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Report prepared for: Alistar Seabright

For the Site of: The Old Rectory, 1 Church Street, Little Gransden, Sandy, SG19 3DU

Version:	Written by:	Checked by:	Final:
Draft			
Final	Sarah Kennard 15/09/2023	Jo Gregory 21/09/2023	Sarah Kennard 22/09/2023

Cherryfield Ecology has prepared this report for the named clients use only.

Ecological reports are limited in shelf life, Natural England usually expect reports for licenses to be no more than 12 months old and therefore should the project not proceed within 12 months of this report an updated survey should be undertaken in order to check for changes that may have occurred on site. Information is believed to be accurate at the time of survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

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Construction Environmental Management Plan: Biodiversity

1.0 Introduction

The resulting management plan is based on general good practice.

An outline planning application has been approved in respect of proposals to develop an area of land at The Old Rectory, 1 Church Street, Little Gransden, Sandy, SG19 3DU. The proposals for the site relate to the construction of a new swimming pool and replacement of an existing outbuilding. An initial EA survey was undertaken by Greenwillows Associates Ltd in 2022 (Greenwillows Associates, 2022). Follow up emergence bat surveys were undertaken in 2023 by Cherryfield Ecology (Cherryfield, 2023).

The proposals have been granted permission under 23/02292/HFUL subject to conditions. This report has been undertaken in order to satisfy the following condition:

No development shall commence (including demolition, ground works, vegetation clearance) until a Construction Ecological Management Plan (CEcMP) has been submitted to and approved in writing by the local planning authority. The CEcMP shall include the following. a) Risk assessment of potentially damaging construction activities. b) Identification of biodiversity protection zones. c) Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements). d) The location and timings of sensitive works to avoid harm to biodiversity features. e) The times during construction when specialist ecologists need to be present on site to oversee works. f) Responsible persons and lines of communication. g) The role and responsibilities on site of an ecological clerk of works (ECoW) or similarly competent person. h) Use of protective fences, exclusion barriers and warning signs if applicable. The approved CEcMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details.

Reason: To ensure that before any development commences appropriate construction ecological management plan has been agreed to fully conserve and enhance ecological interests in accordance with Policies HQ/1 and NH/4 of the South Cambridgeshire Local Plan 2018.

2.0 The Development Works

2.1 Works

The proposed works are for the construction of a new swimming pool and replacement of existing outbuilding. The site consists of modified grassland, introduced shrub, hedgerow, hardstanding, scattered trees and a pond. Trees including Apple and Yew species and are intended to be removed to facilitate the works. The existing pool which is currently drained is to be filled in to create a sunken garden. Existing outbuildings and wooden shed are to be removed.

An existing layout of the site can be found below (Figure 1). The proposed site layout and design can be found in Figure 2.

