

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

Construction Environment Management Plan: Biodiversity

Breckey Ley, Old Town Lane, Nowton, Suffolk
IP29 5LT.



Anglian Ecology: Protected Species & Habitat Surveys

www.anglianecology.co.uk

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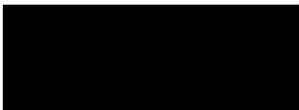
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CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

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The information that I have prepared and provided is true and has been prepared in accordance with the guidance of my professional institutes. I therefore confirm that the opinions expressed are my true and professional opinions.

Sue Morgan CEnv, CEcol, Senior Ecologist, Anglian Ecology.



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1 Introduction

1.1 Purpose of CEMP

Anglian Ecology has been commissioned by Mr. Graham Snudden (Owner), to produce a Construction Environment Management Plan (CEMP) for the protection of biodiversity and ecological features during a three phased construction process at Breckey Ley, Nowton, Suffolk.

This CEMP refers exclusively to biodiversity and ecological features and specifics of other aspects such as noise, lighting, traffic movements, and air quality, enhancements, and bat mitigation are not within the remit of this report. A lighting scheme to cover both the construction/ demolition processes has been prepared in consultation with a qualified bat ecologist and will be provided in a separate document.

Broadly, the three- stage proposals involve: The erection of a 'Workshop' building: a timber frame, single story garage and associated brick storage room, approx. 16.6 x 4.8 m; the demolition of an existing Victorian Dower House, and the erection of new two storey, timber frame, dwelling approx. 25 x 25 m.

For full details of the site proposals and associated landscaping please see the accompanying architect and landscaping plans.

This CEMP is designed to ensure the protection and ongoing ecological viability of species utilising the site both during and after works, and to ensure the protection of valuable habitat. Where 100% retention of habitat is not possible, the aim is to ensure appropriate mitigation and compensation.

The CEMP promotes biodiversity net gain and provides baseline information for enhancement measures giving species-specific details within the appendix to support landscaping proposals also submitted with this document.

The information plans/ documents supplied at the time of writing include:

1 23.01-PR-01 Breckey Ley Workshop Programme P06, Fenella Snudden, 30/10/2023,

Breckey Ley, CEMP Data, G. Snudden, 01/11/2023.

Proposed Landscape Plan, Niall McLaughlin Architects, Reference: 2015-PL-095, Revision: B, Date of first issue: 07.01.2022.

Breckey Ley, Diagram - Infiltration Tanks overlaid on Landscape Plan, Niall McLaughlin Architects, Ref: 2015-PL-082, Revision A, Date of first issue: 20.01.23.

Breckey Ley, Diagram - Infiltration Tanks overlaid on Proposed Site, Niall McLaughlin Architects, Ref: 2015-PL-083, Revision: A, Date of first issue: 20.01.2023.

Breckey Ley, Proposed South & East Outbuildings Elevation, Niall McLaughlin Architects, Ref: 2015-PL-204, Revision: A, Date of first issue: 25.03.2022.

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Breckey Ley, Proposed South Orangery Elevation, Niall McLaughlin Architects, Ref: 2015-PL-205, Revision: A, Date of first issue: 25.03.2022.

Breckey Ley, Incoming Services Layout, Skelly and Couch, Project 1517, Drwg No: 401, Ref: S2 For information, Rev: P3, Date: March 2022.

Breckey Ley, Proposed Trees, Luke Heydon Gardens, Drawing No: 001 Trees 05/11/23.

Breckey Ley, Proposed Wildlife Pond, Luke Heydon Gardens, Drawing No: 001 Pond, 02/11/23.

Breckey Ley, Proposed Garden Lights, Luke Heydon Gardens, Drawing No: 001 Lights, 06/11/23.

1517 – Breckey Ley, External Lighting Report, Skelly & Couch Ltd, Rev 2.0 / 14/01/2022.

Breckey Ley Workshop, Drwg No's 23.01-DR-10 Proposed elevations, 23.01-DR-15 Proposed sections, 23.01-DR-10 Proposed plan.

Recommendations within this report relate to the information provided by the client at the time of writing, any subsequent proposal changes may alter these recommendations and subsequent proposed mitigation or enhancement measures.

1.2 Application Ref: Application No: DC/22/0105/FUL

Proposal: Planning Application - a. single dwelling, b. demolition of the Dower House, c. single storey workshop with covered parking, d. orangery, e. new landscaping including tree planting, driveway, two natural ponds and infilling a disused outdoor pool, f. alterations to the residential curtilage.

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1.3 Site location

Grid Ref: TL 86332 6234635534 48198.

Address: Breckey Ley, Old Town Lane, Nowton, Suffolk IP29 5LT.

Location is marked by the red arrow on the map below.



1.4 Ecological findings and background

The following surveys have been undertaken on this site:

Ecological Appraisal, Aspect Ecology, 2021.

Bat scoping Survey, Breckey Ley, Nowton, Suffolk, Anglian Ecology, July 2021.

Report on Bat Activity Surveys, Breckey Ley, Nowton, Suffolk, August 2021.

Breckey Ley, Bury St Edmunds, Ecological Appraisal, Aspect Ecology, Project Number: ECO-6173

Date: 03/12/2021.

Land off Nowton Road, Baseline Tree Survey BS5837:2012, - RAVEN Veteran Tree Identification. *FLAC Instruction ref:* CC41-1007, March 2021.

Landscape and Visual Appraisal, Breckey Ley, Bury St Edmunds, Bidwell's, January 2023.

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The site lies to the southeastern outskirts of Bury St Edmunds, Suffolk, approximately 1.9 km from the city centre, within the parish of Nowton, a small village to the south. It is accessed via a private driveway west off Nowton Road.

It lies within Natural England Area Profile 50 -East Anglian Plain and is within National Character Area 86: 'South Suffolk and North Essex Clayland' and within Suffolk County Council Landscape typology area¹ 24: 'Undulating Estate Farmlands.'

This area is defined by its undulating arable landscape with parklands, plantations, and ancient woodland. Within Suffolk this landscape character type stretches from Sicklesmere, on the south side of Bury St Edmunds, westward through Ickworth and Lidgate to the Cambridgeshire border and then southwards to the outskirts of Haverhill and Clare. There is a strong estate character throughout. In post-medieval times important landscape parks were established at Nowton, Ickworth, Saxham, Dalham and Branches Park in Cowlinge.

The tree cover is a mix based around oak (*Quercus robur*), ash (*Fraxinus excelsior*), and field maple (*Acer campestre*). However, the influence of estates and their ornamental planting is pervasive; sycamore (*Acer pseudoplatanus*), beech (*Fagus sylvaticus*), larch (*Larix decidua*), and conifers all recur throughout the landscape.

The Landscape Typology has been defined by MAGIC² as being 'RCA': Intermediate/Clayland/Wooded/ancient woods. This landscape has rolling/undulating areas, below 1000 ft. It is a heavy, often poorly draining land associated with base-rich, clayey, and loamy soils developed on soft (Mesozoic & Tertiary) clay and chalky till. Seasonal waterlogging is the main constraint to agricultural production although utilized extensively for cereal growing in Eastern England.

