

Cinders Farm

Report to Inform Discharge of
Conditions 9 & 10 (Planning Ref: RUA
P/2018/0577)

May 2020

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1 Introduction

Site Description

- 1.1 The Site is the proposed location of a new poultry unit, located to the east of the town of Ruabon near Wrexham, centred at OS grid reference SJ 3241 4404.
- 1.2 The Site consists of part of an arable field (the western field) and part of a species-poor semi-improved neutral grassland (the eastern field) within Cinders Farm. Species-poor hedgerows with mature trees form three of the field boundaries, and wet ditches are located just outside the northern boundary of the Site and the along south-eastern boundary of the Site. The Site is surrounded by further arable fields to the north, south and west, with a minor road located to the east.
- 1.3 Nine ponds are located within 500 m of the Site, two of which are located within 250 m of the Site. Refer to Figure 1.

Planning Background and Proposed Works

- 1.4 Indigo Planning Limited on behalf of the client, Wynnstay Home Farm Partnership, submitted a planning application on 12 July 2018 for:
“Erection of four agricultural buildings for rearing livestock (poultry), ancillary buildings and plant, associated infrastructure, landscaping and access arrangements”.
- 1.5 A plan showing these proposals is provided in Appendix 1.
- 1.6 Consultation by telephone was undertaken between Senior Ecologist Liz Rose-Jeffreys MCIEEM and the Wrexham County Borough Council (WCBC) Ecologist, Emma Broad, on 18 April 2017. The purpose of the discussion was to agree the approach and extent of further ecological survey work required to inform the future planning application, based on the initial findings of the desk study and the outcome of the extended Phase 1 habitat survey. The following is a summary of the items discussed relevant to great crested newt.
- 1.7 The approach to great crested newts was discussed, given the known presence of this species within ponds in the surrounding landscape from the results of the desk study and BSG Ecology's knowledge of the local area. Given the distance between the proposed development and the ponds, and that the habitats to be affected providing mostly sub-optimal terrestrial habitat, it was considered that the risk of encountering a newt during the course of the development is low and we did not consider a mitigation licence from Natural Resources Wales would be necessary, provided that a precautionary approach was adopted. No further survey of ponds in the surrounding landscape was considered necessary to inform this approach.
- 1.8 Emma Broad agreed that a method statement approach (i.e. RAMS) would be appropriate in this instance, and suggested that a low presence of great crested newts should be assumed in and around the Site, including within the arable habitats. As part of this approach, Emma Broad advised that additional terrestrial habitat for great crested newt would need to be provided within the scheme (e.g. provision of log/brush piles or hibernacula).
- 1.9 WCBC granted planning consent on 4 March 2019, subject to the discharge of twenty conditions (Ref: RUA P/2018/0577). Planning conditions 9, 10 and 11 relate fully or partially to ecology and state:

Condition 9 states “No development shall take place until there has been submitted to and approved in writing by the LPA a scheme of great crested newt mitigation, compensatory measures and management regime. The approved scheme shall make provision for a compliance audit and report and its submission to and approval in writing by the LPA. Development shall be carried out in

accordance with the approved scheme of great crested newt mitigation and compensatory measures and management regime”.

Condition 10 states *“Development shall not commence until a scheme of Reasonable Avoidance Measures (RAMs) in respect of great crested newts has been submitted to and approved in writing by the LPA. Development shall thereafter only take place in strict accordance with the RAMs scheme as approved”.*

Condition 11 states *“No development shall take place until there has been submitted to and approved in writing by the LPA a Biosecurity Risk Assessment that shall include measures to address invasive non-native species. Development shall be carried out in accordance with the approved Biosecurity Risk Assessment and its measures shall be retained thereafter”.*

- 1.10 A Landscape/Biodiversity Proposals Plan showing the proposed habitat creation measures is presented in Appendix 2.

Purpose of this document

- 1.11 The purpose of this report is to:
- Provide a scheme of Reasonable Avoidance Measures (RAMs) in respect of great crested newt.
 - Provide a scheme of great crested newt mitigation, compensation and management.
- 1.12 A copy of this document should be kept on site throughout the construction period for reference by the Contractor.
- 1.13 Please note that the requirements associated with Condition 11 are addressed in a separate report.

CDM Regulations

- 1.14 When BSG Ecology designs construction work, as defined in the Construction (Design and Management) Regulations (CDM), we will comply with our statutory duties. Where our design is not construction work, as defined, we do not have any CDM duties.
- 1.15 BSG Ecology will not be responsible for any design undertaken by other companies whether they be a ‘designer’ or a contractor, except where noted in relation to sub-consultants appointed by BSG Ecology who are not based in GB or Northern Ireland.
- 1.16 BSG Ecology will attend site to review the quality of the works and resolve any issues arising out of unforeseen circumstances but will not “control the way in which any construction work is carried out by a person at work” (CDM Regulations 25(2)). BSG Ecology will not carry out construction work (as defined).
- 1.17 When BSG Ecology is the contract administrator we will not have any responsibility in relation to permitting the works to start (CDM Regulation 16) or the on-going adequacy of the Construction Phase Plan or welfare provisions by the contractor.

2 Great crested newt baseline information

Desk study

- 2.1 Cofnod provided 68 records for great crested newt within the desk study area dating between 1991 and 1997. The nearest two records originate from Pond 1, located 190 m to the west of the Site; these records date from 1992. Records of this species were also provided for Ponds 2, 5 and 8, located 230 m to the northwest, 450 m to the northeast and 430 m to the southeast of the Site respectively.
- 2.2 In addition to the records provided by Cofnod, Johnstown Newt Sites Special Area of Conservation (SAC)/Stryt Las a'r Hafod Site of Special Scientific Interest (SSSI) is located 1.9 km to the northwest of the Site at its nearest point. This is a composite site with a special interest for its amphibians, and the waterbodies are known to support one of the largest known breeding populations of great crested newt in Great Britain. This SAC is not connected terrestrially to the Site.
- 2.3 The aerial photographs show that the land immediately surrounding Ponds 1-9 typically comprises hedgerows, grassland margins and/or areas of trees, which provide suitable terrestrial habitat for great crested newt.

Aquatic habitat

- 2.4 There are no ponds within the Site, and the majority of the Site is formed of sub-optimal terrestrial habitat (arable field and short-grazed grassland). The bases of the hedgerows at the field boundaries, and the vegetated banks of the wet ditch along the eastern edge of the Site, provide some areas of suitable terrestrial habitat for great crested newts, if present.
- 2.5 Access was possible to Ponds 1, 8 and 9, and these three ponds are described below. Access was not possible to the remaining six ponds located within 500m of the Site. The location of ponds is shown on Figure 1.
- 2.6 Pond 1 located 190 m to the west of the Site has a HSI score for the pond is 0.85, which indicates that the pond has "excellent" suitability to support a population of great crested newts (ARG UK, 2010). This pond is surrounded by grassland and scattered mature trees, which provides suitable terrestrial habitat for great crested newt.
- 2.7 Pond 8 located 430 m to the southeast of the Site has a HSI score for the pond is 0.77, which indicates that the pond has "good" suitability to support a population of great crested newts (ARG UK, 2010).
- 2.8 Pond 9 located 440 m to the south of the Site has a HSI score for the pond is 0.66, which indicates that the pond has "good" suitability to support a population of great crested newts (ARG UK, 2010).