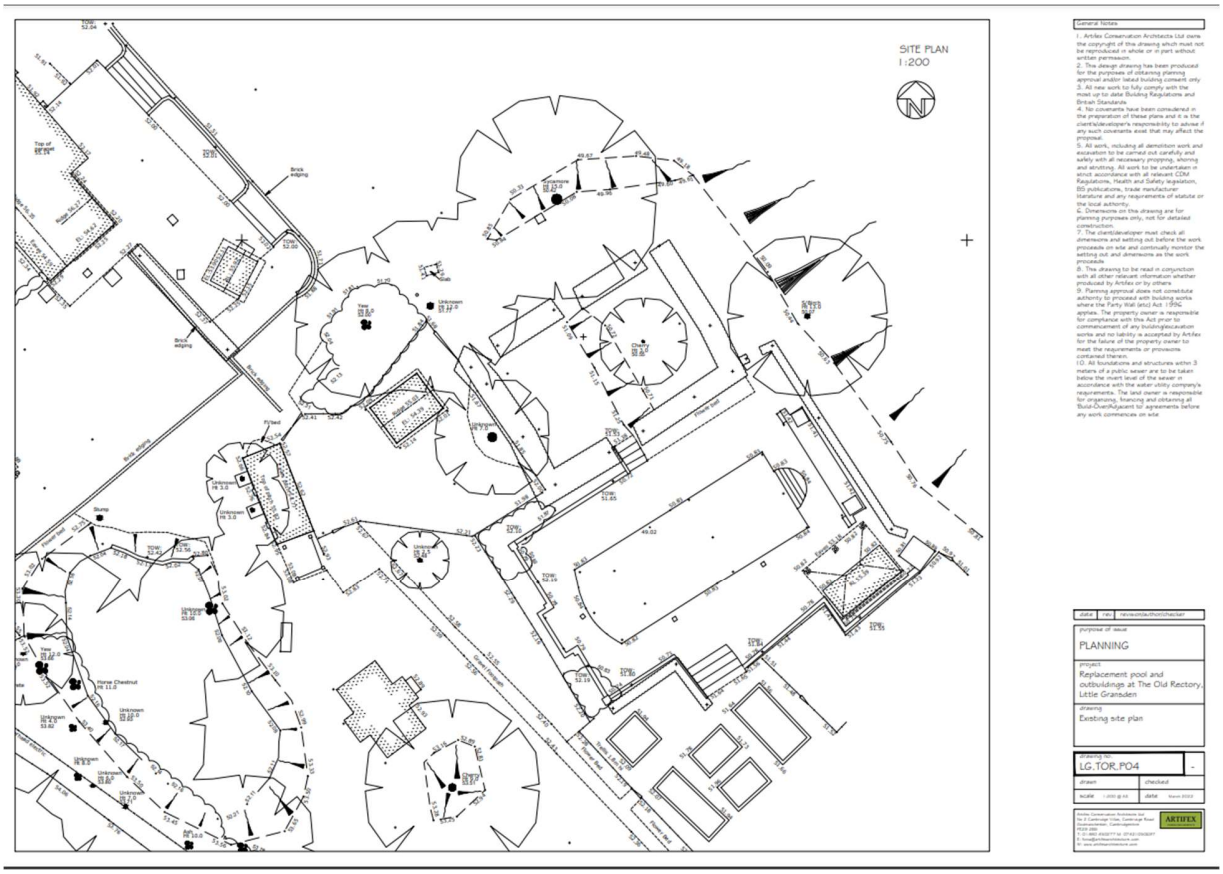

Figure 1: Current Site Plan.

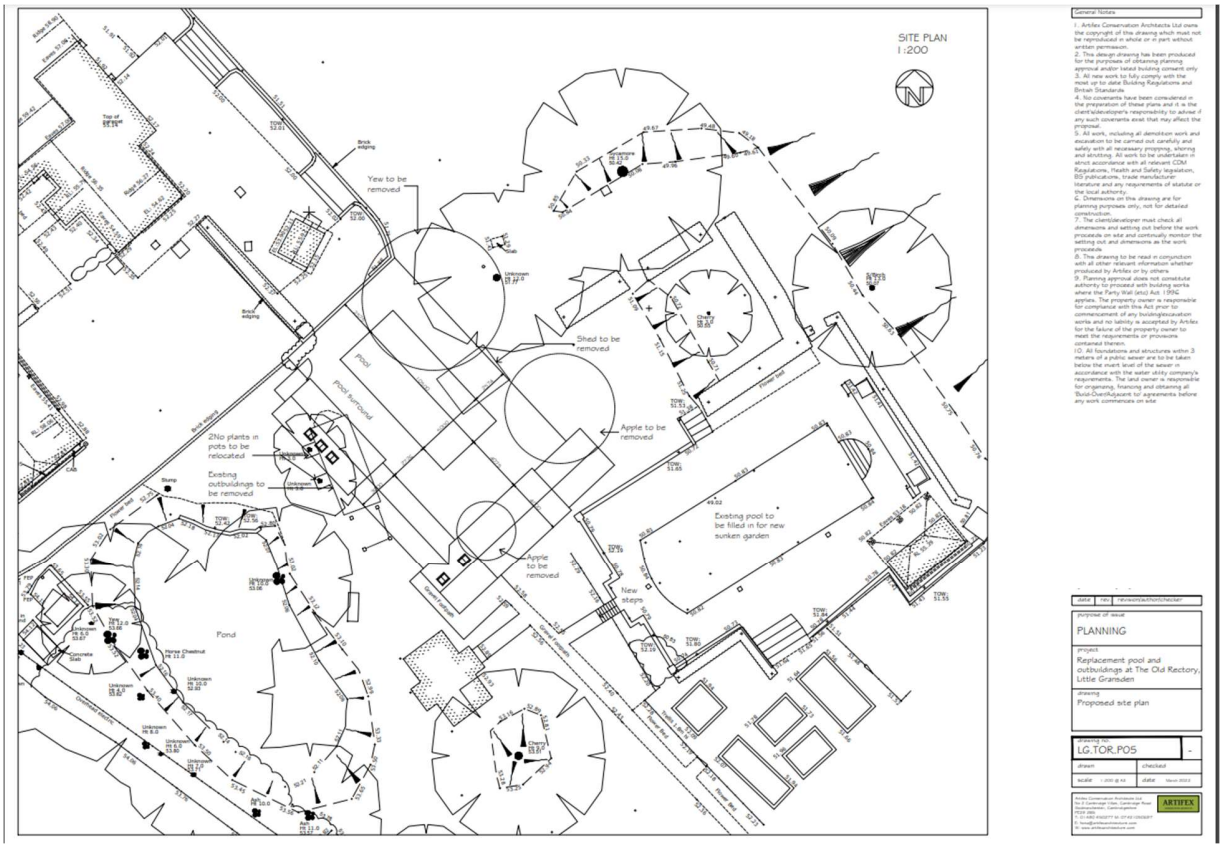

Figure 2: Proposed Layout (Artifex, 2021).

