
Preliminary Ecological Appraisal

Land adjacent 30 Collimer Close,
Chelmondiston

for

Mullins Dowse Architects Ltd.

18 December 2023



Client

Mullins Dowse Architect Ltd.

Planning authority

Babergh District Council

Time limit of reliance

Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports and surveys can typically be relied on for 18 to 24 months from the date of survey.

Surveys supporting European Protected Species Mitigation Licence applications must be within the current or most recent survey season for bats (May to September), or within two survey seasons for great crested newts (March to June).


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Signed disclosure The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions. Nathan Duszynski, ACIEEM	
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SUMMARY

Greenlight Environmental Consultancy Ltd. has been commissioned to carry out a Preliminary Ecological Appraisal for a proposed development at land adjacent 30 Collimer Close, Chelmondiston, Suffolk, IP9 1HX (grid reference: TM 20362 37594).

This report outlines the habitat features on site, the likelihood of protected species being present and any potential effects of the proposed development on such species.

The ecology report is required in support of a planning application for the demolition of building two and construction of a single residential dwelling.

The survey and assessment were completed by independent, qualified and experienced ecologists with Natural England survey licences for the relevant protected species.

The findings of the assessment are that the habitats on the site are of low ecological value and that there are no significant ecological constraints that would prevent the proposed works.

A pre-construction survey for badgers is required post-planning and prior to works commencing to inform an appropriate mitigation strategy if necessary.

If the following mitigation and enhancements are incorporated into the proposed layout, there will be a net gain for biodiversity, as is encouraged by the National Planning Policy Framework.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Protected sites	Four statutory and four non-statutory protected sites within 2km. Site located within Zone A of Suffolk RAMS zone of influence.	Increased recreational pressure on European designated sites and their qualifying features, but not significant.	<u>Mitigation</u> A Recreational Avoidance Mitigation Contribution will be made payable to Babergh District Council. Prices dated at the time of this report are £121.89 per unit.
Protected habitats and habitats subject to conservation designations	Other developed land, other neutral grassland and other native hedgerow (Priority Habitat) will be removed as part of the proposed works.	Low scale of habitat loss predicted for wildlife.	<u>Mitigation</u> Soft landscaping scheme to include: The planting of new native species-rich hedgerows and trees around the site. Flowering lawn mixture in garden space, rich in nectar and pollen. Construction work to be carried out in accordance with BSI (2012), BS 5837:2012, to protect trees and their root protection areas.
Bats	Buildings one and two have negligible summer and hibernation bat roosting potential.	Potential disturbance/ destruction of bat roosts if present in trees.	<u>Mitigation</u> If proposed works change to affect trees with PRF-I bat roosting potential, a soft-fell approach will be adopted and one standalone bat box installed for every PRF-I tree felled prior to removal to

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
	<p>PRF-I bat roosting potential in two trees located on site.</p> <p>Low value commuting and foraging habitat on site.</p>	<p>Low scale loss and potential light disturbance of commuting and foraging habitats on site.</p>	<p>compensate for loss of potential roosting features.</p> <p>Any lighting schemes will comply with Bat Conservation Trust (GN08/23) and CIE 150:2017 guidance.</p> <p><u>Enhancement</u></p> <p>Installation of one integrated and one standalone bat box installed on new dwelling and an appropriate tree respectively.</p>
Breeding birds	<p>Nesting habitats for hedgerow and tree nesting birds present on site, including potential breeding habitat for Red and Amber listed species.</p> <p>No suitable barn owl foraging habitat on site.</p>	<p>Low scale loss of nesting habitat on site.</p> <p>Potential disturbance to breeding birds.</p>	<p><u>Mitigation</u></p> <p>Works to any hedgerow and trees on site to be conducted outside bird nesting season or under watching brief of ecologist if during nesting season.</p> <p><u>Enhancement</u></p> <p>Installation of one integrated swift box and one small bird box, installed on new dwelling and an appropriate tree respectively.</p>
Great crested newts	<p>Suboptimal terrestrial habitats on site.</p> <p>Four ponds within 250m of the site, one assessed as good suitability and three could not be accessed for detailed assessment.</p> <p>No GCN records within 2km.</p>	<p>Loss of GCN terrestrial habitat not considered significant to a local population of GCN, if present.</p> <p>Rapid Risk Assessment indicates “<i>offence highly unlikely</i>”.</p>	<p><u>Precautionary mitigation</u></p> <p>Cut and maintain vegetation short (maximum height of 10cm) on and around the site until the start of works, clearing from south to north.</p> <p>Removal of refugia by hand. In the highly unlikely event GCN are found, work will cease immediately, and a licenced ecologist contacted.</p> <p>Rough sawn planks placed inside any open excavations.</p> <p>Construction materials will be stored off the ground on pallets and waste materials in skips.</p> <p>Creation of one habitat pile.</p> <p>Soft landscaping scheme to include the planting of new trees and hedgerows on and around the site, using native species.</p>
Reptiles	<p>Habitats on site suboptimal.</p> <p>Nine reptile records within 2km.</p>	<p>Reptiles unlikely to be found on site due to small quantities of suitable habitats present.</p> <p>No impacts predicted.</p>	<p><u>Precautionary mitigation</u></p> <p>Mitigation for GCN above will be implemented to avoid impacts on reptiles from the proposed work.</p>