Terrestrial habitats

- 2.9 The Site is part of an arable field (sown with wheat in 2017), and a section of species-poor semi-improved neutral grassland, which is grazed by cattle. The arable field is bounded by hedgerows at the northern, eastern and southern boundaries, the majority of which contain occasional mature trees and are species-rich. Wet ditches are present alongside the northern and eastern Site boundaries.
- 2.10 The new poultry units will be sited within the centre of the arable field, and the new access road will bisect the eastern grazed species-poor semi-improved neutral grassland field. These fields are both considered to provide sub-optimal habitat for amphibians including great crested newt, due to the lack of cover that they provide. The most suitable terrestrial habitat which will be affected is the base of the hedgerow between the two fields and the vegetated banks of the wet ditch; up to 10 m

of wet ditch will require removal to facilitate access. These features are located 380 m and 280 m from the nearest ponds respectively and are shown on Figure 1.

- 2.11 The Off-Site Highways Improvements are located 228 m from Pond 8 where records of great crested newt were recorded in 1992 and 135 m from a pond located adjacent to a hedgerow to the north of the A539. The Off-Site Highways Improvements will not result in loss of optimal habitat as 25 linear metres of hedgerow will be translocated.
- 2.12 Natural England guidelines (2001) state that suitable terrestrial habitat within 250 m of a great crested newt breeding pond is likely to be used most frequently, and more recent studies (Natural England, 2007) have shown that great crested newt densities are very low over 100 m from a breeding pond. Given the distance of the proposed development from the ponds and the small sections of optimal terrestrial habitat that will be affected by the proposed development, the chance of encountering a newt during the course of the works is, therefore, considered unlikely.
- 2.13 Whilst the chance of encountering a newt during the works is considered to be unlikely, reasonable avoidance measures will be put in place and these are described in the next section.

3 Great crested newt Reasonable Avoidance Measures (RAMs)

Condition 10 states “*Development shall not commence until a scheme of Reasonable Avoidance Measures (RAMs) in respect of great crested newts has been submitted to and approved in writing by the LPA. Development shall thereafter only take place in strict accordance with the RAMs scheme as approved*”.

- 3.1 The following reasonable avoidance measures set out below will be employed prior to and during the construction phase of the proposed development.

1. Toolbox talk

- 3.2 A toolbox talk will be delivered to all contractors prior to the start of works. A copy of the toolbox talk is provided in Appendix 3.

- 3.3 The toolbox talk will include:

- Advice to contractors of the possible presence of great crested newt in the local area.
- Explanation of the legal protection afforded to this species.
- Discussion of biosecurity risks.
- Discussion of the works to be undertaken by the Site Ecologist, i.e. hand searches.
- The purpose of the temporary amphibian fencing and the requirement for daily fence monitoring and completion of a log.
- The locations identified for storage of materials and how materials should be stored.
- Ecological compliance site visits.

2. Hand searches by the Site Ecologist

- 3.4 Prior to any hedgerow removal or works affecting the banks of the wet ditch, these areas will be hand-searched for the presence of great crested newts by a suitably qualified and licenced ecologist. Although the open fields provide sub-optimal habitat are sub-optimal for great crested newt, a walkover with selected hand searching of potentially suitable areas will also take place as a precautionary measure. This search should take place immediately prior to the start of works. The vegetation will then be removed by contractors using light machinery.

- 3.5 Hedgerow removal will take into account the potential presence of nesting birds. Hedgerows will be cut to approximately 200 mm above ground over the autumn/winter (October-end of February inclusive, avoiding disturbance to the root zone), to remove the risk of nesting birds utilising the hedgerow, and then removed during the spring/summer (April-September) when newts will be active.

3. Installation of temporary amphibian fencing

- 3.6 One-way temporary amphibian fencing will be installed around the main area of construction works (refer to Temporary Amphibian Fencing Drawing) to ensure that great crested newts cannot access the construction area. The temporary amphibian fencing will define the construction working area and there will be no construction works beyond this fence line. There will be some landscape planting beyond the temporary amphibian fencing; however this is small scale and will be undertaken under a watching brief from the Site Ecologist. The fencing will be subject to daily monitoring by on-site personnel to ensure that the fence is intact with no breaches during the construction period. If there are any breaches, these will be reported immediately and rectified. Small scale breaches will be fixed by on-site personnel under the guidance of the Site Ecologist. Large scale breaches will be fixed by the fence installer under a watching brief by the Site

Ecologist. A maintenance log of these fence checks will be kept on site and will be freely available for inspection.

- 3.7 Following completion of the construction works the fence will either be cut at ground level or removed to provide great crested newt access to the areas of newly created habitat including ponds and refugia.

4. Storage of materials

- 3.8 A designated area will be established for material, equipment and machinery storage prior to the start of works. This will be clearly defined and will be set back from any boundary features, i.e. hedgerows and wet ditches, by a minimum of 2 m. Materials will be stored above ground-level e.g. on pallets.

5. Cover excavations

- 3.9 Any excavations or trenches will be covered overnight to prevent amphibians (and any other wildlife) from entering excavations or from becoming trapped. Excavations will be checked at the start of each working day to confirm that no great crested newts are present. In the event that a great crested newt is discovered, then no work will commence until advice has been sought from the Site Ecologist.

6. Ecology Site Visits

- 3.10 During the construction period a minimum of one site visit per month will be undertaken by the Site Ecologist to ensure that the RAMs are being implemented. Following each site visit an ecological compliance audit report will be produced that will set out how the RAMs are being implemented, any deviations and any additional measures that need to be put in place.

- 3.11 The Site Ecologist will be on call throughout the construction period as necessary.

If a great crested newt is found

- 3.12 In the unlikely event that a great crested newt is found during the course of the works then works will cease and advice should be sought from a suitably qualified and licensed ecologist as to the appropriate way forward.

4 Great crested newt habitat creation & management

Condition 9 states “No development shall take place until there has been submitted to and approved in writing by the LPA a scheme of great crested newt mitigation, compensatory measures and management regime. The approved scheme shall make provision for a compliance audit and report and its submission to and approval in writing by the LPA. Development shall be carried out in accordance with the approved scheme of great crested newt mitigation and compensatory measures and management regime”.

Responsibilities

- 4.1 The implementation of this document will be the responsibility of the Wynnstay Home Farm Partnership. They will appoint a suitably qualified ecologist to act as the Site Ecologist and a landscape contractor to act as the Landscape Contractor in order to ensure delivery of this plan.
- 4.2 Details of the appointed Site Ecologist and Landscape Contractor will be provided to Wrexham County Borough Council and Natural Resources Wales. If for any reason the Site Ecologist or Landscape Contractor changes then new details will be provided. The Wynnstay Home Farm Partnership will ensure that the Site Ecologist and Landscape Contractor are appropriately qualified and experienced to implement this plan.

Habitat Creation

- 4.3 Habitat creation measures that will be of biodiversity benefit for a range of wildlife, such as foraging and nesting birds, foraging bats, invertebrates and amphibians, in particular great crested newt are to be undertaken:
 - a. Native woodland planting.
 - b. Native hedgerow creation.
 - c. Rough grassland creation.
 - d. Pond creation.
 - e. Great crested newt hibernacula and refuge creation.
- 4.4 The management regime is set for a period of 25 years.

a) Native Woodland Planting

Aim

- 4.5 Native woodland planting will provide optimal habitat for great crested newt, as well as providing suitable habitat for small mammals, other amphibians, nesting and foraging birds and foraging bats. The value of the woodland to great crested newt will improve over time (i.e. as trees mature); thus providing an environment across which great crested newt can forage, rest and hibernate. Over time the trees will become a sufficient size for breeding birds to nest within, will be able to supply fruit for birds to forage on and will provide a resource for invertebrates which will in turn provide a food resource for bats.