2.2 EA and additional survey results

The site consists of modified grassland, introduced shrubs, hardstanding, hedgerow and scattered trees, buildings, and a pond (Figure 3) (Greenwillows Associates, 2022).

A singular tree and building on site were identified to have moderate potential roosting features for bats; the site provides suitable habitat for foraging and commuting bats due to the assemblage of habitats present within the site and suitable adjacent landscape. Follow up emergence surveys undertaken by Cherryfield Ecology in 2023 found no bats emerging (Cherryfield, 2023).

There is a low potential for badgers to be using the site due to the site comprising predominantly of hardstanding and modified grassland with limited resources for badger. The adjacent landscape and boundary features provide suitable habitat for badger. A badger latrine was identified within the woodland adjacent to the site therefore there is a confirmed presence of badger within the area. Therefore, commuting, and foraging badger may be present within the site due to the presence of fruit trees such as Apple.

There is suitable nesting habitat to support breeding birds within the hedgerow, trees, shrubs and buildings on site.

The base of the hedgerow and shrubs provide suitable terrestrial habitat for Great Crested Newt, with aquatic habitat found in the form of a pond located within the site, 5m south-west of the development area. This was dry at the time of the survey; however it is not usually dry. A Habitat Suitability Index Assessment was undertaken, and the pond was identified as having excellent habitat suitability for Great Crested Newt (0.81). The site is located in an Amber risk zone for Great Crested Newt under Natural England District Level License scheme.

The base of the hedgerow and shrubs provide suitable habitat for reptiles. Suitable refuge habitat including wood piles present within the site. The managed garden provides suboptimal habitat for reptiles due to the low sward height of the grassland. The site is deemed to have a low potential for reptiles to be present.

The site provides suitable habitat for Hedgehog to be present within the hedgerow and shrubs.