It is a settled agricultural landscape (dispersed or nucleated settlement), characterised by an assorted pattern of ancient woodlands which pre-date the surrounding enclosure pattern, in places associated with densely scattered hedgerow trees, typically oak.

The site itself is not subject to any statutory or non-statutory ecological designations. The nearest statutory designation is Moreton Hall Community Woods LNR located approximately 1.5 km to the north of the site. All the ecological designations in the surrounding area are physically well separated from the site and therefore would not be adversely affected by the proposals.

The site is located within an Impact Risk Zone in relation to Breckland Farmland SSSI, part of Breckland Special Protection Area (SPA), meaning that Natural England should be consulted in respect of the proposals.

¹ The Suffolk Landscape Character Assessment was carried out jointly by all the District Councils and the County Council and was written by Phil Watson, Landscape Officer Suffolk County Council, in June 2011.

² MAGIC: Multi-Agency Geographical Information for the Countryside <https://magic.defra.gov.uk/magicmap.aspx>

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- The nearest Priority Habitat is Deciduous Woodland (on site). The site lies within the SSSI Impact Zones³ 5 of Horringer Court Caves, 2.3 km to the northwest, and The Glen Chalk Caves 2.2 km to the north, both of which are nationally important bat hibernacula sites.
- The area of the proposed works comprises buildings, hardstanding and amenity grassland and associated planting. A wide range of other, more valuable habitats exist in the local area including woodland and grassland habitats. Features of ecological importance include hedgerows, woodland, and parkland, which are of local to district level value. These features will not be unduly adversely affected by the proposals.⁴

1.5 The proposed

- **Phase I:** Single storey workshop with covered parking. This timber frame, single story garage and associated brick storage room will measure approx. 16.6 x 4.8 m. It will have a mixture of larch-clad timber and brick external cavity walls with a plasterboard and skim internal finish, and blockwork internal wall and partition. It will be situated to the north west of the existing Dower House in the current shingled car parking area, (please see photograph below).
- Part of the workshop building package will also involve the erection of an Orangery with reclaimed slate roof, timber cladding, and reclaimed brick wall to the east, to be situated to the south east of the Workshop building. Please see accompanying architects' plans.
- There will be a soakaway drainage route to the north. Please see accompanying architects' plans.
- This area is bordered by mature trees and shrubs all of which would be protected and remain. There will be no external up lighting of the surrounding habitat, and neither construction work nor any associated security measures require permanent lighting (please see Lighting Plan). No trees or shrubs will be removed. No important ecological habitat will be lost or disturbed.

Figure 1 Looking north at the area for proposed new Workshop (left) with Orangery situated to the immediate south east area (right).



³ SSSI Impact Zones: SSSI Impact Risk Zones -to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites.

⁴ Information taken from: Breckey Ley, Bury St Edmunds, Ecological Appraisal, Aspect Ecology, 2021.

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Phase II The demolition of the existing Victorian Dower House. This building was inspected for the presence of bat and breeding bird species⁵ in July 2021.

The survey found no evidence of breeding birds. An examination of the loft spaces found evidence of at least two bat species: brown long-eared bat (*Plecotus auritus*) and *Pipistrellus sp.* 100+ droppings of brown long-eared bat were found in the loft areas of the Dower House, to the northeast, southeast, and southwest gables of the main house roof (predominantly to the southwest and southeast), and 30 + droppings of *Pipistrellus sp* in the large loft area above the extension to the north.

As evidence of bat species was found, further bat activity surveys⁶ were conducted on this site in August 2021. No bats were seen to emerge or re-enter the roof structure of the Dower House on any activity survey. However, bats were recorded on site.

During the activity surveys the following species were recorded and/ or seen by surveyors within the grounds: common pipistrelle (*Pipistrellus pipistrellus*), noctule (*Nyctalus noctula*), unidentified *Myotis sp*, brown long eared bat, serotine (*Eptesicus serotinus*), and Soprano pipistrelle (*Pipistrellus pygmaeus*).

Pipistrelle bats foraged to the fore of the southeast (rear) elevation, flying back and forth over the lawn area and between the bordering trees. From observations on the dawn surveys indications are there is a common pipistrelle roost beyond the site to the northeast.

Brown long-eared bats foraged close to the house on the one dusk survey – feeding among vegetation to the southeast garden area, and one individual was recorded on the second dusk survey.

Both noctule and serotine were recorded in the distance on both dusk and dawn surveys.

Unidentified *Myotis sp* was recorded within the grounds to the south/southwest on the dusk survey. using the wider site and its environs for commuting and foraging.

The recommendations of the Bat Activity Report are detailed in the accompanying Bat Method Statement⁷ document, which details all working methods and timings to allow works to be carried out without an EPS licence.

The surrounding grounds of the Dower House comprise managed and closely mowed improved grassland to the south east. A formal, close-cut beech (*Fagus sylvatica*) hedge runs north-west to south-east within this area, with specimen trees and shrubs including a large Cedar (*Cedrus atlantica*).

⁵ BAT SCOPING SURVEY: Breckey Ley, Nowton, Suffolk, Suffolk, Anglian Ecology, July 2021.

⁶ REPORT ON BAT ACTIVITY SURVEYS: Breckey Ley, Nowton, Suffolk, Suffolk, Anglian Ecology, August 2021.

⁷ BAT METHOD STATEMENT: Works at Breckey ley, Nowton, Suffolk, Anglian Ecology, November 2023.

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Mature trees surround the wider site, and are closer to the east and west elevations, and there are ornamental shrubs in formal borders. To the north west is the shingled parking area with the access driveway to the east.

Figure 2 Photographs taken from the Bat Scoping Survey show the suitability of the Dower House for a potential bat roost, but the roost found was historic. Top: East elevation (left), south elevation (right). Below: West elevation and looking east along north elevation (left) an example of the interior loft space (right).