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Other animals	N/A	Potential harm to animals.	<p><u>Mitigation</u></p> <p>If fencing is required, this will be porous and provide openings for hedgehogs. Rough sawn planks will be placed inside any open excavations. Construction materials will be stored off the ground on pallets and waste materials in skips.</p> <p><u>Enhancement</u></p> <p>Creation of one habitat pile. Installation of one bee brick.</p>

1. METHOD

- 1.1. A walkover of the site was conducted on 29th November 2023 by Miranda Proctor – an independent, qualified and experienced ecologist. Survey conditions were as follows: 3°C, 5mph wind, sunny and dry.
- 1.2. All survey methods were carried out in accordance with the most up to date good practice guidance for the relevant protected species. Please refer to Appendix A for the full methodology and species breakdown.
- 1.3. The habitats on and directly adjacent the site were considered unsuitable for the following protected species, with no evidence or signs of use observed. No further surveys or mitigation for these species are detailed in this report:

Water vole *Arvicola amphibius*

Otter *Lutra lutra*

White-clawed crayfish *Austropotamobius pallipes*

Hazel dormouse *Muscardinus avellanarius*

Natterjack toad *Epidalea calamita*

2. SITE CONTEXT

Location

- 2.1. The general location of the site is shown in Figure 1 below.
- 2.2. The site is situated on the northern edge of the village of Chelmondiston, with the River Orwell located approximately 0.8km northeast, the A12 located approximately 3.5km north, the River Stour 4.4km south, a railway line located approximately 8.2km west and the Suffolk coast located approximately 8.3km southeast. The closest town is Ipswich, 3.8km north of the site.
- 2.3. The site is enclosed by grassland to the north and residential dwellings on all other boundaries. The wider surroundings are comprised of a mixture of residential dwellings, blocks of woodland, rivers and riparian habitats, grassland and arable fields lined with mature trees and hedgerows.