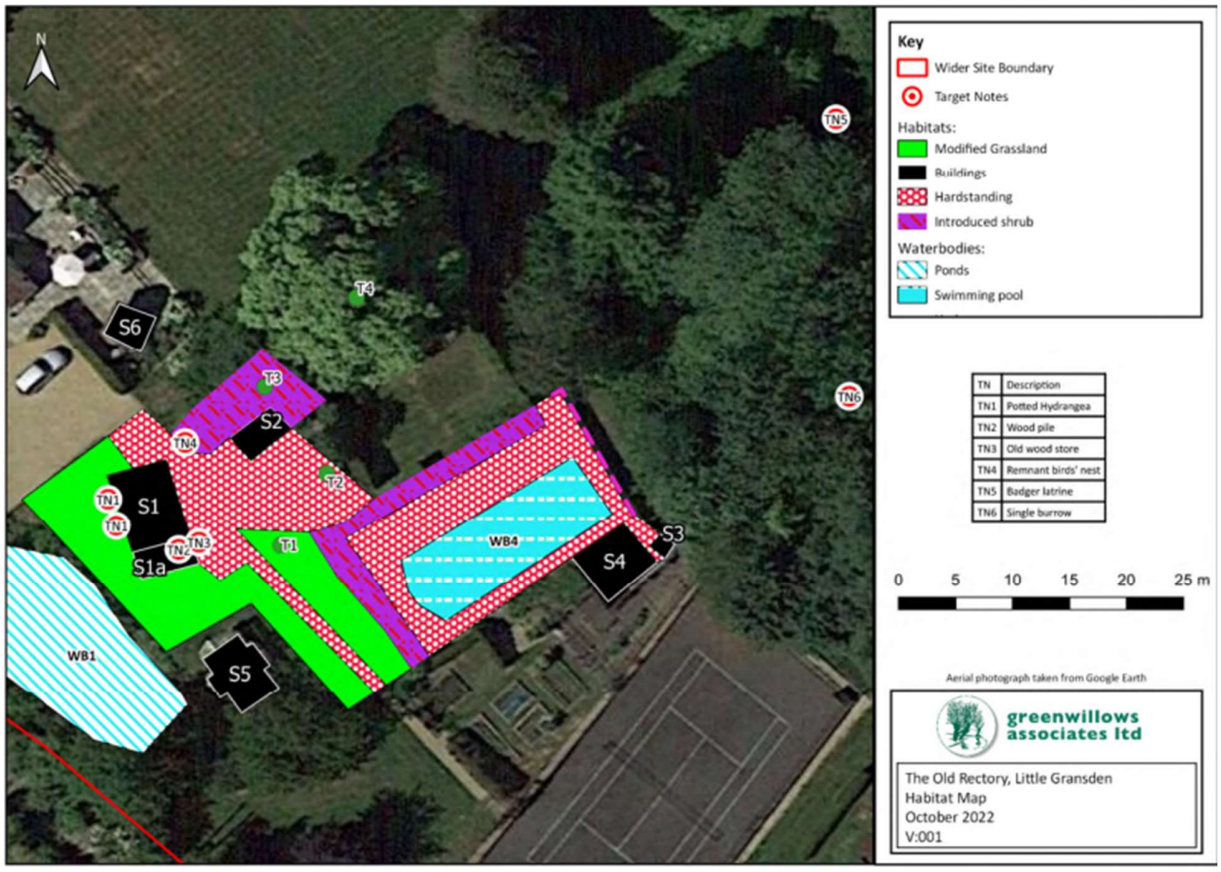

Figure 3- Site Plan (Greenwillows Associates, 2022).

3.0 Construction Environmental Management Plan

Please refer to Figure 12 in the appendix for biodiversity protection zones and Figures 10 & 11 for locations of proposed enhancements and screening barrier locations. In addition, any mitigation outlined in the GCN DLL scheme for the site must also be adhered to.

Table 1: Risk assessment.

Risk	Risk Avoidance
Dust pollution	During the proposed works screening barriers will be used to mitigate any effects from potential dust pollution on the pond which is present within the site. Once works are complete these screening barriers can be removed. Additionally, to ensure the bordering stream is not contained through any substances used on site COSHH guidelines must be followed at all times.
Noise and vibration disturbance	The contractor must brief all staff on the requirements to minimise disturbance from noise. Mitigate noise using best construction practice including: • Control of noise at the source by appropriate selection of plant/equipment. Regularly service plant and machinery in accordance with manufacturer's recommendations. Any defects are to be reported immediately to site management so that repair/maintenance can be arranged. • Careful siting/orientation of plant/equipment. • Fit white noise systems to vehicles to reduce noise nuisance whilst reversing. Minimise reversing where possible. • Keep engine compartment doors closed. • Turn off plant/vehicles when not in use and remove keys.

	• Restrict site working hours to 0800 hours – 1800 hours on Monday-Friday, and 0800 hours – 1300 hours Saturdays only and at no times on Sundays, Bank Holidays or Public Holidays. Register with and where possible use sub-contractors registered with the Considerate Constructor's Scheme.
Oil, fuel and chemical spills	All substances harmful to both humans and wildlife i.e., oil, fuel etc must be stored in line with COSHH guidelines at all times.
Ground works e.g., footings, open trenches etc.	Precautions will be taken during construction to ensure that no trenches or other excavations are left open overnight. If this is unavoidable, ramps (e.g. scaffold planks) should be positioned at an angle to allow any wildlife (such as GCN and Hedgehog) that may fall into the excavations to escape.
Site clearance	In relation to the removal of any trees found on site, this should take place outside the main nesting season (March to August, inclusive). If this is not possible, then a qualified ecologist must be on site to ensure the trees are not occupied by breeding birds, prior to removal. Should an occupied nest be found, a suitable buffer zone (usually 5m) would need to be created until the young have fledged and the nest is no longer in use. If any shrub is to be removed, this should take place outside of the GCN and reptile hibernation period (November to February) and be under the supervision of a suitably qualified ecologist via a destructive search. All vegetation that is to be retained should be safeguarded during the works. Refuge features should be avoided and left in situ during any works undertaken during the hibernation period for Great Crested Newt and reptiles (November to February).
General storage of materials	Loading and unloading of plant and materials shall take place only within the boundaries of the construction site. Loading and storage areas will be created on site allowing sufficient area for the requirements of the project. All materials should be stored off the ground on hard standing where possible and secured in suitable containers as and when possible.

Lighting	Any lighting near or shining onto any trees or buildings, especially those with bat boxes on or commuting routes shown to be present within the emergence report, will be designed to minimise the impact it has on potential bat roosting and commuting (Cherryfield Ecology, 2023). Lighting will be in line with the BCT lighting guidelines (Bats and Artificial Lighting at Night (Bat Conservation Trust, 2023) https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting This lighting where possible will be of low level, be on downward deflectors and be on PIR sensors. Using LED directional lighting can also be a way of minimising the light spill affecting the habitat. No up-lighting should be used. Light spill must be minimized to as low a lux as possible. This is because moonlight is 0.3lux, any lighting currently present on site will exceed this, thus making it impossible to achieve a lux on site of less than 1lux. This will ensure that the roosting and commuting resources that the bats are likely to be using are maintained.