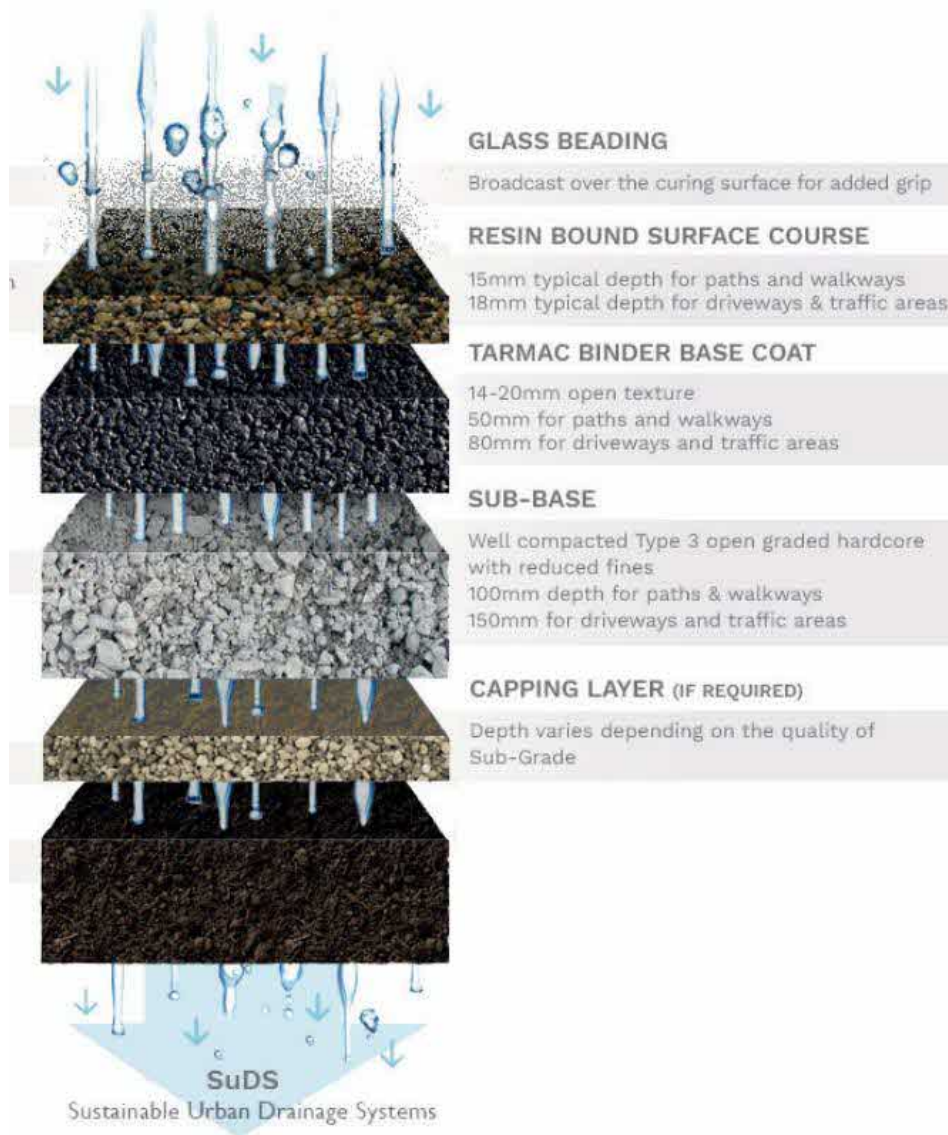
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Phase III Erection of new two storey, timber frame, dwelling, with associated services and landscaping and an Air Source Heat Pump (ASHP), new landscaping, including new tree planting, productive gardens, the infilling of an existing derelict swimming pool situated north of the new house, on the edge of 'The Dell', and the creation of two new ponds on site.

The new dwelling will be situated approximately 50 m south-east of the Dower House within the managed and closely mowed improved grassland area. It will measure approx. 25 x 25 m. It will be a two- storey five-bedroom single family dwelling. It will have a flat roof supported by columns. The exterior walls would be of masonry and glass

The access road would run due south then west compared with the current due west approach. The new access will be constructed of SUDS compliant hoggin or resin bound gravel, please see accompanying architects' indicative cross section reproduced below:

Figure 3 Architects cross section of materials to be used to construct the new proposed access.



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Formal gardens would be laid out to the north-west of the new dwelling. Tree planting is proposed along the new access road with a fruit orchard to the north-east of the site. Please see all accompanying architects and landscape plans.

The Ecological Appraisal conducted by Aspect Ecology in 2021⁸ concluded that the habitat of the proposed area for the erection of the new house:

'...is of low ecological value with the exception of dead wood, edge features and mature trees. The proposed works would occur in grassland areas and loss of this habitat to the proposed works is not a significant adverse effect on ecological resources.'

Aspect Ecology's 2021 Ecological Appraisal also stated:

'Subject to the implementation of appropriate mitigation measures (...) it is not anticipated that any Priority Habitats will be adversely affected by the proposals.'

Figure 4 Looking south (left) and north (right) across the proposed area of the new dwelling.



⁸ Breckey Ley, Bury St Edmunds, Ecological Appraisal, Aspect Ecology, 03/12/2021.

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Services

UKPN will provide new incoming 200A TPN electricity buried supply from Banks Walk HV substation situated to the north, with a trench (minimum depth 450 MM) for incoming electrical LV to the workshop running south west.

There will be a trench for incoming water (min depth 750 MM) running from the north to the new dwelling at the south east, with a 'T off' running south west from this incoming water main to the Workshop building.

This trench is joined by a trench from the north east (minimum depth 350 MM) to provide a new Fibre line in a buried ducted service to the new dwelling. It will become a combined services trench from the workshop to the new dwelling for incoming water, incoming telecoms, LV electricity, and telecoms from the new dwelling to the workshop, and will have associated inspection chambers at each duct change of direction and /or 30 M intervals.

Both the trench for LV electrical and that for incoming water will require access through a wooded area and a requirement to clear some woodland. The LV trench has been designed avoid proximity to the trunk of Category 'A' trees (3022 and 3025 on the Tree survey⁹. Please see Breckey Ley, Incoming Services Layout, Skelly and Couch for details of services layout¹⁰.

Hard Landscaping

The new tear shaped 'Wildlife Pond' to be located to the east of the new dwelling will have a depth of 2000 mm, graded to all aspects with gentle slopes out to grassland to the south, east and west, and a retaining wall to the north. This pond will be stocked with native non-invasive planting. Please see accompanying plans, specifically 'Breckey ley Wildlife Pond'¹¹

The new linear shaped pond located to the north west of the new dwelling will be more architectural in character. Please see accompanying architects' plans.

The infilling of the now derelict swimming pool situated north of the proposed new dwelling on the fringe of the wooded Dell area.

⁹ Land off Nowton Road, Baseline Tree Survey BS837:2012, - RAVEN Veteran Tree Identification. *FLAC Instruction ref:* CC41-1007, March 2021.

¹⁰ Breckey Ley, Incoming Services Layout, Skelly and Couch for details of services layout. Project 1517, Drwg No: 401, Ref: S2 For information, Rev: P3, Date: March 2022.

¹¹ Breckey Ley Wildlife Pond, Luke Heydon Gardens, Drwg No: 001 Pond, date: 02/11/23.

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1.6 Current context

Protected Record search.

No specific records of any protected, rare or notable plant species from within or immediately adjacent to the site were included within the information returned from the Suffolk Biodiversity Information Service in 2021¹².

Several records of Priority Species were returned from the wider area around the site. Of these, only records of Hedgehog (*Erinaceus europaeus*) were located within the site.

However, please note bat records discussed above from Anglian Ecology Bat activity surveys conducted in 2021.

General Comments

The site is currently a well-treed area with no external night lighting. It is likely to be a part of bat commuting/foraging corridors.

Areas of overgrown scrub and tall ruderals are potential nesting and refugia sites for a wide variety of small mammals, amphibians, reptiles, and birds. There are a number of natural refugia sites amidst piles of brash and logs.

The area of proposed works contains some limited invertebrate habitat.

The area of proposed works contains habitat for reptiles and small mammals mainly to the grassy margins, tall ruderal, and wooded fringe.

The wider site area has habitat for many breeding birds, including SPI¹³ and BRed¹⁴ species. There is a remote possibility that ground nesting birds may be present on site, but they are unlikely to be present during the time frame of planned works.