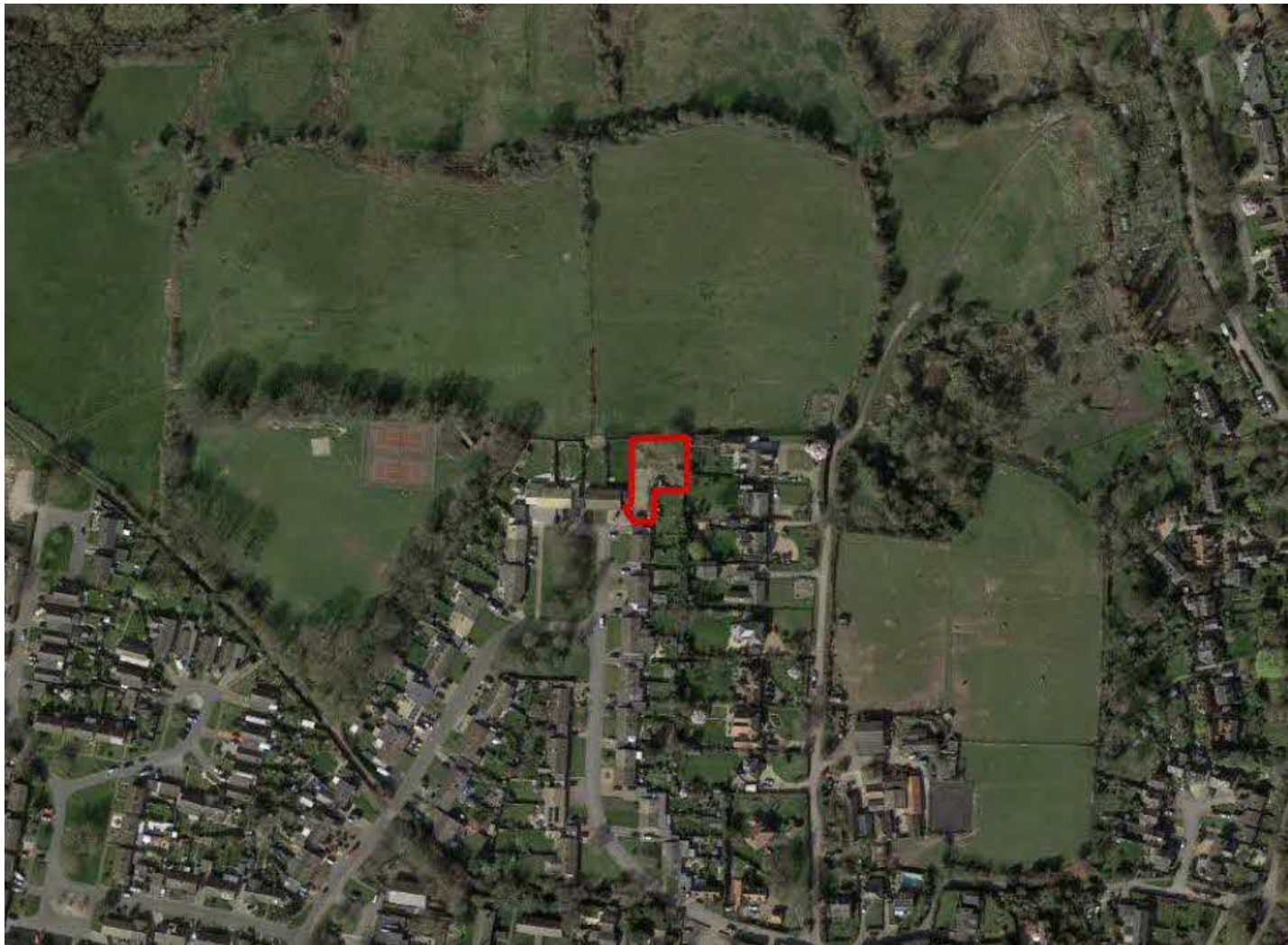


Figure 1
Satellite image of site surroundings, site indicated by red line.
Image © Google, date accessed 17/11/23

3. DESCRIPTION OF THE DEVELOPMENT

- 3.1. The proposals are for the demolition of building two, and construction of a single residential dwelling. Please refer to Appendix K for the proposed plans.

4. PROTECTED SITES

Statutory

- 4.1. There are four statutory protected sites located within 2km – one Area of Outstanding natural Beauty (“AONB”), one Ramsar site, one Special Protection Area (“SPA”) and one Sites of Special Scientific Interest (“SSSI”). Please refer to Appendix C for the full citation.

- i. Suffolk Coast & Heaths AONB.

“The Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) is a low-lying coastal landscape of astonishing variety, stretching from the Stour estuary in the South to Kessingland in the north, and covering 403 square kilometres.” Landscapes for Life, 2023.

- ii. Stour & Orwell Estuaries Ramsar & SPA, approximately 0.5km north.

“The Stour and Orwell Estuaries is a wetland of international importance, comprising extensive mudflats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. It provides habitats for an important assemblages of wetland birds in the non-breeding season and supports internationally important numbers of wintering and passage wildfowl and waders.”

- iii. Orwel Estuary SSSI, approximately 0.5km north.

“The Orwell Estuary is of national importance for breeding avocet *Recurvirostra avosetta*, its breeding bird assemblage of open waters and their margins, nine species of wintering waterfowl (including black-tailed godwit *Limosa limosa islandica*), an assemblage of vascular plants, and intertidal mud habitats.”