Targets

Target 1-Tree health

- Upper limit: not required; and
- Lower Limit: 70% healthy trees.

Current status

- 4.6 The native woodland planting is yet to be established. Existing site conditions in the areas designated for tree planting presently comprise arable land and species-poor semi-improved neutral grassland.

Habitat Creation

Task a-1	Create native woodland
Purpose	To provide terrestrial habitat for great crested newt and as a general biodiversity enhancement measure.
Responsibility	Wynnstay Home Farm Partnership, Landscape Architect.
Equipment	Planting plan, spades, planting stock, guards and stakes.
Methodology	~ Referring to the planting plan, mark out planting areas. All plants and planting to comply with the requirements of all current/relevant British Standard Specification including BS3936: Parts 1 & 4 (Nursery Stock) and BS 4428: 1989 (General Landscape Operations). ~ Proprietary root dip applied to bare-rooted stock at time of lifting at nursery and prior to planting. ~ Thoroughly water-in all new plants immediately after planting. ~ Stakes to be pressure treated, round and smooth and peeled larch or chestnut not less than 100 mm diameter. Use propriety tree ties applied in accordance with manufacturers recommendations. ~ All new tree planting to be fully protected from rabbit damage by the use of tree guards. ~ Use native tree species including pedunculate oak, sessile oak, downy birch, common alder, field maple, rowan and crab apple, sourced from an approved supplier.
Timing	November to March (avoid frosty conditions)
Frequency	To be completed within 12 months of completion of development.
Project a-2	Monitor tree health
Purpose	To assess tree health.
Responsibility	Landscape Architect.
Equipment	Recording forms, GPS
Methodology	~ Conduct a walkover survey of trees within native woodland planting areas. ~ Record presence of damaged / diseased trees and cross reference using a GPS.
Timing	June - August
Frequency	Years 1-5 after planting.

Resulting action	If health of trees is poor, consider: ~ Removing and replacing damaged/diseased saplings as required. ~ Removing competitive grasses and weeds from within guards as appropriate; or keep base weed free throughout the season by herbicide applications using an applied translocated herbicide. ~ Removing tree/shrub guards and stakes when plants have become established to allow basal growth to develop.
Project a-3	Manage woodland
Purpose	To manage woodland for biodiversity benefit.
Responsibility	Wynnstay Home Farm Partnership, Landscape Architect, Site Ecologist.
Equipment	N/A
Methodology	Manage through non-intervention.
Timing	N/A
Frequency	Years 1-25 after planting.
Resulting action	Manage through non-intervention, but if over-crowded: ~Thin the woodland under the direction of the Landscape Architect.

b) Native hedgerow creation

Aim

- 4.7 Native hedgerows will provide optimal habitat for great crested newt, by providing suitable locations for shelter and hibernation, and mechanisms for foraging and dispersal. Over time the hedgerows, once established, will provide suitable habitat for nesting birds, will be able to supply fruit for birds and will provide sheltered corridors for movement of other wildlife such as hedgehog.

Targets

Target 1 – Hedgerow structure & diversity

- Upper limit: not required; and
- Lower limit: five hedgerow species within 20 linear metres of hedgerow.

Target 2 – Hedgerow health

- Upper limit: not required; and
- Lower limit: 75% healthy shrubs.

Current status

Native hedgerows are yet to be planted and established. Existing site conditions in the areas designated for tree planting presently comprise species-poor semi-improved neutral grassland.

Habitat Creation

Task b-1	Native hedgerow creation
Purpose	To create dense, native hedgerows that will provide sheltering and foraging opportunities for great crested newts and for a range of other wildlife

	including breeding and foraging birds and foraging bats.
Responsibility	Wynnstay Home Farm Partnership, Landscape Architect.
Equipment and Materials	Tine or disc harrow. Glyphosate herbicide (or similar). An appropriate lowland meadow seed mix is recommended and can be sourced from a responsible supplier of native wildflowers (e.g. EM10 Tussock Mix, supplied by Emorsgate Seeds https://wildseed.co.uk/mixtures/view/10).
Methodology	~ Referring to the planting plan, mark out planting areas. All plants and planting to comply with the requirements of all current/relevant British Standard Specification including BS3936: Parts 1 & 4 (Nursery Stock) and BS 4428: 1989 (General Landscape Operations). ~ Proprietary root dip applied to bare-rooted stock at time of lifting at nursery and prior to planting. ~ Thoroughly water-in all new plants immediately after planting. ~ Hedging plants to be planted in trenches wide enough to allow for full root spread. Set out plants as scheduled in double staggered row using a total of 5 plants per linear metre. Rows to be set 40 mm apart. ~ Use native species including common hawthorn, hazel, blackthorn, holly and field maple, sourced from an approved supplier.
Timing	November to March.
Frequency	To be completed within 12 months of completion of development.
Task b-2	Monitor structural and diversity composition and health
Purpose	To identify whether the hedgerows are establishing and are healthy, and to survey the species and structural composition.
Responsibility	Landscape Architect & Site Ecologist.
Equipment	Recording forms, GPS, plan at appropriate scale.
Methodology	~ Walk the hedgerows. ~ Record species diversity within the hedgerow length. ~ Record presence of damaged/diseased whips and cross reference using a GPS.
Timing	June to mid-July.
Frequency	Years 1-5 after hedgerow creation.
Resulting Action	If health of hedgerow is poor, consider: ~ Removing and replacing damaged/diseased saplings as required. ~ Removing competitive grasses and weeds from within guards as appropriate; or keep base weed free throughout the season by herbicide applications using an applied translocated herbicide. ~ Removing shrub guards and stakes when plants have become established to allow basal growth to develop.
Task b-3	Manage hedgerows
Purpose	To ensure that the hedgerows are managed as a dense and intact feature for wildlife.

Responsibility	Wynnstay Home Farm Partnership, Landscape Architect.
Equipment	Hand tools and tractor with mounted hedge trimmer.
Methodology	Hand trimming in 2 nd and 3 rd years and mechanical trimming every 3 years after 5 years of establishment.
Timing	November – March.
Frequency	Allow hedgerow to establish in first 5 years. Cut every 3 years in perpetuity.

c) *Rough grassland creation*

Aim

- 4.8 Rough grassland will provide optimal habitat for great crested newt around the native woodland planting and the poultry sheds. Great crested newt will use this habitat to forage and as a place of refuge. The grassland will be floristically diverse to provide a nectar resource for pollinators. Rough grassland is favoured by great crested newt due to the provision of cover and humidity, shelter, and also invertebrate prey availability which abounds in this habitat. Over time, in the absence of management, the grassland becomes tussocky and scrub colonises grassland. To maintain the favourable status of the rough grassland, management (e.g. cutting) will be required to minimise scrub establishment and to remove localised patches of colonised scrub. Moderate floristic diversity is also important, not necessarily for great crested newt, but for invertebrates that seek pollen and nectar from flowering herbaceous plants.

Targets

Target 1 - GRASSLAND STRUCTURE

- Upper Limit: tussocky grassland cover at 90% and scrub cover at 10%; and
- Lower Limit: tussocky grassland cover at 75% and scrub cover at 25%.

Target 2 – GRASSLAND DIVERSITY

- Upper limit: 100% of sown wildflower and grass seed mix uptake.
- Lower limit: 75% of sown wildflower and grass seed mix uptake.