There is habitat for amphibians, reptiles and small mammals among the long vegetation and woodland areas through which service routes may need to be located.

Whilst the main works will not affect woodland habitat, the proposed service routes will at least in parts, be located through these areas.

¹² Aspect Ecology's data search.

¹³ Special Priority Species

¹⁴ Birds placed on the red list are species which: Have declined by more than 50% in the last 25 years, are globally threatened or are not recovering from historical decline, are placed on the red list of Birds of Conservation Concern.

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2 Conditions

2.1 Risk assessment of potentially damaging construction activities.

To summarise, the site proposals could potentially *indirectly or directly* affect the following species to varying degrees:

Bats

invertebrates

Amphibians

Reptiles

Breeding birds

Small mammals.

And will or could affect the following habitats:

Mature and semi-mature trees

Sapling and scrub

Areas of tall ruderals/ semi-improved grassland.

Table 1 below provides a risk assessment of the potential impacts on protected species and habitats that may result from the proposed development.

A suitably qualified ecologist must be appointed to supervise the implementation of this CEMP in an Ecological Clerk of Works (ECoW) role. Further information on this role is given below. As part of the role the ECoW must create a 'Reasonable Avoidance Methodology Statement' (RAMS) the requirements of which all contractors must be made aware of in a Toolbox Talk and must thereafter sign to signify their understanding and commitment to follow.

All recommendations in this CEMP and the Ecological Appraisal by Aspect Ecology¹⁵ must be adhered to during works.

In addition to the above, the Requirements of Anglian Ecology Bat Method Statement (2023) and that of Anglian Ecology's Biodiversity Enhancement Strategy (2023) must also be adhered to.

¹⁵ Breckey Ley, Bury St Edmunds, Ecological Appraisal, Aspect Ecology, 03/12/2021.

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Table 1 Risk Assessment

Receptor	Source of impact	Mitigation During Proposed Works and compensation measures	Risk with Mitigation	Timing of Proposed works
<p>Mature and semi-mature trees</p>	<p>Heavy plant movements Both on the ground and from height. Possible issues: Impaction Root disturbance/ damage Spoil/ storage of materials/ chemicals Removal/ pruning/clearance.</p>	<p>No mature trees are scheduled for removal on this site to facilitate the construction or demolition works, (but please see service routes discussion below), and therefore no inspection of any tree for bat or bird presence has been undertaken. There is no requirement for such inspections unless a tree is planned for removal or pruning or unless timing of works cannot be adhered to.</p> <p>To avoid any potential impact on breeding birds any cut back, or minor tree works must take place outside the breeding bird season, i.e., between February – October.</p> <p><u>All trees</u> within the site area, bordering any proposed working or plant movement location must be given root protection in accordance with BS5837:2012 Trees in relation to design, demolition, and construction which site contractors must follow.</p> <p>All trees on or bordering any external service route must be protected by fencing and RFA as appropriate. This fencing must not encroach into RPA areas to avoid damaging tree roots.</p> <p>If any tree has to be removed to facilitate the laying of service routes, then the tree must be inspected by a licenced bat ecologist for the presence/ absence of bat roosts prior removal. If a bat roost is found, then this tree cannot be removed without a licence of derogation from Natural England.</p> <p>Areas of young trees, tall ruderals and scrub must be hand searched prior to removal by the ECoW before any clearance by mechanical means.</p> <p>Mature trees off site <u>with canopies within the site</u> must be afforded protection under BS5837:2012 as above. No plant movements or storage of materials should take place within the RPA of any tree.</p>	<p>Low</p>	<p>Prior to works, to be checked by EcoW.</p>

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		<p>No tree should be subject to any light spill from the proposed new external lighting. If construction/demolition works require lighting during working hours, then this lighting must be so timed to avoid the hours from 30 minutes before sunset until 30 minutes after sunrise and must be temporary in nature and removed immediately following construction/demolition works.</p> <p>No tree must be impacted by security lighting.</p>		
<p>Scrub/ tall ruderals</p>	<p>Removal/pruning/clearance Possible issues: Disturbance/ injury to small mammals, reptiles, amphibians.</p>	<p>The removal of scrub or tall ruderals around proposed works (including service routes and the new access driveway), should be undertaken in two stages and only following best practice methodology as detailed by the accompanying Method Statement (please see appendix), after a hand-search by the ECoW,</p> <p>Any removal of shrubs or tall ruderals must be compensated for by the planting of new areas beneficial to invertebrate species.</p> <p>This will be achieved by the planting of native species, fruit-bearing trees on the site, the submission of the detailed landscaping plan identifying the native species invertebrate-friendly planting, and the creation of two new ponds under ECoW supervision.</p> <p>These habitat enhancement/ compensation measures have been incorporated at landscape design stage.</p>	<p>Low</p>	<p>Prior to works/ongoing through all clearance works, especially to facilitate service routes.</p> <p>Within 1 year from completion</p>

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Amphibians	<p>Scrub and tall ruderals clearance, infilling of existing derelict swimming pool.</p> <p>Possible issues: Disturbance/ injury/ entrapment.</p>	<p>Best practise working methodology must be followed as detailed by the accompanying Method Statement (please see appendix).</p>	Low	As above
Breeding Birds	<p>Scrub and long vegetation removal.</p> <p>Possible issues: Disturbance/ injury</p>	<p>ECoW to check areas of long vegetation which may be affected by works as although considered unlikely, some ground nesting birds overwinter.</p>	Low	Immediately prior to works.
Invertebrates:	<p>Tall ruderal, grassland, scrub, and tall ruderals.</p> <p>Possible issues: Disturbance/ injury</p>	<p>All areas of habitat not scheduled for removal must be demarcated by protective and remain undisturbed by machinery or site personnel.</p> <p>Best practise working methodology must be followed as detailed by the accompanying Method Statement (please see appendix).</p> <p>New invertebrate-friendly planting must be incorporated into the landscaping proposals (please see accompanying documents and above), and species must be agreed in conjunction with the ECoW before planting.</p>	Low	As above (throughout duration of works).
Deer/large mammals	<p>Demolition, groundworks, excavation for service routes, infilling of existing derelict swimming pool.</p> <p>Possible issues: Disturbance/ injury/ entrapment.</p>	<p>It is possible that deer and other large mammals could be inadvertently trapped by excavations. As with larger mammals, small mammals are particularly vulnerable to becoming entrapped by excavation work.</p> <p>To avoid this, groundworks should be backfilled before nightfall and preferably continuous as works progress.</p> <p>If pits or trenches cannot be filled, they should be covered with escape ramps.</p> <p>Open excavations must have ramps installed to allow any trapped mammal to find out.</p>	Low	On going. Throughout duration of works, especially during trench digging to facilitate service routes.