- 4.2. Although the proposed development falls outside of all SSSI Impact Risk Zones relating to rural residential developments, being a development of less than 50 units, it falls within Zone A of the emerging Suffolk Recreational Disturbance Avoidance and Mitigation Strategy (“RAMS”) zone of influence.

Non-statutory

- 4.3. There are four non-statutory protected sites located within 2km – four County Wildlife Sites (“CWS”). Please refer to Appendix C for the full citations.

- i. Bylam Wood CWS, approximately 1.4km southwest.
“Bylam Wood is situated in an intensively farmed landscape south of Woolverstone and is listed in Natural England’s Inventory of Ancient Woodland.”
- ii. Broomfield Covert CWS, approximately 1.2km south.
“Broomfield Covert is an ancient woodland and listed in the Suffolk Ancient Woodland Inventory, compiled by English nature.”
- iii. Glebe Wood CWS, approximately 1.8km west.
“Glebe Wood is a small ancient woodland situated to the south of Woolverstone and is listed in Natural England’s Inventory of Ancient Woodland.”
- iv. Rence Park/Upper Grove CWS, approximately 1.2km south.
“This site is listed in the Suffolk Ancient Woodland Inventory compiled by Natural England and lies to the south of Chelmondiston and the B1456.”

5. HABITATS

Desktop review

- 5.1. Priority Habitats to occur within 2km (identified using MAGIC – managed by Natural England), include Coastal Saltmarsh, Mudflats, Coastal and Floodplain Grazing Marsh, Lowland Heathland, Deciduous Woodland, Traditional Orchards and Woodpasture and Parkland BAP Priority Habitat. The closest of which, is Coastal and Floodplain Grazing Marsh located approximately 270m northeast of the site.

Field study

- 5.2. The habitats on the site are of low ecological value, being mainly other developed land heavily encroached by vegetation, and built linear features and hedgerows (Priority Habitat) on the site peripheries.
- 5.3. Priority Habitats, as listed under the NERC Act 2006 Section 41 Habitats of Principal Importance found on site include: Hedgerows.
- 5.4. Figure 2 provides a map of the habitats present on the site. NERC Act 2006 Section 41 habitats have been identified where relevant. A full list of plant species recorded on site is attached in Appendix E.

Other neutral grassland (UK Habitat Classification g3c; secondary code: 16 tall forbs and 521 unmanaged)

- 5.5. Other neutral grassland occurs toward the north and east site boundaries; has approximately 9-15 species per m² and is unmanaged featuring tall forbs species. Species include: barren brome *Bromus sterilis*, bent *Agrostis* sp., bristly oxtongue *Helminthotheca echioides*, cleavers *Galium aparine*, common storksbill *Erodium cicutarium*, cow parsley *Anthriscus sylvestris*, cranesbill *Geranium* sp., dandelion *Taraxacum officinale*, green alkanet *Pentaglottis sempervirens*, herb-robert *Geranium robertianum*, hogweed *Heracleum* sp., mallow *Malva* sp., meadow grass *Poa* sp., medick *Medicago* sp., nettle *Urtica dioica*, prickly sow thistle *Sonchus asper*, ragwort *Jacobaea vulgaris*, ribwort plantain *Plantago lanceolata*, smooth sow thistle *Sonchus oleraceus*, spear thistle *Cirsium vulgare*, white clover *Trifolium repens* and Yorkshire fog *Holcus lanatus*.

Other native hedgerow (UK Habitat Classification h2a6: secondary codes: 11 hedgerow with trees, 50 ditch, 112 earthbank, 500 dry and 521 unmanaged) – Priority Habitat

- 5.6. The site features a native hedgerow with trees which is unmanaged along the northern boundary. Hedgerow species include: beech *Fagus sylvatica*, bindweed *Convolvulus* sp., bramble *Rubus fruticosus*, elder *Sambucus nigra* and holly *Ilex aquifolium*. Tree species include: walnut *Juglans regia*.
- 5.7. The site features a native hedgerow along the eastern site boundary comprised of field maple *Acer campestre* and hawthorn *Crataegus monogyna*.
- 5.8. These hedgerows do not qualify as “important” under The Hedgerow Regulations 1997, lacking the required number of native woody species or associated features.

Buildings (UK Habitat Classification u1b5)

- 5.9. There are two buildings on site. Please refer to the bat section detailed below for further information.

