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The Edgars (applicant)

Date: 22January 2024

Dear Mr and Mrs Edgar,

Ecological assessment of buildings and land at Pastures New, Walsham Road, Wattisfield, Suffolk, IP22 1PB

I am writing to provide a summary of the findings following a survey of the site on 15 January 2024 (NGR TM0104673756; Figure 1), where it is proposed to erect new front and rear extensions to the existing dwelling, to create a new entrance and medical storage room, as well the installation of two new rooflights on the west elevation.

The purpose of the visit was to inspect the site and identify potential ecological features of relevance to the scheme, to enable an assessment of potential impacts where appropriate. The desk and field assessment completed were made with reference to the CIEEM Guidelines for Preliminary Ecological Appraisal¹.

Methodology

a) Desk Study

A desk study was undertaken, which included the use of SBIS and open-source historical biological records, MAGiC Map, OS Maps, aerial photography, and Natural England European Protected Species (EPS) mitigation species licences within 2km of the application site.

b) Field survey

During the field survey notes were made and the site was assessed for its potential to support protected species, e.g., amphibians and reptiles including GCNs² (Triturus cristatus) and slow worms (Anguis fragilis), nesting birds³, and mammals such as bats⁴ and hedgehogs (Erinaceus europaeus)5, by Alex Gregory BSc (Hons), who has over two years' experience conducting habitat and Ecological Impact Assessments (EclA's), as well as undertaking surveys for amphibians, bats, reptiles, badger, and water vole.

Results

Designated sites

i) Locally designated sites

No Local Nature Reserves or County Wildlife Sites (CWS) are located within 1km of the application site boundary.

ii) Nationally designated sites

Three Sites of Special Scientific Interest (SSSI) are located within 5km of the application site. These are listed below:

- Blo' Norton and Thelnetham Fens SSSI are located c. 4.8km north of the application site. The site contains open fen habitat, which supports calcareous valley fen vegetation communities, notable species present include southern marsh orchid (Dactylorhiza praetermissa), devil's bit scabious (Succisa pratensis), long-stalked yellow sedge (Carex lepidocarpa) quaking grass (Briza media) and a small colony of grass of parnassus (Parnassia palustris);
- Stanton Woods SSSI are a group of ancient coppice-with-standards woodlands, which span the transition from hornbeam and oak-ash-hazel-maple woodland on boulder clay to oak/hazel woodland on the drier, acid soil of the Breckland margin. The two types of woodland each have characteristic woodland flora plants and additional interest is provided by a series of wide, mown rides, small clearings and by areas of active coppice management. The woods are located c.3.9km southwest of the application site at the nearest point; and
- Westhall Wood and Meadow SSSI is located 1.5km east of the application site and includes an ancient coppice-withstandard, pedunculate oak-hornbeam wood growing on heavy boulder clay overlain by sand. The wood is one of the largest remaining intact hornbeam dominated woodlands in Suffolk whilst Westhall Meadow is an unusually large unimproved species-rich meadow containing a community of meadow plants with affinities to both calcareous clay and calcareous loam grasslands.

3 All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.

¹ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester ² GCNs receive full protection under the WCA 1981 and Habitats Regulations 2017.

⁴ Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition), Bat Conservation Trust, London

⁵ Hedgehogs are listed under Section 41 of the NERC Act 2006 lists as a 'species which are of principal importance for the conservation of biodiversity in England'

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The application site lies within a SSSI Impact Risk Zone (IRZ) but does not meet the relevant criteria (e.g. large-scale infrastructure, industrial or intensive livestock developments) to warrant further consultation between the Local Planning Authority (LPA) and Natural England (NE).

iii) Internationally designated sites

Redgrave & South Lopham Fens Ramsar site is an extensive example of lowland base-rich valley, remarkable for its lack of fragmentation. The diversity of the site is due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires, such as dry birch woodland, scrub and carr, floristically-rich fen grassland, mixed fen, wet heath and areas of reed and saw sedge. The site supports many rare and scarce invertebrates, including a population of the fen raft spider.

The Breckland Special Protection Area (SPA) comprises 28 component SSSIs and covers an area of 39433.66 ha and comprises dry heath and grassland on largely free draining sandy soils of glacial origin which are influenced by the continental climate. Throughout the 20th Century much of Breckland was planted with conifers, and part of the site has been lost to arable farming.