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		<p>All excavations left open with escape ramps must be checked the following mornin the presence of any animal before works commence.</p> <p>Best practise working methodology must be followed as detailed by the accompar Method Statement (please see appendix).</p>		<p>As above.</p> <p>As above.</p> <p>As above.</p>
<p>Small mammals, hares, hedgehogs.</p>	<p>Demolition, groundworks: clearance of scrub, tall ruderal, infilling of existing derelict swimming pool. Possible issues: Disturbanc e/ injury/ entrapment.</p>	<p>All clearance areas must be hand-searched by the ECoW immediately prior to removal mechanical means.</p> <p>Tall ruderals must be cleared in two stages with a 24-hour gap between. Best practise working methodology must be followed as detailed by the accompar Method Statement (please see appendix).</p>	<p>Low</p>	<p>Immediately prior to works</p>

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2.2 Biodiversity Protection Zone

Five Biodiversity Protection Zone's (BPZ's) have been designated on this site based upon the proposals and the sites existing biodiversity composition. Some BPZ's will potentially overlap and can be joined, but the principle is to have these zones tight to the area of works and to protect the wider habitats from encroachment.

A designated hardstanding area MUST be agreed upon prior to any works between contractors and the EcoW. This area must be linked to a BPZ.

BPZ 1 is to surround the existing and proposed access route. This BPZ must be of 'Heras' style linked fencing as close to the existing and proposed as possible. It must exclude tall woodland and trees directly bordering these two trackways any bordering tree with canopy overlapping must be given its own RPA protection.

BPZ 2 is to surround the proposed Phase I works i.e., the site of the Workshop and Orangery. The purpose of this BPZ is to protect the existing scrub, tall ruderal, and wooded habitats situated to the margins as much as possible during works and to ensure that no plant, machinery, or contractors do not encroach into these areas.

BPZ 3 is to border all service routes during each of the 3 phases and must be in situ 48 hours before any excavation works and remain until all excavation works have been concluded.

BPZ 4 is to surround the demolition site with a curtilage of at least 5 m to each elevation and must remain in place from 24 hours prior to demolition works commencing until all demolition works have been completed and all spoil/ materials removed.

NB. BPZ 5 is to surround the proposed construction site and immediate surroundings of the new build and must be in situ from 48 hours prior to commencement until all construction works have been completed.

NB. The timing of the erection and removal of BPZ areas is to ensure the EcoW can search areas prior to works and to ensure that wildlife is not inadvertently harmed or disturbed.

NB: Heras fencing does not remove the requirement for RPA fencing around individual trees and must accommodate these areas within the exclusion zone.

All BPZ's are identified in Plan 1 and 2 below.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

Plan 1 Biodiversity Protection Zones 1, 2, and 5 (marked in red) demarcate areas for HERAS-style protective fencing to be erected prior to works and must be in situ from 48 hours prior to commencement until all construction works have been completed. as detailed. *(Copyright Niall McLaughlin Architects)*



CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

2.3 Practical measures

Demolition, clearance of vegetation (improved grassland, scrub, tall ruderals), ground clearance and ground works (pond creation, drainage, and service -laying excavations), will need to be undertaken to facilitate the development. This work has the potential to impact on protected flora and fauna present.

A Method Statement detailing physical measures and sensitive working practices to avoid or reduce impacts during construction is provided within the appendix. In addition to these, the following is applicable:

2.3.1 Site fencing and site storage arrangements

All construction sites are of necessity noisy and dusty places with large plant movements, temporary infra structures, chemical and equipment storage, rubble, brash, and many potential hazards.

To ensure that no protected species or habitats are adversely affected by day-to-day works areas of plant and chemical storage and the proposed location of all temporary infrastructure and plant machinery **must be identified and agreed with the ECoW before any works commence.**

All contractors must also be given a Toolbox Talk by the ECoW immediately before the commencement of works outlining the potential dangers caused by construction vehicles or chemicals.

No materials or plant to be stored within designated BPZ or RPA areas but are to be confined to pre-existing or created hard surface zones.

No materials, plant, or temporary infrastructure to be situated under the canopy or within the RPA of any tree or hedgerow line.

Materials to be stored off-ground on raised pallets at all times to minimise the chance of small mammals, reptiles or amphibians using these sites as a refugia.

No burning of brash or waste on site. All waste to be placed in skips and removed from site regularly.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

2.3.2 Clearance of vegetation (semi- improved grassland, scrub, tall ruderals), ground clearance and ground works (demolition, excavations, surface, and service -laying)

Before any clearance works commence all contractual personnel must be made aware of the Method Statement detailing working procedures which minimise the risk of harm to any protected species and must be followed. A copy of this Method Statement is included within the appendix.

The ECoW must deliver a Toolbox Talk to all contractual personnel and managers working on site on the day of clearance, it must be given by the delegated responsible person¹⁶ to any new personnel who come to site.

The talk will detail best working practice on sites where there is the potential to encounter a protected species and will outline the relevant legislation and any potential risks. A copy of this talk is to be found in the appendix.

Staged clearance work should only be undertaken after all necessary hand searching has been completed by the ECoW and the area has been 'signed off' on the ECoW Daily Record Sheet. A copy of this sheet is to be found in the appendix.

All groundworks should be backfilled before nightfall and preferably continuously as works progress.

If pits or trenches cannot be filled, they should be covered with escape ramps. Open excavations must have ramps installed to allow any trapped mammal to find its way out.

All excavations left open with escape ramps must be checked the following morning for the presence of any animal before works commence.

¹⁶ As identified in 2.6 below

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

2.4 The location and timing of sensitive works to avoid harm to biodiversity features

Phase 1 works are scheduled to commence on this site on 15th January 2024 and to be complete by 24th May 2024 with all clearance works completed before 12th April 2024 avoiding the breeding bird season.

Phase 2 works are scheduled to commence on this site on 18th March 2024 and be completed by 12th April 2024.

Phase 3 works are scheduled to commence on this site on 12 August 2024 and be completed by 14 Feb 2026 (78 weeks)

Table 2 below provides information for the timing of works to minimise the potential for disturbance or harm to a protected species.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

Table 2 Timing of sensitive works

Activity/location	Timing	Duration	Responsibility
<p>Clearance of scrub and tall ruderals (low potential bird nesting habitat)</p> <p>Nesting birds can be found i ground level and low scrub, such as is present on site.</p> <p>However, they are unlikely to be found outside the breeding season (March – September). Stone curlew however have been known to still have fledglings as late as October¹⁷.</p>	<p>Clearance should take place between the end of October–February.</p> <p>Tall ruderal vegetation should be cleared in stages; first to a height c approximately 30 cm then left for a period of 24 hours before removal ground level.</p> <p>As a precaution, the ECoW should check areas before clearance begins as some birds may still be nesting in warmer weather.</p> <p>To avoid periods of activity by crepuscular, matutinal or vespertin fauna no works should take place before 0:800 am or after 17:30 pm.</p>	<p>Tall ruderals and scrub removal will take place immediately prior to works.</p>	<p>Contractors, supervised by ECoW, Toolbox Talk to be given on the first day.</p>
<p>Clearance of tall ruderals, improved grassland areas</p>	<p>Clearance can take place at an time but the ECoW must dismantle and search any potential refugia piles by hand before works commence.</p>	<p>Tall ruderal/ brash/spoil heap removal immediately prior to works.</p>	<p>Contractors, after ECoW dismantling and hand search of potential refugia sites.</p>