Table 2: Schedule and responsible parties for Construction Environmental Management prescriptions

Work activity and timings	Responsible parties
Removal of any shrub and habitat with hibernaculum potential for reptiles and amphibians is to be undertaken between March to October to ensure that the GCN and reptile hibernation period is avoided.	The removal of said feature will be done by an appointed landscaping contractor under the supervision of an ecologist.
Removal of any tree on site should be done outside of the bird breeding season of March to August. If this is unavoidable, then a qualified ecologist will be present on site to ensure the trees and shrubs to be removed, are not occupied by breeding birds, prior to felling. Should an occupied nest be	The removal of said features will be done by an appointed landscaping contractor under the supervision of an ecologist

found, a buffer zone would need to be created until the nest is no longer in use.	

Table 3: Specification for Enhancements

Work	Specification
General Information **Including:** **Specification, Location, Timing, Implementation Programme, Maintenance, and Monitoring.**	• The owner is responsible for installing and maintaining all boxes and other measures. Advice should be sought from an Ecologist prior to installation, or any maintenance work being undertaken. • All bat boxes and measures based in the surrounds will be installed when the final landscaping is undertaken or when works are complete on the building. • Boxes will not require monitoring in this case; the woodcrete boxes have been chosen for their longevity.
Lighting	Lighting will be in line with the bats and lighting guidelines, thus protecting commuting and foraging routes. Lighting should be in line with the BCT lighting guidelines (Bat Conservation Trust, 2023) *https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/* This lighting should be of low level, be on downward deflectors and ideally be on PIR sensors. Using LED directional lighting can also be a way of minimizing the light spill affecting the habitat. No up-lighting should be used. This will ensure that any roosting and commuting resources that the bats are likely to be using is maintained.

Enhancement	Bat Enhancement
(all boxes included in this section must be of a woodcrete type as detailed, meaning little to no maintenance is required)	As the proposed building is approximately 3.7m tall, it would be considered suboptimal to install bat tubes and bat boxes onto the new outbuilding. **Two** bat boxes will be externally mounted onto suitable locations on site such as remaining mature trees or the existing residential dwelling (Figure 4). These will be no less than 3m above ground level and face south/southwesterly. These boxes are known to be used by crevice and void dwelling species. The boxes should be placed away from any neighbouring ledge to prevent local cats predating on bats using the boxes. *No maintenance is required.* Commuting bats were observed using the grounds and surrounds during emergence surveys; therefore, any hedges or linear feature should be retained where possible (Cherryfield Ecology, 2023).  Figure 4: Example of Bat Box (Schweglar 2FF).

Enhancements for Breeding Birds

Bird boxes provide excellent, safe opportunities for species which may be present in the area. They are frequently used and therefore provide significant benefits to the bird assemblage.

Bird boxes for a variety of different species can also be installed. These should be placed at a minimum height of 2 metres and will be placed to face between north and east. **One** open-fronted bird boxes (Figure 5), and **one** songbird boxes (Figure 6) are recommended.

Figure 5: Robin box

Figure 6: Songbird box.

	Enhancement for Invertebrates **Two** pre-made insect boxes or **two** self-made bug hotels are recommended to be installed on site, these can be purchased online as seen in the examples below (Figure 7 and Figure 8) or can be self-constructed as detailed below. Some insects will require cool and damp conditions so should be placed in a shaded area beneath trees, whilst others prefer sunny conditions and should therefore be situated in a south-facing location. Planting nectar rich plants (see below for suggested examples of vegetation) will provide food sources for bees and butterflies (The Wildlife Trusts, 2022). These should be located throughout the biodiversity protection zones if possible.  Figure 7: Bug biome, ideal for ladybirds, lacewings and bees

Figure 8: Urban bee nesting box, used for solitary bees and wasps.

Enhancements for Reptiles and Amphibians

Log and brash piles can enhance the existing habitat by providing cover for reptiles, as well as enhancing prey availability. Also, including reptile hibernacula and basking banks into development plans will enhance the habitat for reptiles. (Edgar et al., 2010).

Two reptile and amphibian hibernacula will be included into the plans. These can be placed within the biodiversity protection zones.

Hibernacula (Figure 9) are underground chambers that amphibians and reptiles use throughout the winter to protect themselves from the cold, during summer these are often used as basking banks for warming up. The following information has been adapted from https://www.wildlifetrusts.org/actions/how-build-hibernaculum-amphibians-and-reptiles.

How to make your hibernaculum (The Wildlife Trusts, 2020):

- In a sunny spot, install option A (Figure 9)
- Fill with logs, branches, bricks and rocks, leaving plenty of gaps in between.
- Insert entrance tubes (drainpipes) at ground level into the hole.
- Cover the pile with soil (to about 50cm high).
- Plant meadow seeds or long grasses over the mound to create a feast for summer pollinators.