Other developed land (UK Habitat Classification u1b6: secondary codes: 10 scattered scrub and 81 ruderal or ephemeral)

- 5.10. The majority of the site features compacted gravel hardstanding, with extensive vegetation encroachment. Species include: barren brome, bristly oxtongue, cleavers, common storksbill, dill *Anethum graveolens*, fennel *Foeniculum vulgare*, feverfew *Tanacetum parthenium*, forget-me-not *Myosotis* sp., herb-robert, hogweed, mallow, nettle, prickly sow thistle, ribwort plantain, smooth sow thistle, spear thistle, willowherb *Epilobium* sp. and Yorkshire fog.
- 5.11. Scattered scrub occurs across the site and includes: birch *Betula* sp. saplings, bramble, buddleia *Buddleja* sp. and holly.

Built linear features (UK Habitat Classification u1e: secondary codes: 612 fence)

- 5.12. The site features a mixture of closeboard fencing, post and rail fencing and post and wire fencing along the site boundaries.

Target note	Comments
A	Earth mound
B	Gravel mound
C	Mammal track
D	Snuffle hole
E	Stacked materials
F	Fire heap

Table 1, target notes.

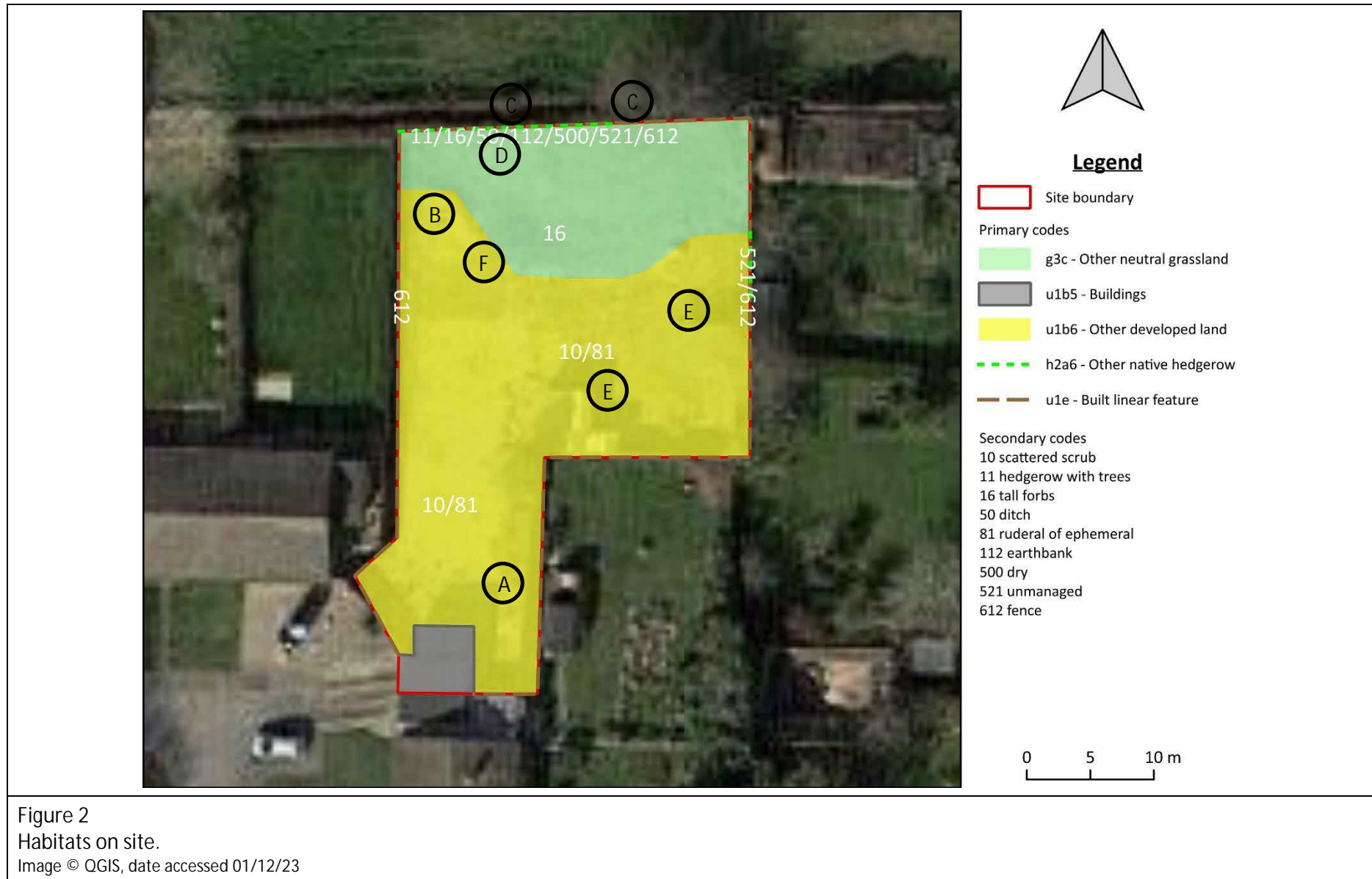




Photo 1, road frontage and existing southwest access to the site, looking northeast.



Photo 2, looking northeast across the site featuring other developed land encroached by vegetation.



Photo 3, looking southeast across the site from the northwest corner.

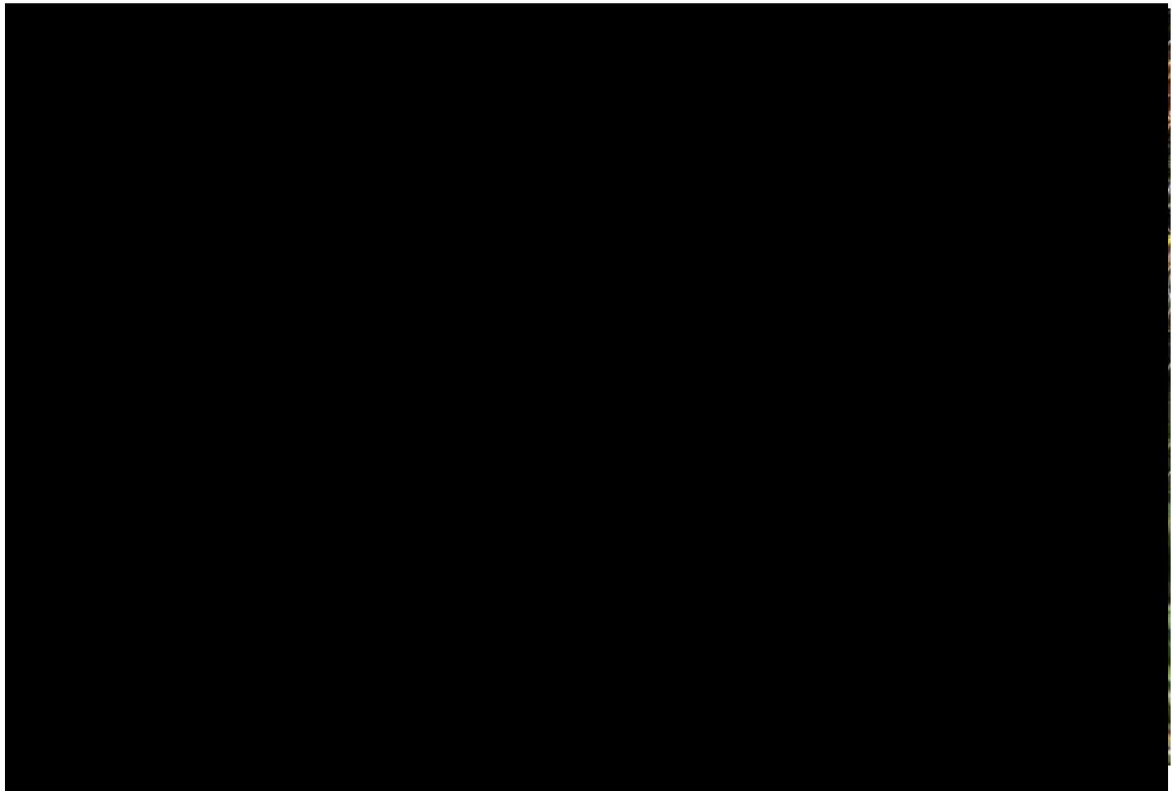




Photo 5, looking north toward the mammal track running east of the northern boundary hedgerow.



Photo 6, pile of logs from felled tree.



Photo 7, stacked materials on site.

