for mammals.			x	x	x	x	x	x	x		
Monitor and maintenance of exclusion fencing around the works area. Daily checks during works.			x	x	x	x	x	x	x		
Completion of destructive habitat searches in areas requiring reduced level excavation. To be done only after trapping period is completed. Under licenced Ecological Clerk of Works supervision. Any GCN or reptiles found translocated to Receptor Site (see Drawing E.2.1, Appendix 2).			x	x							
Completion of habitat creation and Biodiversity Hub installation works. To commence once destructive searches have been completed.				x	x	x	x	x	x		
Pond restoration (GG4 & GG6) and pond creation (GG7, GG8, GG9, GG10, GG11, GG13) works to be completed before end of December 2024 to allow ponds to fill with water over late winter months.					x	x					
Creation of woodland planting areas (earthworks) to be completed before woodland planting can take place in February 2025.					x	x	x				
Woodland and scrub habitat planting.								x			
Wetland species plug planting in restored and created GCN ponds (GG4, GG6, GG7, GG8, GG9, GG10, GG11, GG13) with wetland plug plants. Plug plant grazing protection fencing used if required.											x
Grassland seeding within habitat creation area.									x		
Creation of 9 no. hibernacula in habitat creation area.					x	x	x	x			
Receptor Area:											
Planting of aquatic vegetation in Ponds GG1, GG2, GG3. Works to be completed sensitively and by hand. Plug plant grazing protection fencing used if required.			x								

Table 9.1 (continued): Proposed Timetable of Works

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APPENDIX 1: PROTECTED SPECIES LEGISLATION

Badgers

The Protection of Badgers Act 1992 protects badgers and their setts. It was based primarily on the need to protect badgers from baiting and deliberate harm or injury rather than conservation concerns. The Act set out the following criminal offences:

- 1) To intentionally or recklessly interfere with a sett which includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett, or obstructing access to it. A 'sett' is defined in the legislation as 'any structure or place that displays signs indicating current use by a badger'.
- 2) To wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so.

Bats

In Britain all bat species and their roosts are legally protected, by both domestic (Wildlife and Countryside Act, 1981 as amended) and international (Conservation of Habitats and Species Regulations 2017) legislation. The following actions are considered to be a criminal offence:

- 1) Deliberately take, injure or kill a wild bat.
- 2) Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
- 3) Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time).
- 4) Possess or advertise/sell/exchange a bat of a species found in the wild in the EU (dead or alive) or any part of a bat.
- 5) Intentionally or recklessly obstruct access to a bat roost.

Hedgehogs

Hedgehogs have some degree of legal protection in the UK.

- 1) They are listed on Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) which makes it illegal to kill or capture wild hedgehogs, with certain methods listed.
- 2) They are listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs.
- 3) They are a species of 'principal importance' under the Environment (Wales) Act 2016.

Nesting Birds

All birds, their nests and eggs are protected by law and it is thus an offence, with certain exceptions, to:

- 1) Intentionally kill, injure or take any wild bird.
- 2) Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- 3) Intentionally take or destroy the egg of any wild bird.
- 4) Use traps or similar items to kill, injure or take wild birds.
- 5) Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Penalties that can be imposed for criminal offences in respect of a single bird, nest or egg contrary to the Wildlife and Countryside Act 1981 (as amended) is an unlimited fine, up to six months imprisonment or both.

Otters

The Eurasian otter is the only native UK otter species. It is fully protected as a European Protected Species (EPS) under the Conservation of Habitats and Species Regulations 2019 (as amended) and is also protected under Sections 9 and 11 of the Wildlife and Countryside Act 1981 (as amended). The following are considered to be a criminal offence:

- 1) capture, kill, disturb or injure otters (on purpose or by not taking enough care);
- 2) damage or destroy a breeding or resting place (deliberately or by not taking enough care);
- 3) obstruct access to their resting or sheltering places (deliberately or by not taking enough care);
and,
- 4) possess, sell, control or transport live or dead otters, or parts of otters.