¹⁷ Gilbert, G., Gibbons, D. W., Evans, J. Bird Monitoring Methods, Pelargic Publishing, 2011.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

<p>Landscaping/habitat enhancement planting</p>	<p>New planting should be undertaken on suitably prepared ground which has not been compacted by plant movement. New planting must be compensation for the loss of tall ruderals, a small number of grassy species.</p>	<p>Where possible plant material specified to be supplied as root-balled or bare-root specimens shall be planted during the dormant season between late mid-November 2024 and the end of March 2025.</p> <p>Seeding of the wildflower area should be undertaken in the following way and times. Plant perennial wildflower seeds in the spring or autumn. Cut the existing grass back very short Scarify or rake the ground hard. The aim is for at least 50% bare soil. Broadcast a 100% wildflower seed mix Roll it or walk all over it to push the seeds into the ground. Water only if it looks like it will not rain for a while. Bearing in mind the following:</p> <p>Temperature. ideally consistently over 10 degrees centigrade. Frost. Avoid late frosts, a late frost could kill the seedlings. Water. ideally to have enough moisture for seed to grow. Depth of seed. It is particularly important that the seed is not buried too deep. Ideally it should be sown on the top, lightly raked then rolled or walked all over.</p>	<p>Developer and Contractors. ECoW should agree on a nominated person on site to monitor the after care of any new compensation and enhancement planting for one season.</p>
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CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

2.5 The times during construction when specialist ecologists need to be present on site to oversee works.

An Ecological Clerk of Works must be present on site at the following times and during the following activities.

Prior to works commencing to ensure that all protective fencing and exclusion barriers, including root protection areas are installed correctly and areas of plant and chemical storage and temporary infrastructure locations have been allocated and are clearly defined.

On the first morning of works to deliver a Toolbox Talk to the site manager and contractual personnel and to ensure that the Method Statement is clear and available for contractual staff to refer to during the project.

Immediately prior to any excavation works (including foundations, service trenches, and the mechanical removal of any vegetation), to ensure no small mammals, reptiles or amphibians are present. Where clearance continues over a period, the ECoW or their agent on site must re-check all proposed clearance areas anew on each morning before works.

Immediately prior to the demolition of the existing Dower House to check internal loft areas for potential bat presence, and until the roof of the house has been removed.

If bats are found during any pre-check of the Dower House, all works to the area of discovery must stop until the ECoW has designed either the appropriate mitigation, or, if necessary contacted Natural England. It is possible that in the event of a discovery of a bat roost site the client may need to apply for a licence of derogation for bat species from Natural England before demolition works can continue.

At the completion of landscaping and habitat enhancement areas to ensure that the correct species and ratios have been planted.

Immediately prior to the last day of works to ensure that all important ecological features have been adequately protected during construction and that the development has provided proportional enhancement measures.

If at any time a protected species is discovered on site when the ECoW is not present, then the ECoW should be contacted immediately for advice and all works to the discovery area must stop until the advice has been followed; in this instance, the ECoW may need to return to site.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

2.6 Responsible persons and lines of communication

The contractor for the first phase of works on site are the client Graham Snudden who will be the person responsible for ensuring this CEMP is adhered to throughout the specified duration of works.

Contact graham@snudden.com , Tel: 07824 999054

The contractor for the second phase of works will be MK Demolition and Mark Kerridge will be the person responsible for ensuring this CEMP is adhered to throughout the specified duration of works.

Contact mkdemolitionandreclaim@gmail.com , Tel 07903 452993

The contractors for the third phase of works will be appointed by Graham Snudden in due course who will pass on the responsible person duties to his appointed contractor.

In each case the contractor is directly responsible for ensuring that the development project is completed in accordance with current UK legislation concerning protected species and must liaise with the ECoW to ascertain in advance any specific dates where ECoW attendance is required.

In each phase the identified person responsible (as above) will ensure that the site foreman will report to the ECoW if there are any unexpected ecological issues such as the discovery of a protected species during construction activities and must be responsible for reporting works progress to the supervising ECoW on at least a weekly basis.

The site foreman will be responsible along with the ECoW of the sighting and maintenance of all protective fencing and exclusion barriers.

All on-site contractual personnel are individually responsible for reporting any unexpected discovery of wildlife or any ecologically detrimental practice observed to the site foreman who must then report to the ECoW.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

2. 7 The role and responsibilities on site of an ecological clerk of work)

The ECoW is responsible for the following:

Along with the developer, the ECoW is responsible for ensuring all works on site comply with relevant legislation in relation to protected species, the recommendations of the 2021 Ecological Appraisal¹⁸, and that the CEMP: Biodiversity is adhered to throughout the construction phase of development.

Providing advice to developers and contractors on how best to minimise impacts on wildlife throughout the construction phase of development.

Being the main point of contact should any issues relating to ecology arise during construction.

Making the relevant people aware of any ecological issues that occur during the construction phase.

Ensuring Toolbox Talks on protected species and sensitive habitats to contractors carrying out work within the site are undertaken.

Ensuring supervision of any construction activities that have the potential to impact on protected species and / or sensitive habitats.

Ensuring fence lines are monitored throughout the construction phase of development.

Completing Daily Record Sheets of attendance on site where appropriate.

The ECoW must always be provided with any updated programme of works to determine watching brief requirements and associated ecological issues.

If the ECoW identifies any issues in relation to ecology or considers that the CEMP is not being adhered to during construction, the developer will be contacted, and measures will be taken to resolve any issues.

If the developer or contractor identifies any ecological issues, the ECoW must be contacted for advice immediately.

¹⁸ Breckey Ley, Ecological Appraisal, Aspect Ecology, 2021.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

2.8 Use of protective fences, exclusion barriers and warning signs.

Protective fencing/exclusion barriers will be in use on this site around the BPZ and RPA areas, where these areas overlap the greater distance from vegetation will be applied as the boundary.

These areas are as defined either in the text above or by the ECoW's interpretation of Plan 1, and these designated areas will be agreed and finalised on site prior to works by the contractors and the ECoW

The fencing will not be installed within any RPA's or within 2m of any hedgerow line.

The fencing must be suitably robust, and the contractual site foreman will have the responsibility of maintaining the fencing and ensuring areas within it are not breached by any personnel or equipment

Suitable materials would be HERAS security fencing and orange Tensar fencing (where boundary trees are far away from any construction areas). All warning and designation signs must be firmly fixed and weatherproof.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

3 Conclusion

The proposed works are largely confined to areas of low impact (i.e., existing hardstanding, and improved grassland. Some service routes may affect areas of tall ruderals, scrub, and woodland (please see details above).

It is therefore considered that this 3 – phased construction/demolition process and associated services will have a minimal impact of the biodiversity and very low potential impact on any protected species so long as the recommendations of Aspect Ecology's Ecological Appraisal¹⁹, together with those contained in this CEMP and the accompanying Bat Method Statement, and Biodiversity Enhancement Strategy documentation are followed.

¹⁹ Breckey Ley, Bury St Edmunds, Ecological Appraisal, Aspect Ecology, 03/12/2021.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

4. Appendix

4.1 Toolbox Talks to all contractors

TOOLBOX TALK 1 –Breckey Ley, Nowton (All Phases).