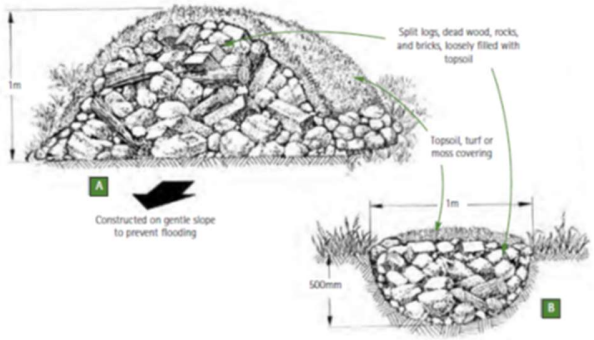

Figure 9: Hibernaculum

Enhancements for Hedgehogs

Hedgehog houses can be installed on site, with **one** house recommended. Hedgehog homes can be bought or can be made (see information on the Wildlife Trust or RSPB website on how to construct a hedgehog house). The following information is adapted from https://www.rspb.org.uk/get-involved/activities/nature-on-your-doorstep/garden-activities/build-a-hedgehog-house/

- Making a house:

- The simple structure should consist of a larger wooden compartment with a small entrance tunnel to protect hedgehogs from predators.
- Install a narrow drainpipe to the rear for ventilation.
- Screw the roof of the box so it can be removed if necessary at a later date for cleaning and maintenance.

- Install houses in quiet and shaded areas of the site and the entrance tunnel should be placed out of the wind.
- Cover the house with leaves, twigs and vegetation and fill the chamber section, place a layer of dead, dry leaves. Hedgehogs prefer small leaves such as birch, oak, hawthorn or hazel. Ensure the entrance tunnel and ventilation tube are clear.
- It is recommended to clear out the hedgehog house every 1-2 years.
  - This can be done in April, when they have finished hibernating but before they start producing hoglets.
  - October is the ideal time is before they go into hibernation and after most of the litter have been weaned.

Vegetation in the Proposed Biodiversity Protection Areas

Border plants that will attract insects, including butterflies and bumblebees. These include a mix of native and garden plants that are known to provide insects with a food source, thus providing a food-web for larger animals:

The following is a list taken from the planting schedules:

Flowers for borders –

*Aubretia (spring to early summer) *Aubretia sp.*

	*Candytuft (summer to autumn) *Iberis sp.* *Cherry pie (summer to autumn) *Heliotropium arborescens* Corncockle *Agrostemma githago* Cornflower *Centaurea cyanus* Corn marigold *Glebionis segetum* Corn poppy *Papaver rhoeas* *Echinacea *Echinaceasp.* English Bluebell (spring) *Hyacinthoides non-scripta* *Evening primrose (summer to autumn) *Oenothera biennis* *Honesty (spring) *Lunaria annua* *Ice plant 'Pink lady' (early autumn) *Delosperma sutherlandii* Knapweed (summer to autumn) *Centaurea sp.* Mallow (summer to autumn) *Malva sp.* *Mexican aster (summer to autumn) *Cosmos bipinnatus* *Michaelmas daisy (summer to autumn) *Aster amellus* *Night-scented stock (summer) *Matthiola longipetala* Ox-eye daisy (summer) *Leucanthemum vulgare* *Phacelia (summer to autumn) *Phacelia tanacetifolia* *Poached egg plant (summer) *Limnanthes douglasii* Primrose (spring) *Primula vulgaris* Red campion (spring) *Silene dioica*

	*Red valerian (summer to autumn) *Centranthus ruber* Scabious (summer) *Scabiosa sp.* St John's wort (spring) *Hypericum perforatum* *Sweet William (summer) *Dianthus barbatus* *Tobacco plant *Nicotiana sp.* *Verbena (summer to autumn) *Verbena officinalis* *Wallflowers (spring to early summer) *Erysimum sp.* Wood forget-me-not (spring) *Myosotis sylvatica* Yarrow (early summer) *Achillea millefolium* Plants marked * are hybrids or exotics that may be useful in the garden Herbs – Hyssop (summer to early autumn) *Hyssopus officinalis* Lavender *Lavandula sp.* Lemon balm *Melissa officinalis* Marjoram (summer) *Origanum majorana* Rosemary (spring) *Salvia rosmarinus* Sweet Cicely (spring to early summer) *Myrrhis odorata* Thyme (summer) *Thymus sp.* Angelica (summer to early autumn) *Angelica sp.* Bergamot (summer to early autumn) *Citrus bergamia* Borage (spring to early autumn) *Borago officinalis*