Current Status

- 4.9 The rough grassland has yet to be established. Existing site conditions in the areas designated for habitat creation presently comprise arable land.
- 4.10 Ground preparation and direct seeding will be required, with the appropriate seed mixes.

Habitat Creation

Task c-1	Create rough grassland
Purpose	To create grassland to provide foraging, commuting, and sheltering habitat for great crested newt and for invertebrates and other wildlife.
Responsibility	Wynnstay Home Farm Partnership, Landscape Architect.
Equipment and Materials	Tine or disc harrow. Glyphosate herbicide (or similar). An appropriate lowland meadow seed mix is recommended and can be sourced from a responsible supplier of native wildflowers (e.g. EM10 Tussock Mix, supplied by Emorsgate Seeds https://wildseed.co.uk/mixtures/view/10).

Methodology	Grassland will be established through the sowing of an appropriate seed mix to the specification and method selected by the supplier and Landscape Architect. However, in summary, this is likely to involve the following: ~ Apply foliar applied translocated herbicide to manufacturer's instructions to eliminate arable weeds prior to seeding. ~ The areas to be seeded will be cultivated to an approximate depth of 100 mm using a tine or disc harrow. ~ Seed will be broadcast at the required rate using tractor mounted machinery. ~ The seeded areas will be lightly rolled using a Cambridge roller (or similar) to achieve contact with the soil. ~ All operations to be undertaken when the soil is moist but not waterlogged. ~ Spot-treat weeds as required using an applied translocated herbicide.
Timing	In April or September to achieve best results.
Frequency	To be completed within 12 months of completion of development.
Task c-2	Monitor structural and diversity composition of grassland
Purpose	To identify whether grassland is establishing and that management is appropriate for maintaining the required sward structure and cover of scrub.
Responsibility	Site Ecologist.
Equipment	Recording forms, GPS, plan at appropriate scale.
Methodology	~ Walk the areas where rough grassland has been created. ~ Measure grass height at twenty survey points within the grassland, evenly spaced out across the Site, (mark these with GPS) and, within a 2 m radius from the survey point, estimate: • the proportion (% cover) of herbaceous plants (excluding invasive and injurious weeds such as docks, thistles and nettles); • the composition of dominant plants; and • the proportion of grassland that has been colonised by scrub.
Timing	June to mid-July (i.e. prior to cutting)
Frequency	Years 1-5 after grassland creation.
Resulting Action	Refer to Project c-3 if Targets 1 and 2 are not met.
Task c-3	Manage grassland
Purpose	To maintain structural and floristic diversity and control scrub encroachment.
Responsibility	Wynnstay Home Farm Partnership, Landscape Architect.
Equipment	Tractor and mounted attachments, including flail mower, rowler and baler.
Methodology	~ Mowing should be undertaken in a disorganised fashion so as to leave a small scale mosaic of cut and uncut patches, and increase structural diversity; ~ Arisings to be collected and removed.

Timing and Frequency	~ In first year cut three times, although wait until yellow rattle has set seed before undertaking first cut; ~ From second year onwards, cut in autumn; and ~ Mowing will take place during sunny dry conditions and during daylight hours to prevent potential harm to terrestrially occurring great crested newt. Amend cutting regime if required, subject to monitoring.
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d) Pond creation

Aim

- 4.11 To create two ponds with a diversity of aquatic and marginal plants. Both ponds will function as water attenuation features as well as proving a biodiversity benefit. Both ponds will be designed to hold water throughout the year. The variety of plants will provide suitable cover and egg-laying spots for amphibians, particularly great crested newt. Other amphibians, water birds and invertebrates will also benefit from the pond creation. The creation of ponds within the Site will contribute to the provision of suitable habitat for the great crested newt populations in the wider area.

Targets

Target 1 – PRESENCE OF GREAT CRESTED NEWTS

- Upper Limit: not required
- Lower Limit: great crested newt presence, minimum 1 individual.

Target 2 - EGG LAYING PLANTS

- Upper Limit: not required; and
- Lower Limit: five native aquatic / marginal plant species¹ present in ponds covering 5 - 10% of pond surface area.

Current Status

- 4.12 Two ponds will be created within 12 months of completion of development. These ponds, and their surrounding habitats, will enhance the Site for the great crested newt population in the locality, creating more breeding and foraging opportunities for great crested newt as well as other amphibian species.

Explanation of Targets

Target 1: Presence of great crested newts

- 4.13 A reasonable indication of the pond condition and its suitability to support great crested newt is to determine presence/absence of great crested newt, following the Natural England survey guidelines (2011).

Target 2: Egg-laying plants

- 4.14 Native aquatic and marginal plant species can provide a high quality substrate for great crested newt to lay eggs upon. Encouraging a diversity of native and aquatic marginal plants to grow will therefore facilitate successful breeding and thus the encouragement of a healthy great crested newt population at the Site. These will also be of benefit for other amphibians and aquatic invertebrates.

¹ These include: broad-leaved pondweed, curled pondweed, water mint, water forget-me-not, water plantain, great willowherb, lesser spearwort, amphibious bistort, brooklime, gypsywort and flote-grass (*Glyceria* sp.).

Biosecurity Risks

4.15 The creation of the ponds, pond monitoring and pond management will need to fully take into account the measures detailed in the BSG Ecology Report to Inform Discharge of Condition 11 (Planning Ref: RUA P/2018/0577) with regard to amphibian diseases and the potential risk of introducing non-native aquatic plant species. Full details are provided in this document but measures include:

- Thoroughly cleaning construction machinery and footwear and clothing of site personnel to ensure that they are free from mud prior to entering the site to avoid any potential contamination from other sites.
- The transfer of amphibian diseases, as well as invasive non-native species will be minimised by undertaking cleaning and disinfection of equipment.
- All debris, plant fragments and mud will be scrubbed off and rinsed with water before attending site. Disinfection will comprise soaking in a Virkon solution for 1 minute (or as otherwise stated in product instructions). Fabrics will be washed on a 40°C cycle.
- Disinfectant will be disposed of appropriately.

Habitat Creation

Task d-1	Create two ponds
Purpose	To increase the availability of suitable habitat for breeding great crested newt and therefore enhance the Site for great crested newt.
Responsibility	Wynnstay Home Farm Partnership, Site Ecologist.
Equipment	Excavator, pre-planted coir pallets, pond liner or puddled clay dependent on trial pit survey results.
Methodology	~ All work to be undertaken with the Site Ecologist in attendance as appropriate. ~ Position the new ponds in the areas indicated on a plan in Appendix 2. ~ The ponds are located in arable farmland and species-poor semi-improved grassland. The arable land will be stripped of the top soil and the grassland will be stripped of the turfs and the land contoured before the ponds are created, therefore the full footprint of the pond will be easier to mark out. ~ Dig trial pit in chosen location to identify presence of sticky clay. If clay is absent / not of right structure, a liner or clay will be required to ensure water retention. ~ The ponds will have shallow sloping margins, and a maximum (winter) depth of 1.5 m at the centre. ~ Species, many of which are suitable for great crested newt to lay eggs on will be sourced from a responsible supplier of native wildflowers in pre-planted coir pallets (e.g. https://www.salixrw.com/product/coir-pallets/) that will be fixed around the pond margin. Plants to be used will include: water mint, gypsywort, water forget-me-not, floating sweet-grass, lesser spearwort, water plantain and purple loosestrife. For further information on pond creation consult the Pond Creation Toolkit (http://www.freshwaterhabitats.org.uk/projects/million-ponds/pond-creation-toolkit/).
Timing	In spring or autumn during suitable ground conditions.
Task d-2	Plant species suitable for great crested newt egg laying
Purpose	To increase the availability of plants upon which great crested newt can lay