Delivered to:

.....

By S. Morgan CEcol, CEnv, Licence holder for bats, barn owls, Schedule I Birds, great crested newts, and dormice.

All contractors on site must be made aware of:

1. Their legal obligations with regard to the discovery of a Protected Species during works.
2. How to recognise ground nesting birds, bats and bat droppings, great crested newt, and other likely species potentially present.
3. That bat species and their roosting sites are protected at all times, whether the bat is present or not.
4. That breeding birds are protected at all times.
5. The importance of contacting a licenced bat ecologist any other Protected Species be found during works, and the fact that all work must stop on such an occurrence.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

TOOLBOX TALK 2 –Breckey Ley, Nowton (all phases).

Delivered to:

.....

By S. Morgan CEcol, CEnv, Licence holder for bat, barn owls, Schedule I birds, great crested newts, and dormice.

All contractors on site must be made aware of:

Areas of tall ruderals may contain potential refugia sites for reptiles, amphibians, hedgehogs, and other mammals; the site margins are particularly likely opportunities for refugia sites.

Direct mortality of small mammals’ amphibians or reptiles during the construction phase can be avoided through implementation of Best Practice, including some of the following actions:

1. Be aware that the following protected species have been recorded within close proximity to this area and therefore may be present on this site at times:

Bats, breeding birds, reptiles, small mammals, and amphibians. In addition, the forest is home to significant deer populations.

2. The need to work within the specified time of year i.e., October- February to avoid impacts on breeding birds.

3. No clearance or ground works should commence prior to a hand search immediately before any mechanical vegetation removal and cutting operations

4. Care should also be taken to ensure that no trenches or ground excavations are left open without means of reptiles/hedgehogs/badgers being able to find their way out.

5. All piles of spoil, timber, or rubble should be kept clear of the ground, by removal either to a skip, or by being elevated, to ensure that potential refugia sites are not inadvertently created.

6. Any dug pits or unfilled deep foundation work should either be covered or have mammal ramps positioned in them to allow any trapped animals to escape.

7. Any brash and log piles on site should be searched by hand before removal and if hedgehogs are discovered that they be translocated to a suitable location.

8. Respect the protective fencing and exclusion barriers which are designated for wildlife protection and report any breach of these to the site foreman.

9. Unexpected discovery

10. If any protected species are discovered during the proposed works, all work must stop, and advice should be sought from a suitably qualified ecologist to avoid inadvertently committing an offence.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

4. 2 Method Statement

Amphibians, small mammals, reptiles, and bats.

Development works on the site are likely to encompass a period between 15th January 2024 be complete by 31st August 2026, with all compensation and all enhancement measures completed by 31 August 2026 (26 weeks after completion of main works).

It is a requirement that ecological supervision by an ECoW is provided onsite, via an appointed suitably qualified ecologist during any development works considered likely to have the potential to impact on breeding birds, amphibians, reptiles, small mammals, or bat species.

This ECOW presence should ensure that unforeseen issues can be resolved with clarity and minimal delays.

This Method Statement must be kept on site and available for viewing by all contractors together with wildlife identification sheets for bats, great crested newts, badger, small mammals and reptiles.

Prior to any development works beginning on site the developers/contractors will undergo a site induction/toolbox talk where the implications arising from the potential presence of protected species at the site.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

RAMS WORKING METHOD STATEMENT FOR: Breckey Ley, Nowton, Suffolk

FOR the period 15th January 2024 to 31st August 2026

Vegetation clearance; semi-improved grass, trees (sycamore tree of heaven saplings), tall ruderals, small amounts of scrub, and potential refugia piles of spoil.

1. Before any vegetation clearance and/or ground disturbance works commencing the extent of works will be agreed by the ECoW and the contractors.
2. Some very young sapling trees will be removed as part of the demolition of the existing office building. Please see Section Tree Works below.
3. If there were to be any vegetation removal/ works with the potential to disturb breeding birds the ECoW or their accredited agent will carry out a nesting bird check on the proposed and immediately neighbouring areas of works. This is considered very unlikely given the proposed timing of works.
4. To minimise the risk to amphibians, small mammals, and reptiles during vegetation clearance, strimmers, brush-cutters and/or side-mounted flail will be used to clear. This will prevent ground compaction and damage to areas of terrestrial habitat at the site which are to be retained. Where possible extract material using a forwarder rather than a skidder to reduce the risk of harm.
5. All vegetation removal works will be undertaken in two stages under the direct supervision of the ECoW to limit disturbance and allow animals to vacate the area. The stages will be a hand search, followed by a first cut to 30cm in height then, after a 24-hour rest period to allow any fauna to relocate, a further hand search and final cut to ground level.
6. Hand searching by the ECoW will proceed all removal by mechanical means; this includes any improved grassland areas and shrub borders.
7. The ECoW must re-check even young sapling trees which are to be subject to agreed works immediately prior to commencement of these operations; please see 'Works to Trees' below.
8. Immediately prior to works a search of any potential refuge sites within the development area will be carried out by the ECoW to check for sheltering amphibians and reptiles.
9. As deemed appropriate by the ECoW, items of potential refuge will be removed from the development site immediately following the search to prevent amphibians and reptiles seeking shelter beneath or within them.
10. The development site and any storage/lay-down areas will be kept clear of debris. Stored materials will be kept off the ground on stillages or pallets to prevent small mammals, amphibians and reptiles from seeking shelter or protection within them.
11. Any skips or bins should be stored on baulks of timber to keep them off the ground.
12. No dumping of rubbish or fires will take place within the site. Waste and brash piles must be placed in skips and removed from the site to prevent them becoming refugia for small mammals.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

13. No plant machinery is to enter the BPZ areas or be kept on any but designated areas of the site.
14. No plant machinery must traverse or remain parked on undesignated areas.
15. Plant movement should be via existing or temporarily created hard standing areas, or on purpose-built routes which have first been checked as suitable by the ECOW.
16. If earth spoil needs to be removed from the development site, it will be taken off-site at the earliest opportunity for appropriate disposal. Spoil will be spread across any of the site.
17. The ECOW will consider and advise the contractors on potential bio-security issues relating to the import and removal of material at the site and the need to undertake a bio-security risk assessment and/or implement measures to prevent the inadvertent spread of non-native species, disease and biological pathogens.
18. Any significant ground disturbance will be directly supervised by the ECOW.
19. No new waterbodies (storage tanks, ditches etc.) will be created on site during works other than those already specified within the architects' plans.
20. No excavations be left open overnight they should preferably be back filled as works progress or covered over and provided with escape ramps. All excavations, even small trenches, must be searched and checked for sheltering amphibians and reptiles every morning if open during the preceding night. The search should be undertaken by the ECOW before works commence.
21. All open excavations should incorporate soil ramps at either end to allow any animals falling into them to escape.
22. Wherever practicable, excavations will be in-filled and made good to ground level at the earliest opportunity, to remove any hazard to reptiles and other animals.
23. Should spoil/materials be left on the ground overnight out of necessity, they may require searching for sheltering amphibians and reptiles by the ECOW before they are moved.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