The remnants of dry heath and grassland that have survived these recent changes support heathland breeding birds which have also adapted to live in forest and arable habitats. Species such as woodlark (Lullula arborea) and nightjar (Caprimulgus europaeus) breed in clear-fell and open heath areas, whilst stone curlews establish nests on open ground provided by arable cultivation in the spring, as well as on Breckland grass-heath. The presence of more than 1% of the British populations of these species qualifies the site under article 4.1 of the Directive (79/409/EEC):

Annex I species	Count and season	Period	% population
Stone curlew	115 pairs – breeding	5 year mean (1994-98)	60.1% GB
Nightjar	415 males – breeding	Count as at 1998	12.2% GB
Woodlark	430 pairs – breeding	Count as at 1997	28.7% GB

Waveney and Little Ouse Valley Fens Special Area of Conservation (SAC) is one of the best areas in the UK for Molinia meadows (Molinion caeruleae) on calcareous, peaty, or clayey-silt-laden soils and for calcareous fens containing great fen sedge (Cladium mariscus). The site is also notable for supporting Desmoulin's whorl snail (Vertigo moulinsiana), an Annex II species.

Habitats Regulations Assessment

Where a development or project may, alone or in combination, have a 'likely significant effect' upon the features of the Natura 2000 or Ramsar site, the Habitats Regulations 2017 require a Habitats Regulations Assessment (HRA) to be undertaken. Advice from NE states that increased housing located within 1km by foot and 13km by car of Natura 2000 sites may potentially cause disturbance to the interest features due to walkers (and dogs). Disturbance to bird species that breed and/or overwinter within the sites is considered to cause the greatest impact.

HRAs are undertaken by a "competent authority" (CA), which in the case of Local Plans and most planning applications is the Local Planning Authority (LPA). Within Suffolk, Ipswich Borough Council in partnership with the neighbouring authorities Babergh District Council and East Suffolk Council have developed a 'Recreational disturbance Avoidance and Mitigation Strategy' (RAMS) to address likely significant effects upon Natura 2000 sites resulting from development within the area.

As the current application is for the extension of an existing dwelling and not new residential development per se, neither a project level HRA nor payment to the Suffolk RAMS is considered necessary.

Protected and notable species

No protected or notable species records exist within the survey area. Table 4.2 identifies species records for within 2km (where geographical precision is < 1km) of the site.

Table 1 Protected/notable species

Scientific name	Common name	Legal /conservation status
Amphibians		
Lissotriton vulgaris	Smooth newt	Sch. 5
Triturus cristatus	Great crested newt	EPS; Sch. 5; S. 41



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Bats		
Myotis nattereri	Natterer's	EPS; Sch. 5
Plecotus auritus	Brown long-eared	EPS, Sch. 5, S. 41
Pipistrellus pipistrellus	Common pipistrelle	EPS; Sch. 5
Birds		
Alauda arvensis	Skylark	Red Status; S. 41
Apus apus	Swift	Amber Status
Chloris chloris	Greenfinch	Red Status
Delichon urbicum	House martin	Red Status
Emberiza citrinella	Yellowhammer	Red Status; S. 41
Falco tinnunculus	Kestrel	Amber Status
Linaria cannabina	Linnet	Red Status; S. 41
Muscicapa striata	Spotted flycatcher	Red Status; S. 41
Passer domesticus	House sparrow	Red Status; S. 41
Prunella modularis	Dunnock	Amber Status; S. 41
Pyrrhula pyrrhula	Bullfinch	Amber Status; S. 41
Streptopelia turtur	Turtle dove	Red Status; S. 41
Strix aluco	Tawny owl	Amber status
Sturnus vulgaris	Starling	Red Status; S. 41
Turdus philomelos	Song thrush	Red Status; S. 41
Turdus pilaris	Fieldfare	Sch. 1
Turdus viscivorus	Mistle thrush	Red Status
Tyto alba	Barn owl	WCA1i
Vanellus vanellus	Lapwing	Red Status; S. 41
Other mammals		
Erinaceus europaeus	Hedgehog	S. 41
Lepus europaeus	Brown hare	S. 41
Meles meles	Badger	PBA 1992
Invertebrates		
Limenitis camilla	White admiral	RLENG.VU; S. 41
imenius carrilla	Wille aufillal	RLENG. VU, 3. 41

Other species records

Assessment of NE's GCN class licence return data and eDNA pond survey records show the closest positive record (licence return) to be located c. 5.4km southwest of the site (dated 2017), which is outside the normal dispersal range of the species.