	eggs in the new ponds, and to create suitable habitat for other amphibians and aquatic invertebrates.
Responsibility	Wynnstay Home Farm Partnership, Landscape Architect, Site Ecologist.
Equipment	Waders, hand tools (e.g. fork, spade, and trowel).
Methodology	Site Ecologist/Landscape Architect to be in attendance for the planting of native aquatic/marginal plants.
Timing	April or September to October
Frequency	As advised by Site Ecologist/Landscape Architect.
Task d-3	Monitor presence/likely absence of great crested newt
Purpose	To determine the presence/likely absence of great crested newt in the new ponds.
Responsibility	Site Ecologist.
Equipment	Survey equipment (including torches, pond net etc.)
Methodology	2-3 surveys (using the methods of torch, net, egg search, bottle trap and terrestrial search) and including a Habitat Suitability (HSI) Index Assessment per year will be undertaken annually for 25 years. The survey work will be undertaken by an ecologist who holds a great crested newt survey licence for Wales.
Timing	The surveys will be conducted between mid-March to mid-June.
Frequency	Annual survey.
Reporting	The results of this survey work will be reported to Cofnod using the Wales Great Crested Newt Monitoring Form V1b.
Task d-4	Monitor availability of egg laying plants & Invasive Species
Purpose	To assess the availability of plants upon which great crested newt can lay eggs and to monitor the presence of non-native invasive plant species and fish.
Responsibility	Site Ecologist.
Equipment	Field guides, hand lens, GPS, recording forms.
Methodology	Conduct walkover survey of the two ponds. Cover as much of pond circumference as possible. Record marginal plant species and estimate percentage cover of these using the DOMIN scale. Record the presence of non-native invasive plant species and note the presence of any fish.
Timing	June to August.
Frequency	Monitoring visits in Years 3 and 5. And then in years 10, 15, 20 and 25.
Resulting Action	If aquatic planting has failed then: ~ Replacement planting will be undertaken either with additional coir pallets or individual plants. These will be sourced from a responsible supplier of wildflowers. If any non-native invasive plant species are recorded, advice will be sought from a specialist contractor to remove the plants.

	If any fish are recorded then they will be removed. If aquatic planting is too abundant and there is a lack of open water then: ~Aquatic plants will be removed by hand by the Landscape Contractor to provide at least 50 % open water habitat. If great crested newt is known to be present then pond management works will be undertaken under a great crested newt conservation licence. The work will be supervised by the Site Ecologist. The work will be timed to avoid the great crested newt breeding season and will be undertaken during the winter months when great crested newt is unlikely to be present. Removed vegetation will be retained adjacent to the pond for a minimum of 72 hours to allow any amphibians and invertebrates to escape back to the pond.
--	---

e) Great crested newt hibernacula and refuge creation

Aim

- 4.16 Hibernacula and smaller daytime refuges will be located within the rough grassland in close proximity to the new ponds. These will provide frost free cavities and crevices for hibernating and sheltering amphibians and other animals.

Targets

Target 1 - MAINTAIN THE FAVOURABLE CONDITION OF HIBERNACULA

- Upper Limit: not required
- Lower Limit: access and egress points unobstructed and hibernacula are structurally sound.

Current Status

- 4.17 Six hibernacula and four refuges will be created around the new ponds. Refer to Appendix 4 for the suggested hibernaculum design from the Great Crested Newt Mitigation Guidelines, August 2001.

Habitat Creation

Task e-1	Construction of hibernacula and refuges
Purpose	To provide enhanced hibernation and sheltering opportunities for great crested newt.
Responsibility	Wynnstay Home Farm Partnership, Site Ecologist.
Equipment	Excavator, inert material (e.g. brick discards, logs and other inert, coarse material).

Methodology	~ Create six hibernacula and four refuges at locations around the ponds. ~ Construction to be undertaken with the Site Ecologist in attendance. ~ Remove topsoil (to depth of 150 mm) to create a shallow depression in which the material will be placed. ~ Tip material within depression to form a mound 2 m (wide) x 2 m (long) x 1 m (tall). ~ Cap hibernacula with a little soil and seed, ensuring access and egress points to the interior remain largely unobstructed. ~ Refuges are smaller than hibernacula and can be created from log, brash, and rubble piles. Refuges can be constructed at ground level and therefore do not need to be located in a depression.
Timing	Following completion of construction works.
Task e-2	Monitor condition of hibernacula
Purpose	To assess hibernacula condition.
Responsibility	Site Ecologist.
Equipment	Map of hibernacula locations, recording form.
Methodology	~ Check that access and egress points are unobstructed. ~ Check that hibernacula are free from waterlogging. ~ Check for signs of damage such as burning or other interference.
Timing	June - August
Frequency	Years 3 and 5. And then in years 10, 15, 20 and 25.
Resulting Action	Repair hibernacula or reposition if condition is not satisfactory.

5 Reporting

- 5.1 For each of the Habitat Creation Measure there are monitoring requirements by the Site Ecologist. Regular monitoring will enable management activities to be appropriately reviewed and suggestions for improvements made as required. In order to provide documentary evidence of this monitoring and circulate the results to interested parties (i.e. Wynnstay Home Farm Partnership and the Local Planning Authority Biodiversity Officer) annual reporting will be undertaken.
- 5.2 The monitoring for all items a) to e) will be combined into a single annual report. The contents of this report will therefore vary from year-to-year, depending upon the monitoring programme and management regime required for each of the features.