4.3 ECoW Report Form - Example

ANGLIAN
ECOLOGY



Sue Morgan CEng, MCIEEM, CEW, MIEMA
1, Rad House Farm Cottage, Pixey Green, Stradbroke, Eye, Suffolk IP21 9NJ
Tel: 07753 406866

DAILY RECORD SHEET FOR ECOLOGICAL CLERK OF WORKS

Date	Time on site/Time left site:				
Weather conditions:					
ECoW/ surveyor					
Personnel on site:	Site Foreman:				
Protected species	Are protected species present or recorded on site?	YES		Were protected species encountered during works?	YES
If a protected species is found on site, all works to the immediate area must stop until an SQE ¹ has been consulted. In any situation where an SQE is not present or unavailable, contact Natural England, or the local Wildlife Police Officer for advice.					
Description of Works:					
If required, please refer to accompanying site photographs and/or diagrams below for further clarification of the above. If protected species were encountered during works details must be supplied overleaf:					

¹ Suitably Qualified Ecologist

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

4.4 Site check Form – Example

ANGLIAN ECOLOGY SITE CHECKSHEET AUGUST 2022

Tangham Forest Office Site Ecological Compliance with RAMS

SITE CHECK SHEET

Please ensure the site checker is familiar with the RAMs Method Statement and The CEMP document for this site.

DATE	SITE CHECKED BY <small>Please print AND SIGN name</small>	NOTES

ANGLIAN ECOLOGY SITE CHECKSHEET AUGUST 2022

SITE CHECK

1. Conducted at the end of each working day.
2. Must remedy any non-compliant measures discovered.
3. If there are any issues which cannot be resolved by the end of the working day, please contact the site ecologist immediately for advice.

Sue Morgan: 07753406866
Email suemorgan06@hotmail.com

ANGLIAN ECOLOGY SITE CHECKSHEET AUGUST 2022

SITE CHECK

1. Conducted at the end of each working day.
2. Must remedy any non-compliant measures discovered.
3. If there are any issues which cannot be resolved by the end of the working day, please contact the site ecologist immediately for advice.

Sue Morgan: 07753406866
Email suemorgan06@hotmail.com

ANGLIAN ECOLOGY SITE CHECKSHEET AUGUST 2022

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

4.5 Enhancement: Further new planting for invertebrates, breeding birds, and bat species.

Further enhancement measures for this site are detailed within the Biodiversity Enhancement Strategy Document accompanying this CEMP, and further details are also contained in the accompanying proposed tree planting and landscaping documents²⁰.

In summary, native planting specifically for wildlife should form the basis of any landscape proposals, particularly plants and trees which fruit.

Details of the species to be used for enhancing the sites biodiversity and compensating for the loss of improved grassland, scrub, and tall ruderals are given in the accompanying landscape plans²¹.

In addition to the plans above, further new planting of wildflower seeds could also take place around the perimeter, and around the buildings

The benefits of a biodiverse landscaping scheme as submitted will be:

Plant diversity attracts insects and other invertebrates (including butterflies, bees, spiders and millipedes), birds and mammals.

Flowering species add a changing palette of colour to the environment throughout the seasons.

Berry and nectar rich trees will also increase foraging opportunities for invertebrates, small mammals, and birds. Increased invertebrate presence at the site will also result in greater opportunities for foraging bats. The landscaping will incorporate native and locally sourced tree and shrub species. - Native species are of greater value to local wildlife than introduced plants. The national charity Flora Locale (which ceased trading in 2018) produced an extensive resource library for wildflower planting which is now hosted by CIEEM²² at <https://cieem.net/?s=Flora+Locale>.

²⁰ Breckey Ley, Proposed Trees, Luke Heydon Gardens, Drawing No: 001 Trees 05/11/23, Breckey Ley, Proposed Wildlife Pond, Luke Heydon Gardens, Drawing No: 001 Pond, 02/11/23, Proposed Landscape Plan, Niall McLaughlin Architects, Reference: 2015-PL-095, Revision: B, Date of first issue: 07.01.2022.

²¹ Ibid.

²² Chartered Institute of Ecology and environmental Management

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

Information to inform landscaping /enhancement proposals.

The nearest soil association for the site is 571o MELFORD with ancillary subgroups 571 Weasenham and 581 Marlow and Barrow: Chalky till. Deep well-drained fine loamy over clayey, coarse loamy over clayey and fine loamy soils. Some with calcareous clayey subsoils.

Soilscape England Reference: 7

Name: FREELY DRAINING SLIGHTLY ACID BUT BASE-RICH SOILS

Main Surface Texture Class: LOAMY

Natural Drainage Type: FREELY DRAINING

Natural Fertility: HIGH

Characteristic Semi-natural Habitats: BASE-RICH PASTURES AND DECIDUOUS WOODLANDS

Main Land Cover: ARABLE AND GRASSLAND.

The hydrogeological characteristics are made up of Sands and Gravels; This group comprises glacial but also fluvioglacial beds, and sands and gravels of uncertain age, largely periglacial. Also included are thin deposits of Cover Sand which over lie the Chalk and the Boulder Clay. Glacial Sands and Gravels occur as extensive masses of variable thickness and grain size beneath the Boulder Clay and occasionally above it.

Aquifer Designation Map (Bedrock) (England)

Typology: Principal

Aquifer Designation Map (Superficial Drift) (England)

Typology: Secondary A (undifferentiated).

The total hardness in groundwater in the Chalk on this site is 300 and the Chloride ion concentration is 25-50mg/l. The average rainfall is 600 millimetres.

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

Suggested seeding species:

Crested dog-tail - <i>Cynosurus cristatus</i>	Ox-eye Daisy <i>leucanthemum vulgare</i>
Smaller catstail - <i>Phleum bertolonii</i>	Rough Hawkbit <i>leontodon hispidus</i>
Sheeps fescue - <i>Festuca ovina</i>	Knapweed <i>Centaurea nigra</i>
Red fescue - <i>Festuca rubra</i>	Corn Cockle <i>agrostemma githago</i>
Field scabious - <i>Knautia arvensis</i>	White Champion <i>Silene alba</i>
Lesser knapweed - <i>Centaurea nigra</i>	Red Champion <i>Silene dioica</i>
Meadow Buttercup <i>Ranunculus acris</i>	Ladies Bedstraw <i>galium verum</i>
Common Sorrel <i>Rumex acetosa</i>	Self-Heal <i>Prunella vulgaris</i>
Wild Carrot <i>Daucus carota</i>	
Ribwort Plantain <i>Plantago lanceolata</i>	
Corn Marigold <i>Chrysanthemum segetum</i>	

Tre e s

New planting should contain a mixture of at least five from the following:

Bird cherry – *Prunus avium*

Alder Buc kthorn – *Rhamus frangula*

Crab apple – *Malus sylvestris*

Whitebeam – *Sorbus aria*

Rowan (mountain ash) *Sorbus aucuparia*

Silver birch, *Betula pendula*

Hazel *Corylus avellana*

Juniper *Juniperus communis*

Elder *Sambucus nigra*

Wild Service Tree *Sorbus torminalis*

Wayfaring Tree *Vibumum lantana*

CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN: BIODIVERSITY

5 References

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