Priority habitats

Assessment of the Magic Map database returned an area of deciduous woodland and an area of Woodpasture and parkland habitat located c. .250m north and c. 235m northwest of the site respectively. No other priority habitats shown within the 250m Zone of Influence.

Habitat descriptions

a) Built environment

The building (**u1b5 buildings**) proposed for extension is a modern bungalow with red brick walls and a slate roof (Photos 1 to 4). There are areas of stone paving (**u1b developed land, sealed surface**) immediately adjacent to the building, with a large gravel driveway to the west (**u1c artificial, unvegetated - unsealed surface**) (Photos 4 to 6).

b) Habitats

Areas of managed lawn exist to the front and rear of the building (g4 modified grassland, 108 frequently mown, 32 scattered trees 847 introduced shrubs) with a low number of scattered trees, including two small silver birches (*Betula pendula*) near the property entrance, and some very short lengths of common laurel hedgerow (<20m) (Photo 6).

The lawn is species-poor (average of <5-6 plants m²) and dominated by perennial rye grass (*Lolium perenne*) and annual meadow grass (*Poa annua*), which represented >80% of the ground flora, Yorkshire fog (*Holcus lanatus*) was occasionally recorded. Common forbs frequently were common daisy (*Bellis perennis*), creeping buttercup (*Ranuculus repens*), doves-foot cranesbill (*Gerainium molle*), and white clover (*Trifolium repens*), less abundant were common catsear (*Hypochaeris radicata*), white deadnettle (*Lamium album*), dandelion (*Taraxacum* agg.), spear thistle (*Cirsium vulgare*), broad-leaved dock (*Rumex obtusifolius*), and ribwort plantain (*Plantago lanceolata*).



A larger area of grassland with some scattered trees exists with further passage southeast of the dwelling. This area is included within the red line boundary but is outside the works footprint (Photo 7).

Amphibians and reptiles

a) Ponds

Several ponds are shown on OS Maps within 250m of the application site boundary (Figure 2). Two of these ponds were accessible to survey for their suitability to support breeding GCNs but no access was secured to assess the remaining ponds shown on Figure 2.

Pond P1 s located immediately south of the application site boundary, in the rear garden of a neighbouring property (Photo 8). It is quite heavily shaded by bankside vegetation and supports limited macrophyte coverage with some denudation of bankside vegetation by waterfowl. Conditions suggest that fish might be present (although none were observed during the survey), with terrestrial habitat of moderate value located within 250m and a relatively high density of other ponds within 1km. The pond received an Average HSI score (0.69), as shown in Table 2 below.

Table 2 Pond (P1) HSI survey results

Factor	Assessment	HSI score
Location	Optimal	1
Pond area	320m ²	0.6
Pond drying	Never	0.9
Water quality	Moderate	0.67
Shade	30%	1
Waterfowl	Some evidence	0.67
Fish	Possible	0.67
Ponds within 1km (density)	10+	1
Terrestrial habitat	Moderate	0.67
Macrophytes	10%	0.35
HSI score	Average	0.69

P2 (Photo 9) is located c. 130m northwest of the application site. It supports moderate water quality, with some emergent macrophytes present, including Glyceria maxima and Typha latifolia, with some evidence of damage by waterfowl. No fish were observed within the pond, although their absence could not be ruled out, with terrestrial habitat of moderate value (25-75%) located within 250m and a relatively high density of other ponds within 1km.

The habitat suitability of pond P2 for breeding GCNs was assessed as Good (HSI score = 0.76). The HSI assessment scores and calculation results are summarised in Table 3 below.

Table 3 Pond (P2) HSI survey results

Factor	Assessment	HSI score
Location	Optimal	1
Pond area	750m ²	1
Pond drying	Never	0.9
Water quality	Moderate	0.67
Shade	40%	1
Waterfowl	Minor	0.67
Fish	Possible	0.67
Ponds within 1km (density)	10+	1
Terrestrial habitat	Moderate	0.67



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Macrophytes	10%	0.35
HSI score	Good	0.76

b) Terrestrial habitat

i) Amphibians

Habitats within the proposed footprint of the front and rear extensions largely comprise hard standing, which is generally considered unsuitable terrestrial habitat for amphibians. However, the lawn and grassland areas in the wider gardens provide foraging opportunities for amphibians, particularly on warm, rainy/humid nights during the active/breeding season. Refuge opportunities are restricted to the piles of brash left on site (Photo 10).