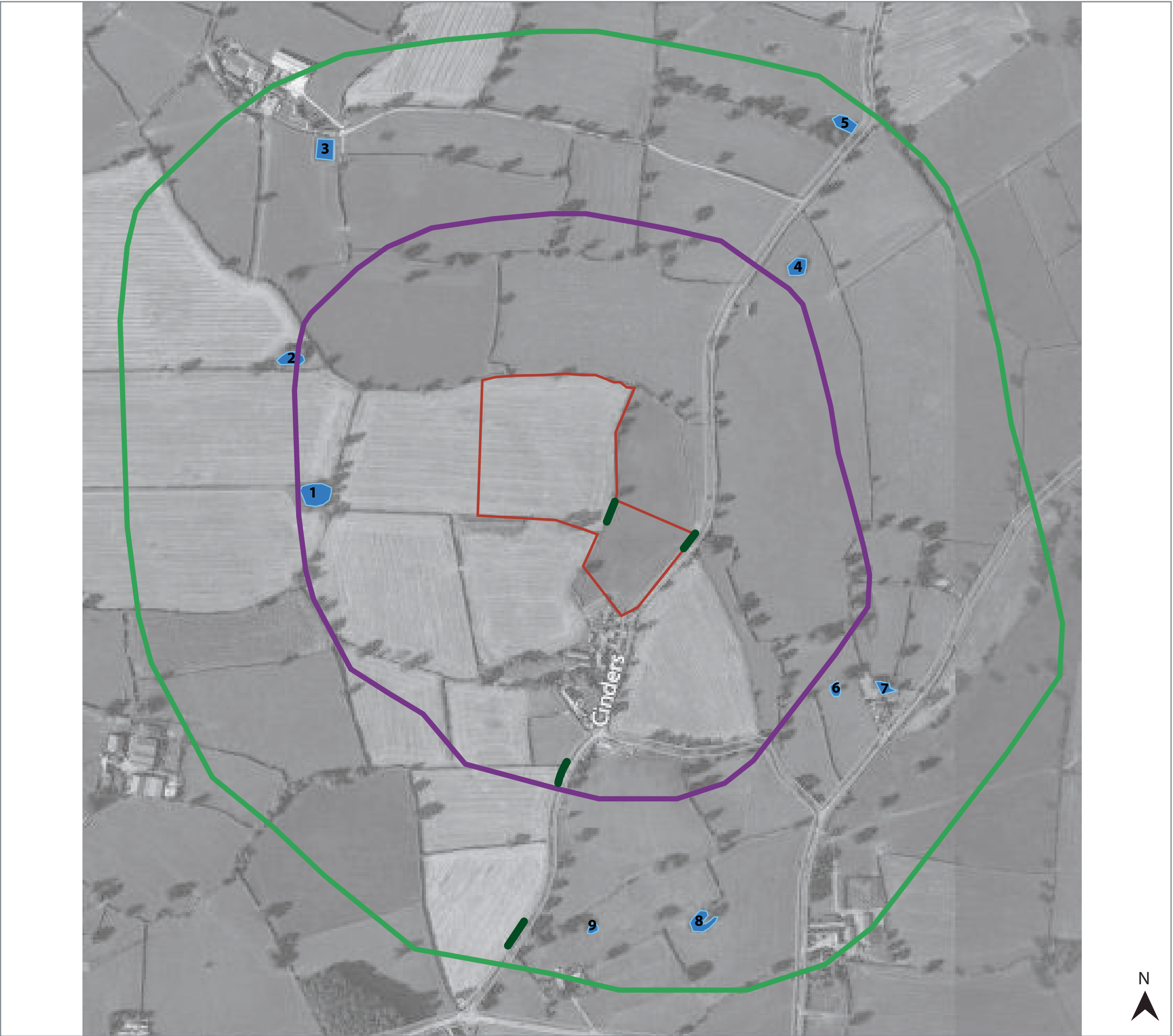
6 Habitat Creation and Management Plan

Tasks	Responsibility	Timing	1	2	3	4	5	6	
a-1. Plant native trees.	LC	November - March	✓						
a-2. Monitor tree health.	LC	June - August		✓	✓	✓	✓	✓	
a-3. Management of woodland.	WHFP/LC/SE	November - March	Annually for 25 years.						
b-1. Plant hedgerows.	LC	November - March	✓						
b-2. Monitor shrub health.	LC/SE	June - August		✓	✓	✓	✓	✓	
b-3. Management of hedgerow.	WHFP/LC/SE	November - March	Hand trim in 2 nd and 3 rd years, mechanical trim every 3 years after 5 years of establishment.						
c-1. Sow grassland seed mix.	WHFP/LC	April or September	✓						
c-2. Monitor grassland.	LC/SE	June to mid-July		✓	✓	✓	✓	✓	
c-3. Manage grassland (cut 3 times in first year, remove arisings & cut every autumn following establishment)	LC	Autumn	Annually for 25 years.						
d-1. Construct ponds.	WHFP/LC/SE	Spring or autumn	✓						
d-2. Aquatic planting of ponds.	LC/SE	April or September/October	✓						
d-3. Monitor presence/absence of great crested newts.	SE	Spring.	Annually for 25 years						
d-4. Monitor aquatic plants, invasive species and presence of fish.	LC/SE	Monitoring: June to August Pond management: November – January.	Monitoring visits in spring Year 3, 5, 10, 15, 20 & 25. Pond management will be undertaken under a great crested newt conservation licence (if great crested newt is present).						
e-1. Hibernacula & refuge construction.	LC/SE	N/A	✓						

Tasks	Responsibility	Timing	1	2	3	4	5	6	
e-2. Monitor hibernacula condition.	LC/SE	June to August	Monitoring visits in spring Year 3, 5, 10, 15, 20 & 25.						
Ecological compliance visit.	SE	As required during construction phase	✓						
Reporting.	SE	Annual Report	Annually for 25 years						

LC: Landscape Contractor, WHFP: Wynnstay Home Farm Partnership, SE: Site Ecologist

7 Figures



LEGEND

Site boundary

Pond

Ponds within 250m of the site

Ponds within 250-500m of the site

Location of hedgerow removal and wet ditch disturbance - Subject to detailed hand search for great crested newt

BSG|ecology

OFFICE: Hathersage
T: 01433 651869

JOB REF: P17-277

PROJECT TITLE
CINDERS FARM, RUABON

DRAWING TITLE
Figure 1: Pond Location Plan

DATE: 22.11.2019 CHECKED: KS SCALE: NTS

DRAWN: RSC APPROVED: KK VERSION: 1.0

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No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

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Microsoft Bing Maps screen shot reprinted with permission from Microsoft Corporation

Sources: BSG Ecology survey data

Appendix 1: Proposed Development Layout



GENERAL NOTES:

1. This drawing is for Planning.
2. All measurements are in metres (m). All levels are in metres (m) unless noted otherwise.
3. Discrepancies or omissions are to be reported to the Engineer prior to work commencing.
4. Materials and workmanship are to comply in all respects with current British Standard Specifications, Codes of Practice and Building Regulations Approved Documents.
5. The copyright of this drawing is vested in the engineer and must not be copied or reproduced without written consent.
6. The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work commences.
7. This drawing is to be read in conjunction with all relevant specifications and drawings issued by the Engineer, Architect and other Specialists.



Knights Construction Ltd.
Hafod Y Bwch Farm
Middle Sontely
Wrexham
LL13 0YP
United Kingdom
Tel: 01978 846 841

Client:

Soaltar Limited

Project Address:

Cinders Farm,
Ruabon,
Wrexham
LL14 6HL

Scale @ A0:	Date:
1:500	25/01/2018
	Drawn By:
	AZ
Sheet Number:	Revision:
1 of 1	Drawing number:
	GM-MZ228-181

Drawing Title:

Site Layout

Appendix 2: Landscape/Biodiversity Proposals

PLANTING SPECIFICATION

PLANTS AND PLANTING

All plants and planting to comply with the requirements of all current/relevant British Standard Specifications including BS 3936: Parts 1 & 4 (Nursery Stock) and BS 4428: 1989 (General Landscape Operations). All planting to be carried out within the recognised planting season (November to March). All to be British Grown stock and fully hardened off. All native species to be of local origin (Forestry Commission Seed Zone 304/403).

Root Dip

Proprietary root dip applied to all bare-rooted stock (1) at time of lifting at nursery and (2) prior to planting.

Watering

Thoroughly water-in all new plants immediately after planting.

Tree Stakes and Ties

Stakes - to be pressure treated, round, smooth and peeled Larch or Chestnut, not less than 100mm diameter. Use proprietary tree ties applied in accordance with manufacturer's recommendations.

Hedgerow Planting

Hedging plants to be planted in trenches wide enough to allow for full root spread. Set out plants as scheduled in a double staggered row using a total of 5 plants per linear metre. Rows to be set 450mm apart.

Tree & shrub protection

All newly planted stock to be fully protected from rabbit damage by the use of proprietary tree/shrub guards applied in accordance with the manufacturer's recommendations. All newly planted stock to be fully protected from browsing livestock, where applicable, by the installation of permanent stockproof fencing. Rabbit proof fencing may be used as an alternative to individual tree guards.

GRASS SEEDING

Generally to BS 4428.