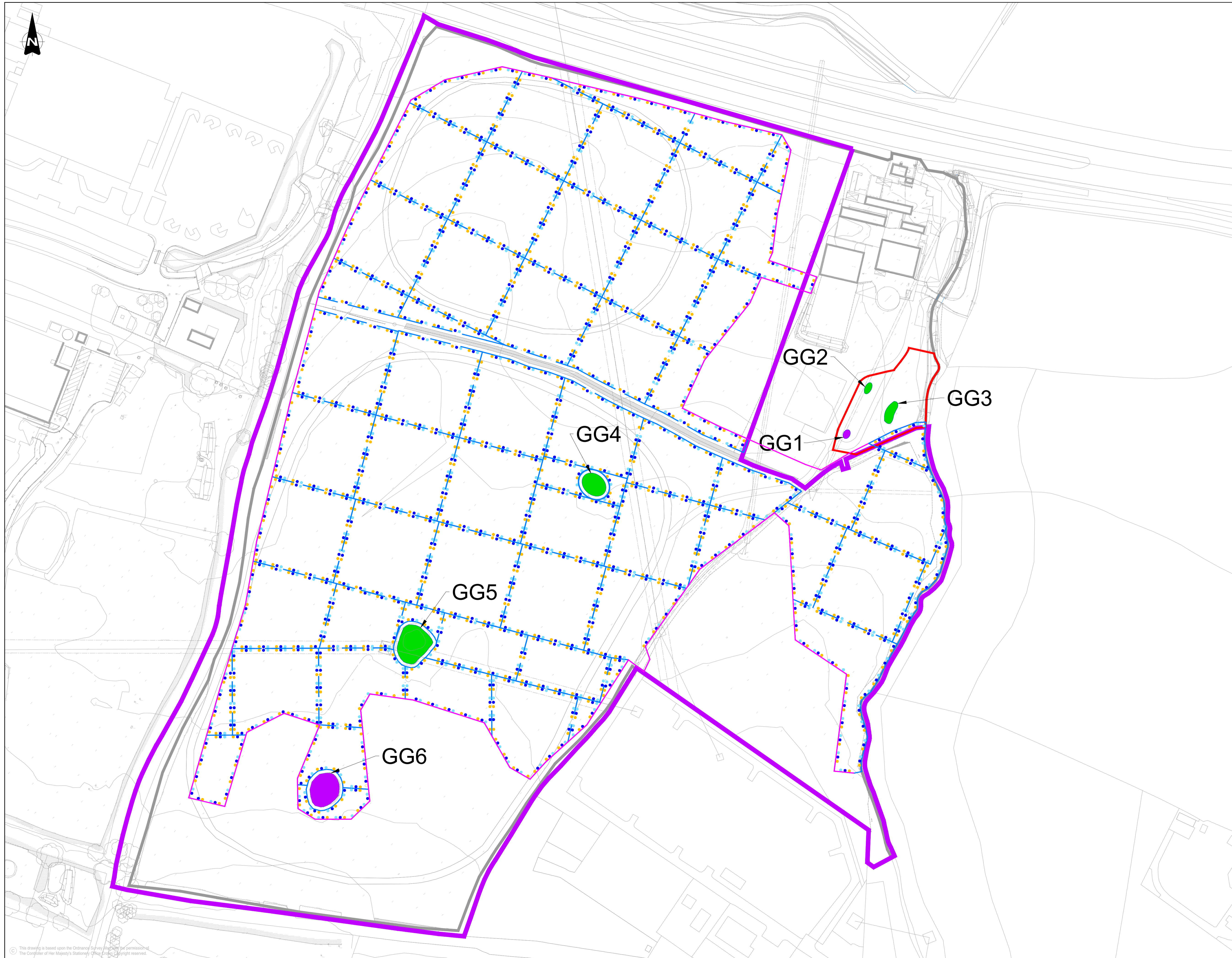
If found guilty of an offence there is an unlimited fine and up to 6 months in prison.

Reptiles

All reptiles are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to intentionally kill or injure a reptile. If found guilty of an offence there is an unlimited fine and up to 6 months in prison.

Smooth snake and sand lizard are protected under the Conservation of Habitats and Species Regulations 2019 (as amended).

APPENDIX 2: REPTILE MITIGATION DRAWINGS



Notes
 1. Do not scale from this drawing.
 2. All dimensions are in mm, levels in mOD unless stated otherwise.

- Key
- Site boundary
 - OS Map
 - Survey
 - GCN receptor area
 - Drift Fencing
 - GCN Exclusion Fence
 - Ponds surveyed in 2024 - GCN present
 - Ponds surveyed in 2024 - GCN not present
 - Pitfall Traps (@10m centers)
 - Carpet Tiles (@10m centers)
 - Reptile Refugia (@10m centers)

Rev.	Date	Revision details	Drawn	Checked	Approved

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Client
Denbighshire County Council

Project
**Green Gates
 Phase 3
 St Asaph**

Title
**Great Crested Newt
 Fencing**

Drawn	Checked	Approved
NS	TD	TD
Original dwp. size	Date	Scale
A1	28.06.2024	1:1000
Drawing Status	Drawing Number	Rev.
Information	23C33-DWG- E.1.1	P01

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Notes

1. Do not scale from this drawing.
2. GCN individuals to be translocated to the habitat surrounding Pond GG3.
GCN effs / juveniles (from pond trapping works) to be translocated to Pond GG1.

Key

- Site boundary
- OS Map
- GCN receptor area
- Ponds surveyed in 2024 - GCN present
- Ponds surveyed in 2024 - GCN not present

Rev.	Date	Revision details	Drawn	Checked	Approved

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Client
Denbighshire County Council

Project
**Green Gates
Phase 3
St Asaph**

Title
**Great Crested Newt
Receptor Area**

Drawn	JF	Checked		Approved	
Original drg. size	A4	Date	22.05.2024	Scale	1:5000
Drawing Status	Information	Drawing Number	23C33-DWG-E.2.1	Rev.	-