	Coriander (summer) *Coriandrum sativum* English marigolds (summer to early autumn) *Calendula officinalis* Fennel *Foeniculum vulgare* Feverfew (summer to autumn) *Tanacetum parthenium* Trees, shrubs & climbers – Bramble (climber) *Rubus fruticose agg.* *Buddleia (shrub) *Buddleja davidii* Common alder (suitable for coppicing) *Alnus glutinosa* Dog rose (climber) *Rosa canina* Elder (small) *Sambuca nigra* English oak (large gardens only) *Quercus robur* Gorse (shrub) *Ulex europeaus* Guelder rose (shrub) *Viburnum opulus* Hawthorn (suitable for coppicing) *Crataegus monogyna* Hazel (suitable for coppicing) *Corylus avellana* Honeysuckle (native honeysuckle) *Lonicera periclymenum* Hornbeam *Carpinus betulus* Ivy (climber) *Hedera helix* *Jasmine (night-scented) *Jasminum sp.* Pussy willow (suitable for coppicing) *Salix sp.* Rowan *Sorbus subg. Sorbus*

	Silver birch *Betula pendula* All plants that are native or wildlife friendly above should be sourced from a stockist of native and local origin plants. Wild Seed (2022) can provide details of local, native sourced plants and seeds. ***Plants marked * are native or wildlife friendly***
Hedgerows	Hedgerows provide excellent corridors for wildlife and are extremely important to many species of wildlife. Due to the presence of a hedgerow bordering the site, and to enhance the habitat for fauna species such as Hedgehog and connectivity around the site, any gaps within the hedgerow should be planted with native species identified below: Common Hawthorn *Crataegus monogyna* Blackthorn *Prunus spinosa* Elder *Sambuca nigra* Dogrose *Rosa canina* Bramble *Rubus fruticose agg* Hazel *Corylus avellana.*

5.0 References

Cherryfield Ecology (2023), Emergence Report

Edgar, P., Foster, J. & Baker J. (2010), Reptile Habitat Management Book, Amphibian & Reptile Conservation

Emery, M. (1986), Creation of Habitats, Promoting Nature in Cities & Towns: A Practical Guide, The Ecological Parks Trust

Gardener's World (2020), https://www.gardenersworld.com Accessed 21/01/2022.

Greenwillow Associates Ltd (2022) Preliminary Ecological Appraisal Report

Artifex, (2021), Proposed site drawings

Wild Seed (2022) https://wildseed.co.uk Accessed 21/01/2022.