Due to the presence of a potential breeding pond in an adjacent garden, the presence of amphibians cannot be entirely ruled-out. However, due to the nature of habitats present within the proposed works footprint and the small area to be affected, the likelihood of GCNs and other common amphibians being present in significant numbers was assessed as low.

i) Reptiles

The site is considered to support suboptimal/unsuitable habitat for most common reptile species, with some (albeit low) potential for the occasional grass snake (Natrix helvetica) to be present within the wider and/or adjacent gardens (e.g., hunting in the nearby pond). The overall habitat suitability of the site for reptiles was assessed as low.

Bats

a) Roosting bats

The existing dwelling has only been constructed within the past 2-3 years, with no obvious potential roosting features present on the roof or walls. The soffits are all sealed and the slate roof tiles are all secured and tight fitting, including where the new extensions and skylights are proposed (Photo 11). Overall, the structure was assessed as supporting negligible bat roosting potential (Collins, 2023).

b) Foraging and commuting bats

The existing dwelling and adjacent surfaced areas are considered habitats of negligible value for foraging and commuting bats, with the scattered trees/shrubs and grassland area providing low-moderate value foraging opportunities (Collins, 2023). Any habitats with commuting value are limited to boundary hedgerows and trees which are well outside the proposed works footprint.

Nesting birds

The building is structurally sound with no obvious gaps and/or cavities present which could potentially support nesting birds. Trees and shrubs in the wider gardens will provide nesting, foraging and song perch habitat for small passerines although these will not be impacted by the proposed development.

Other mammals

The lawn and grassed areas within the wider garden will provide foraging habitat for hedgehogs. These habitats, as well as mature trees, could support some S. 41 list invertebrates, including Lepidoptera. No evidence of badgers was found on site.

Discussion

a) Habitats

The proposed front and rear extensions will result in a negligible loss of habitat (e.g. hard standing and gravel), such that any significant impacts will be avoided.

Mitigation

To prevent damage to retained habitats, the builder's compound (if required) should be sited on existing hard standing (e.g., gravel driveway) and away from trees and shrubs.

The works footprint and associated disturbance should be minimised in extent as much as possible. Hedgerows, trees/shrubs, and grassed areas should be protected with temporary fencing (e.g., Heras) to prevent above ground damage.



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b) Species

General good working practices

Impacts likely to arise from the proposed development will be limited subject to good housekeeping and working practices. The following measures are suggested to minimise the risk of incidental harm to species that may be present on or adjacent to the site.

- 1. Any trenches required for service runs (e.g., water and electricity etc.) should be filled on the same day as excavation where possible. Trenches left overnight should be covered with ply/OSB sheets to prevent animals becoming trapped. If this is not possible then amphibian/mammal ladders must be installed (wide planks, laid at shallow angles to allow animals safe egress) and they should be maintained until the excavations are filled.
- 2. Trenches should be inspected immediately prior to infill and any animals present (**except GCNs**) relocated to suitable nearby habitats (e.g., base of nearby hedgerow or within retained grassland away from the works footprint).
- 3. Any concrete slabs should be poured during the morning to ensure they have hardened off prior to evening to reduce the risk of wildlife coming into contact with wet concrete.
- 4. Any hand mixing of mortar or concrete should be on ply boarding over a tarpaulin which is folded over the boarding at the end of each day to prevent animals coming into contact.
- Any excess cement/concrete should be covered and removed from site as promptly as possible to avoid animals coming into contact.
- 6. Any building materials should be stored on bare ground or hard standing, or stored off the ground on pallets; and
- 7. Any waste or spoil (e.g., for footprints and services to be installed in trenches) stored on site temporarily will be stored on bare/hard ground or in skips.

Species specific

a) Amphibians and reptiles

Impacts

The proposed extension has a very limited footprint and will result in a negligible impact on habitats. However, groundbreaking and other construction activities could result in the potential entrapment, injury, and mortality of amphibians due to the presence of trenches, building materials and temporary stockpiles of soil which animals can seek refuge within and then suffer injury/death when the materials are moved.

On completion of the development, the use of gulley pots or similar as part of a surface water drainage system can result in the entrapment of amphibians (Muir, 2012).