Grading & Cultivation

When topsoil is reasonably dry and workable grade to smooth flowing contours removing all minor hollows and ridges. Cultivate soil to full depth and break up any compacted topsoil.

Final Cultivation and Sowing

Reduce top 25mm of topsoil to a fine tilth by further cultivation. Remove stones exceeding 100mm in any dimension. Sow approved grass seed mixture in accordance with supplier's recommendations during appropriate season and weather conditions. Lightly harrow or rake then roll and cross-roll with a lightweight roller.

Seed Mixtures

See planting schedule.

All seed mixtures to be sown at manufacturer's recommended rates.

TIMETABLE: All new planting and seeding to be completed within 12 months of completion of development.

LANDSCAPE MAINTENANCE & MANAGEMENT

Trees and hedgerows

Regular visits (Years 1-5) required to maintain all newly planted stock in a weed free condition. A 30cm wide strip along each side of the hedges and a 1m diameter ring around each individual plant is to be maintained in a weed free condition using a combination of repeated applications of an approved translocated systemic herbicide during the growing season followed by an approved residual herbicide application during late winter/early spring.

Planting generally: Any plants affected by frost heave or wind rock shall be re-firmed. Protective fencing, stakes, ties and tree guards are to be checked at each visit and adjusted, repaired or replaced as necessary. Other maintenance will include watering, pest and disease control as necessary to maintain healthy growth.

Hedgerow trimming: In the second or third year new hedging plants should be hand trimmed to an even height of approximately 750mm to encourage side shoots and the development of a sound base to the hedge. For the following two or three years, the leaders should be allowed to grow unhindered and the sides lightly trimmed only if necessary. After the first 5 years, mechanical hedge trimming can commence with hedges being cut every three years back to a height of approximately 3.0m. Hedge cutting operations should be programmed to avoid the bird nesting season (March to July) as it is an offence to harm nesting wild birds. Care should be taken to avoid damage to hedgerow trees and these should be tagged to make them more obvious to the hedge trimming operator.

Replacement Planting

Any tree/shrub losses to be replaced annually (Years 1-5) in accordance with original planting schedule & specification.

Use of Herbicides

Several alternative herbicides may be suitable and any which is used must be listed in the current British Crop Protection Council UK Pesticide Guide. The use of herbicides is governed by the Control of Pesticides Regulations 1986 (as amended) and all herbicides are to be strictly applied in accordance with manufacturer's recommendations and current COSHH Regulations. All operatives must hold a current recognised User Certificate of Competence.

Any damage to existing trees or newly planted stock shall be made good at Contractor's own expense.

Rough Grassland

3 cuts during Year 1 (March, May, September) to establish sward. Thereafter to be topped annually in autumn (September-November) to a height of 200-300mm. Pernicious weeds to be controlled by hand pulling, topping or spot treating with approved herbicides.

EXISTING TREES AND HEDGES

All existing trees and hedges to be retained should be fully fenced and protected prior to the commencement of any works in accordance with BS5837 (2012) 'Trees in relation to design, demolition and construction - Recommendations'. All-weather notices to be attached to the protective fencing stating: "CONSTRUCTION EXCLUSION ZONE - NO ACCESS".

Key



New tree planting



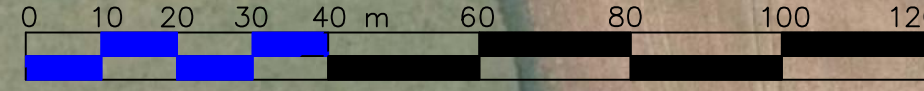
New hedgerow planting



Rough grassland



Indicative ground modelling



Getmapping aerial photograph dated 25/07/2014



ALLAN MOSS ASSOCIATES LTD
Environmental Planning and Landscape Design

Culmehy House, 33 Holmer Lane, Telford, TF3 1QJ
Telephone: 01952 660422. Fax: 01952 660423

PLANTING SCHEDULE

Individual Native Trees

Code	Species	Description	Height
T1	Quercus robur (Pedunculate Oak)	Feathered	1250-1500mm
T2	Quercus petraea (Sessile Oak)	Feathered	1250-1500mm
T3	Acer campestre (Field Maple)	Feathered	1250-1500mm

Native Woodland Mix

Code	Percentage	Species	Size	Spacing	Grouping
W1	30	Quercus robur (Pedunculate Oak)	600-800mm/1+1	2.0 m centres	10-15
	30	Quercus petraea (Sessile Oak)	600-800mm/1+1	2.0 m centres	10-15
	15	Betula pubescens (Downy Birch)	600-800mm/1+1	2.0 m centres	5-10
	10	Alnus glutinosa (Common Alder)	600-800mm/1+1	2.0 m centres	5-10
	5	Acer Campestre (Field Maple)	600-800mm/1+1	2.0 m centres	1-3
	5	Sorbus aucuparia (Rowan)	600-800mm/1+1	2.0 m centres	1-3
	5	Malus sylvestris (Crab Apple)	600-800mm/1+1	2.0 m centres	1-3

Native Hedgerow Mix

Code	Species	Percentage	Size	Spacing	Grouping
H1	Crataegus monogyna (Hawthorn)	70	400-600mm/1+1	5/lin m	Row 1: 100%. Row 2: 5-10
	Corylus avellana (Hazel)	20	400-600mm/1+1	5/lin m	Row 2: 5-10
	Prunus spinosa (Blackthorn)	5	400-600mm/1+1	5/lin m	Row 2: 1-3
	Ilex aquifolium (Holly)	5	400-600mm/2L pot	5/lin m	Row 2: 1-3
	Acer campestre (Field Maple)	5	400-600mm/1+1	5/lin m	Row 2: 1-3

Seed Mixes

Code	Supplier	Mix	Location	Sowing Rate
RG	Boston Seeds	ELS3: Floristically Enhanced Buffer Strip	Rough grassland areas	20kg/h

Description
Proposed Poultry Unit
Cinders Farm
Ruabon, Wrexham

Drawn by AM

Drawing Name Landscape/Biodiversity Proposals

Dwg number 1484.04

Rev

Scale(s) 1:1000 @ A1 size

Date 16/01/18

Appendix 3: Tool Box Talk

PROTECTED SPECIES TOOLBOX TALK

BSG Ecology has been appointed act as the Site Ecologist during any works on site which have the potential to impact great crested newts and other protected wildlife on the site. Our role is to focus on those practical elements of work that are related to wildlife and ecology.

The work that you have been contracted to complete has the potential to impact upon species (namely great crested newts) which are protected under the Conservation of Habitats and Species Regulations 2017 (as amended), and the Wildlife and Countryside Act 1981 (as amended).

Hand searches by the Site Ecologist

Prior to any hedgerow removal or works affecting the banks of the wet ditch, these areas will be hand-searched for the presence of great crested newts by a suitably qualified and licenced ecologist. Although the open fields provide sub-optimal habitat, a hand search of these areas will also take place as a precautionary measure. This search should take place immediately prior to the start of works. The vegetation will then be removed by contractors using light machinery.

Hedgerow removal will take into account the potential presence of nesting birds. Hedgerows will be cut to approximately 200 mm above ground over the autumn/winter (October-end of February inclusive), to remove the risk of nesting birds utilising the hedgerow, and then removed during the spring/summer (April-September) when newts will be active.

Installation of temporary amphibian fencing

One-way temporary amphibian fencing will be installed around the main area of construction works to ensure that great crested newts cannot access the construction area. This will be subject to weekly monitoring by on-site personnel to ensure that the fence is intact with no breaches during the construction period. A record of these fence checks will be kept on site. Spot checks will be undertaken by the Site Ecologist during the construction period to ensure that the fence is being maintained.