6.0 Appendix I

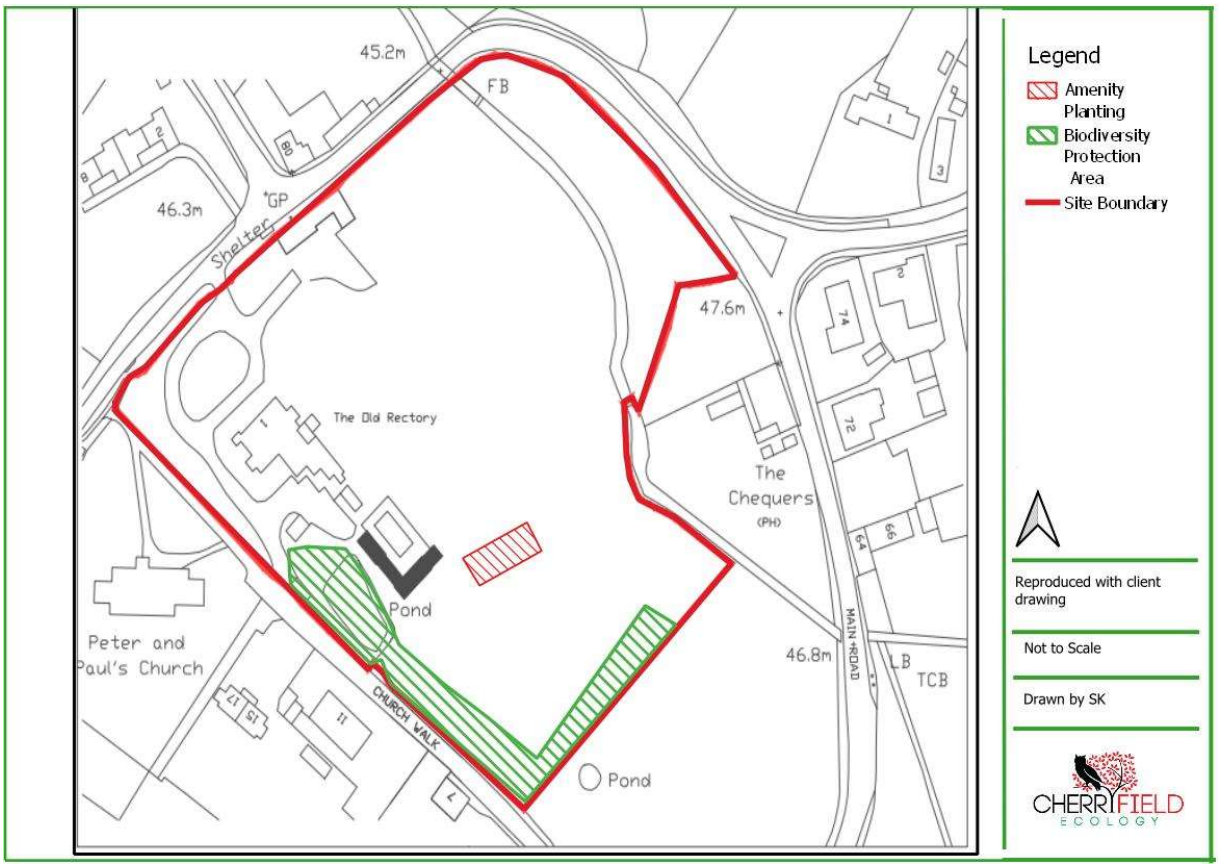

Figure 10: Biodiversity Protection Zone location map.

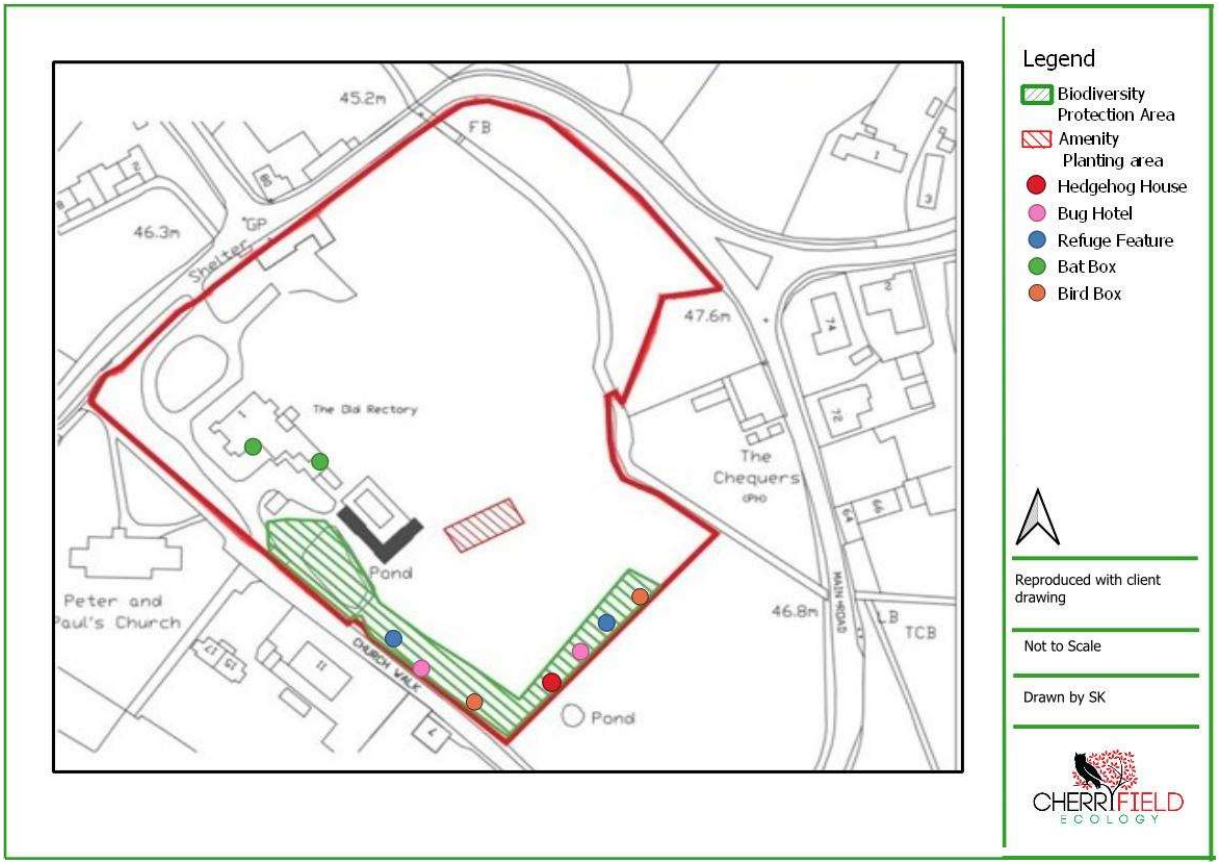

Figure 11: Proposed location of enhancements.

(The location of bat boxes may be altered as the location of suitable trees and the design of the existing dwelling is unknown. Therefore, it is not possible to accurately propose a suitable location for bat boxes).