Combined, such impacts could result in permanent negative effects upon low numbers of individuals considered a minor negative effect at the Local level.

Mitigation

Due to the nature and scale of the proposal, a Precautionary Working Method Statement would ensure that ensure impacts upon amphibians (including GCNs) are avoided. This should include:

- 1. The GCN poster in Appendix A1 should be erected in the welfare facilities provided for construction staff on site.
- 2. Should any GCNs be encountered at any stage, work should stop immediately, and advice be sought from a suitably experienced ecologist. Any other animals should be allowed to move out of the works area or safely relocated.
- 3. All lawn areas immediately adjacent to the works footprint should be kept short prior to and during construction.
- 4. Where possible ground excavation works should be undertaken during April to October when animals are active.
- 5. See *General Good Working Practices Items 1 and 2* for avoidance measures relating to open excavations and what to do in the event of any amphibians, small mammals being present.
- 6. If GCNs are encountered, works should stop immediately, and advice should be sought from an experienced ecologist.
- 7. Concrete pours will be undertaken in the morning to allow them to harden prior to the evening when amphibians become active or must be covered overnight.
- 8. Excess cement/concrete must be disposed of in such a way as to prevent contact with animals e.g., poured into a concrete skip and covered.



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- 9. Any caustic materials (e.g., concrete) to be hand mixed must be on ply boarding over a tarpaulin which is folded over the boarding at the end of each day's use to prevent animals coming into contact.
- 10. All building materials will be stored on hard standing or raised off the ground on pallets and away from sensitive boundary habitats (e.g., hedgerows).
- 11. All building waste must be removed from site as promptly as possible to prevent animals seeking refuge.
- 12. Downpipes taking water off the roofs should be sealed at ground level by using a leaf and debris screen⁶ or similar to prevent amphibians entering drains.
- 13. If gully pots are required, they should use small diameter (6mm) grates or discharge via pipes without silt traps straight into a ditch or pond (not a soakaway). Gully pots should be situated ≥100mm from the roadside, OR a wildlife-kerb⁷ must be installed adjacent to each gully pot AND a gully pot ladder⁸ placed into each gully pot.

b) Bats

Impacts

i) Roosts

The likelihood of there being any impacts on roosting bats during construction of the new extension is negligible. However, good working practices described in the mitigation section below will ensure the risk of harm is minimised.

ii) Foraging and commuting habitats

No impacts anticipated.

iii) Light disturbance

Lighting (construction and operational phases) can impact bat commuting and foraging behaviour and increase the risk of predation, which could affect foraging success and population recruitment and is considered a potential significant effect at the Local level. Lighting impacts relate to security lighting external to the building during construction (if required), and potentially from spillage of internal lighting once the buildings in use. In this instance, impacts on mature trees in the adjacent garden to the south of the application site are considered most relevant.

iv) Roofing membranes

Research has shown bats can become entangled in modern breathable roofing membranes if used under certain tiles, such as clay pantiles or peg/plain tiles (Waring *et al.*, 2013) or behind weatherboarding. However, as flat slate tiles are proposed impacts should be avoided, if the tiles are securely fixed.

Mitigation

i) Foraging and commuting habitat

As per 5.5, protective fencing will be used to protect retained trees, hedgerows and shrubs etc.

ii) Light disturbance

Exterior lighting (as well as temporary security lighting during the construction phase) design must minimise lighting impacts upon retained natural habitats including all boundary hedgerows and trees, and should follow current guidance as necessary^{9,10}:

- Type of lamp (light source): Light levels should be as low as possible as required to fulfil the lighting need. Lighting should have a maximum of 7.5 to 10 lux and LED lights should be used using the warm white (or amber) spectrum, with peak wavelengths >550nm (2700°K) and no UV component; and
- Lighting design: Lighting should be directed to where it is needed, with minimal horizontal spillage towards retained/adjacent habitats, including and hedgerows and trees, This can be achieved by restricting the height of the lighting columns/fixtures and the design of the luminaire, including the following measure:
 - Light columns/fixtures in general should be as short as possible as light at a low level reduces the ecological impact.
 - Luminaires with an upward light ratio of 0% should be mounted on the horizontal i.e., with no upward tilt.