Following completion of the construction works the fence will be cut at ground level to provide great crested newt access to the areas of newly created habitat including ponds and refugia.

Storage of materials

A designated area will be established for material, equipment and machinery storage prior to the start of works. This will be clearly defined and will be set back from any boundary features, i.e. hedgerows and wet ditches. Materials will be stored above ground-level e.g. on pallets.

Cover excavations

Any excavations or trenches will be covered overnight to prevent amphibians (and any other wildlife) from entering excavations or from becoming trapped. Excavations will be checked at the start of each working day to confirm that no great crested newts are present.

Biosecurity Risks

The proposed development will need to fully take into account the measures detailed in the BSG Ecology Report to Inform Discharge of Condition 11 (Planning Ref: RUA P/2018/0577) with regard to amphibian diseases and the potential risk of introducing non-

native aquatic plant species. Full details are provided in this document but measures include:

- Construction machinery and footwear and clothing of site personnel will be thoroughly cleaned to ensure that they are free from mud prior to entering the site to avoid any potential contamination from other sites.
- The transfer of amphibian diseases, as well as invasive non-native species will be minimised by undertaking cleaning and disinfection of equipment. Equipment will include footwear, clothing, nets and bottle traps.
- All debris, plant fragments and mud will be scrubbed off and rinsed with water before attending site. Disinfection will comprise soaking in a Virkon solution for 1 minute (or as otherwise stated in product instructions). Fabrics will be washed on a 40°C cycle. Field equipment will be stored in plastic bags during transit and storage to reduce potential contamination.
- Disinfectant will be disposed of appropriately.

Responsibilities

It is the responsibility of the Site Ecologist to communicate environmentally safe practices of work to you and to oversee their implementation throughout the project. It is the responsibility of all members of the project team (including sub-contractors) to attend training prior to carrying out any work on the project and to adhere to the practices of work through the duration of the project. In view of the sensitive nature of the project and the potential legal repercussions that would follow from committing an offence against protected species, it is imperative that environmentally safe practices of work are followed.

Training (Toolbox Talk)

PENALTIES

Offences against protected species can lead to fines of up to £5,000 per offence and potentially prison sentences of up to 6 months. Any vehicle/machinery used to commit an offence may be forfeited. Both the company and/or individuals may be held liable.

- ✓ Your responsibilities in relation to working in the vicinity of protected species.
- ✓ How to identify protected species, such as great crested newts and other wildlife.
- ✓ How to contact the Project Ecologist.
- ✓ Reasonable Avoidance Measures that you are required to follow in order to avoid adverse impacts to protected species and sensitive habitats.

What to do if you find protected species during your works



- ✓ **STOP work** and contact the Ecologist or site manager
- ✓ **Do not** risk continuing operations and injuring or killing protected species

- ✓ **Do not** try and catch protected species and move them out the way
- ✓ **Do** wait for advice from the Ecologist before continuing

Commitment to Reasonable Avoidance Measures

The following members of the project team have attended the Toolbox Talk and commit to implementing the safe working practices that were described during the talk and outlined above.

Full Name (Print)	Company	Signature	Date

Site Ecologists

BSG Ecology (Katy Stiles)

Tel.: 01433 651 869 07968 421 886



Great crested newt



Great crested newt



Smooth newt



Common toad



Common frog

Appendix 4: Suggested hibernaculum design (Natural England)

therefore be developed by an experienced pond ecologist, rather than a general environmental consultant or a landscape architect with little knowledge in this field.

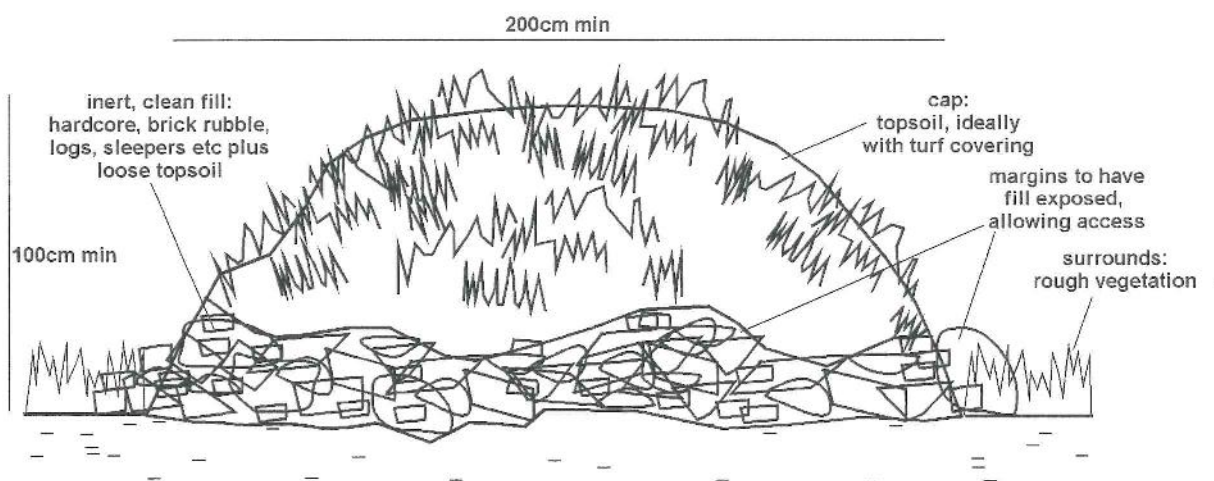
8.3.2 Terrestrial habitats

The area up to around 500m surrounding a mitigation pond should be considered as potential newt habitat, depending on the site layout. Scrub, woodland, hedgerows, banks and ditches, leaf litter, rough grassland, bare ground with fissures, disturbed ground, and pasture are frequently encountered great crested newt habitats which might be created, restored or enhanced as part of mitigation. Again, the aim should be to replace what has been lost and where possible enhance it.

Large piles of rubble, rock, log piles and earth banks (with plenty of mammal burrows and ground fissures present) make good hibernation and refuge sites. These features may be located in sheltered areas which are neither too dry nor prone to winter flooding or freezing (eg in frost hollows). On free-draining soils, these may be located below ground level by excavating a pit or trench, then infilling with a mixture of topsoil and rubble, sleepers, logs, etc. Some of the largest great crested newt populations in Britain occur within old brickworks sites, which usually provide a good range of these type of habitats. For ideas on the design and construction of suitable hibernacula, see [Figure 3: Suggested hibernaculum design](#). Smaller refuges for daytime shelter may also be provided, though on sites which will be heavily used by the public these may not be appropriate unless they are well secured. Great crested newts are known to spend a considerable proportion of their terrestrial phase either underground or just above ground under refuge sites, so it is important that this aspect is addressed in mitigation plans.

Figure 3: Suggested hibernaculum design

This design mimics artificial and natural conditions in which great crested newts have frequently been found over-wintering. Dimensions should not be below 2m length x 1m width x 1m height. The illustrated design would be suitable for locating on an impermeable substrate. On free-draining substrates, the design is largely similar but the bulk of the fill is sited in an excavated depression in the ground. Hibernacula should ideally be positioned across a site, both close to and distant from breeding ponds, always in suitable terrestrial habitat and above the flood-line.



Translocation of newts into terrestrial habitats should be delayed where time is required for maturation from the point of creation or restoration; this may be a year or more depending on soils, vegetation