⁸ https://www.thebhs.org/the-bhs-amphibian-gully-pot-ladder

⁶ https://www.drainagepipe.co.uk/leaf-and-debris-gully-110mm-p-D94G/

⁷ e.g. <u>https://www.aco.co.uk/products/wildlife-kerb</u>

⁹ https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting

¹⁰ www.eurobats.org/sites/default/files/documents/publications/publication series/WEB DIN A4 EUROBATS 08 ENGL NVK 28022019.pdf



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- If taller lights are required, and as a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill: and
- PIR movement sensors and timers should be used to minimise the 'lit time'.

iii) Roof membrane

As slate tiles (to match existing tiles) are proposed on the new extension roofs, then a breathable membrane can be used, if gaps are less than 5mm.

c) Nesting birds

If undertaken during the bird nesting season (1st March to 31st August) building works could result in the disturbance (e.g. direct or via increased noise levels) and destruction of active nests, and potentially injure or kill young birds, considered a significant negative effect (an offence under wildlife legislation) at the Local level.

Mitigation

Commencement of the building works should take place outside of the nesting bird season. If this is not feasible, a check for nesting birds should be undertaken prior to any demolition if any active nests are present, works within 5m must wait until the young have fledged.

d) Hedgehogs

Impacts

During construction, hedgehogs could potentially fall into open trenches resulting in entrapment and possible injury and mortality of individuals due to falling in or becoming in contact with caustic substances such as fresh concrete. In combination such impacts would be considered to result in a negative ecological effect at the Local level.

Mitigation

See General Good Working Practices to minimise the risk of animals falling into trenches created for utilities/service runs and concrete pours.

Cumulative effects

The Mid Suffolk District Council planning portal was searched for relevant applications within 1km, dating back two years. Refused and withdrawn applications were not considered. The search returned a low number of householder applications for alterations and/or extensions to existing dwellings and/or garages, with several applications relating to non-material amendments or discharge of conditions for previously decided schemes (beyond the two-year search period) as well as a single minor residential scheme (DC/22/04344) currently under consideration, and an application for the change of use of land for equine use (DC/22/04344). No applications for major development projects were submitted.

Due to the relatively limited nature of the scheme and planning search results returned, no significant cumulative effects are anticipated.

Biodiversity enhancements

Mitigation measures proposed will ensure negative ecological effects are minimised. However, to be consistent with planning policy, biodiversity gains could be delivered through suggested enhancement measures. To maximise biodiversity 3 of the 5 enhancements should be implemented:

- 1. Heritage fruit cultivars: x4 local heritage fruit cultivars¹¹ could planted within the grassland area to the southeast of the dwelling. This would enhance the biodiversity value of the site (e.g. pollinators and windfall fruit for birds, mammals, and invertebrates) and provide the landowners with a seasonal harvest.
- 2. Nectar-rich plants: Any ornamental planting should utilise nectar rich plants to benefit pollinators and associated predators (e.g., foraging bats and hedgehogs). Planting should include nectar rich climbers, such as honeysuckle (Lonicera

¹¹ https://www.applesandorchards.org.uk/buy-fruit-trees/suffolk/



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periclymenum), as well as night-scented species e.g., white jasmine (*Jasminum officinale*). These could be trained up walls, fences, posts, and trellises at c. 5m intervals.

- 3. <u>Grassland management:</u> An area of existing grassland area to the southeast of the dwelling could be enhanced to become more floristically diverse through the adoption of appropriate management practices and overseeding with a wildflower seed mix suitable for the underlying soils/geology. The grassland could be sown with a suitable native, species-rich mix with a proportion of 70-80% grasses and 20-30% wildflowers e.g. Emorsgate Seeds: EM3 Special General-Purpose Meadow Mixture¹²; or Boston Seeds: Traditional Wildflower Meadow Seed BS1M 80/20¹³.
- 4. <u>Barn owl habitat creation:</u> To enhance foraging opportunities for barn owls (*Tyto alba*), a strip of rough grassland could be created and maintained to the southeast of the dwelling. This grassland must feature a tussocky sward of native grasses and a litter layer at least 7cm deep to provide suitable habitat for the field vole (*Microtus agrestis*), the primary prey item of the barn owl.
- 5. <u>Small passerine bird boxes:</u> A sparrow terrace¹⁴ (x1), an open-fronted nest box¹⁵ and an apex starling nest box¹⁶ could be erected on the walls of dwellings on the east or north elevations.

It is generally advised that subject to no significant change in site management regimes, and dependent on the species present, baseline survey results typically remain valid for approximately 12 – 18 months (CIEEM, 2019).

Kind regards,

Christian Whiting BSc (Hons) MSc Ecologist, MHE Consulting Ltd

¹² https://wildseed.co.uk/mixtures/view/4

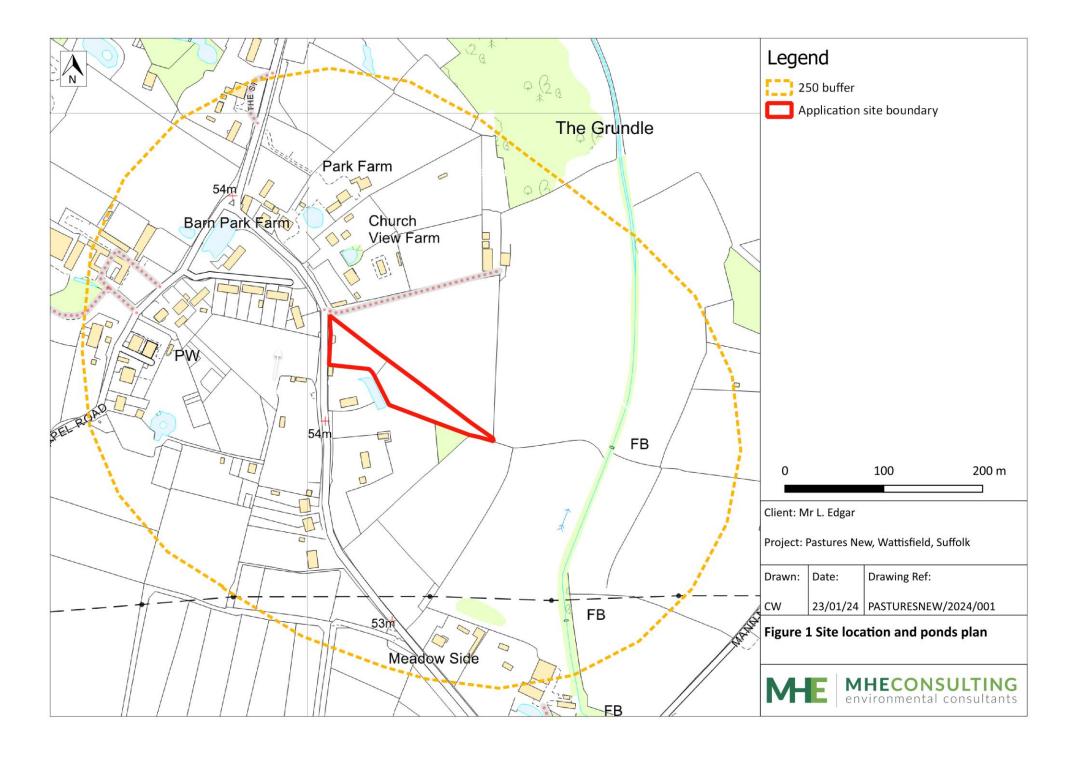
¹³ https://www.bostonseeds.com/products/wildflowers-seed/wildflower-seed-mixtures-20/bs1m-traditional-wildflower-meadow-seeds.html

¹⁴ https://www.nhbs.com/1sp-schwegler-sparrow-terrace

https://www.nhbs.com/vivara-pro-barcelona-woodstone-open-nest-box

¹⁶ https://shopping.rspb.org.uk/garden-bird-nest-boxes/apex-starling-nestbox

Figures



Photos



Photo 1 East elevation of the existing dwelling



Photo 2 Southeast corner of the dwelling, where the new rear extension is proposed



Photo 3 Southwest corner of the dwelling, where the new rear extension is proposed



Photo 4 West elevation of the dwelling and adjacent gravel driveway



Photo 5 Paved area where front (west) extension is proposed



Photo 6 Laurel hedgerow and silver birch adjacent to the gated access.



Photo 7 Grassland and scattered trees/shrubs to the southeast of the dwelling and garden.



Photo 8 Pond P1 immediately south of the application site boundary



Photo 9 Pond P2



Photo 10 Log pile at the edge of the front lawn.



Photo 11 Sealed timber beneath porch roof on west elevation

Appendices

Appendix A1 GCN ID Poster



Great Crested Newt

If seen by any employee, works must cease immediately and an ecologist be contacted for advice

> It is an offence to intentionally or recklessly disturb, injure or kill great crested newts

Further information can be found at www.arguk.org