6. PROTECTED AND NOTABLE SPECIES

Desktop review

Data search

6.1. The biodiversity data search within 2km of the site indicated 1,694 records from 260 species.

6.2. Records of note within 2km and relevant to the proposed development works are:

Ten barn owl *Tyto alba* records, with the most recent from 2021.

29 swift *Apus apus* records, with the most recent from 2021.

Nine reptile records, with the most recent from 2022. The closest records are located approximately 0.6km west and northeast. Species include: slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*.

Five badger *Meles meles* records, with the most recent from 2020. The closest record is located approximately 1km west.

59 hedgehog *Erinaceus europaeus* records, with the most recent from 2022.

38 bat records, with the most recent from 2022, including common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles *Pipistrellus pygmaeus*, unidentified pipistrelle *Pipistrellus* sp., brown long-eared *Plecotus auritus*, serotines *Eptesicus serotinus*, noctules *Nyctalus noctula*, Natterer's *Myotis nattereri*, barbastelles *Barbastella barbastellus* and other unidentified bat species.

Protected species licences

6.3. A 2km search on <http://www.magic.gov.uk/> indicated one record of a granted European Protected Species ("EPS") Mitigation Licence relating to:

Bats (case reference: 2019-39154-EPS-MIT) from 2019, approximately 1.7km northwest.

Species on the licence include: common pipistrelle and brown long-eared.

Bats

- 6.4. There are two buildings and two trees with bat roosting potential located on and adjacent site, as indicated in Figure 3 and photos 8-12.



Buildings one & two

- 6.5. The buildings vary in construction and are comprised of:

Building one – brick walls with a flat bitumen felt lined roof. The garage features timber fascias and a large metal garage door on the west aspect. The roof space is open with low natural light levels featuring timber trusses and polystyrene sheet lining. Whilst there are crevices internally these are heavily cobwebbed and no access points were observed internally or externally.

Building two – breezeblock walls with a flat bitumen felt lined roof. The building features timber fascias and timber framed windows and doors. Internally the roof space is open with moderate natural light levels featuring timber trusses and polystyrene sheet lining. Whilst

there were small crevices beneath lifted bitumen these were cobwebbed and would be subject to environmental fluctuations.

- 6.6. There were no signs of use by bats on the building exteriors or interiors and the structures provide unsuitable roost environments, with no suitable cavities for roosting bats and/or access points. The buildings are assessed as negligible (summer and hibernation) roost suitability for bats.



Photo 8, west aspects of buildings one and two.



Photo 9, internal view of building one looking east.



Photo 10, internal view of building two looking west.

Trees

- 6.7. The trees on and directly adjacent the site were assessed for bat roosting potential.
- 6.8. Two trees were assessed as having the potential to support roosting bats, based on their location, age and suitable features, and assessed as Potential Roost Feature – Individual (“PRF-I”) (Table 2, Figure 3).
- 6.9. The remaining trees are assessed as none bat roosting potential, due to their age and/or lack of features.

Tree No.	Tree species	What3words	Bat roosting potential	Potential roosting features
1	Walnut	sweeter. redeeming. admits	PRF-I	Lifted bark
2	Cherry	dentures. skill. coasting	PRF-I	Moderate ivy cover

Table 2, trees with bat roosting potential.



Photo 11, tree one with lifted bark, looking southwest.



Photo 12, tree two with moderate ivy cover, looking east.

Foraging and commuting links

- 6.10. The site itself provides low value foraging habitat for bats along the boundary hedgerows.
- 6.11. The landscape immediately adjacent to the site is considered of moderate value for foraging and commuting bats, with linked gardens, hedgerows and treelines providing links to the wider landscape. Additionally, the River Orwell located approximately 0.8km northeast and the River Stour 4.4km south provide links to the wider landscape. Residential dwellings adjacent the site and within Chelmondiston have the potential to provide roosting opportunities for bats.

Birds

- 6.12. Birds in the UK are classified into three categories of conservation importance - red, amber and green. Factors such as global threat level, population decline, breeding population decline and contraction of breeding range are taken into account to determine classification.
- 6.13. The following bird species were observed during the site visit:

Amber listed:

Black-headed gull	Chroicocephalus ridibundus
Rook	Corvus frugilegus
Woodpigeon	Columba palumbus
Wren	Troglodytes troglodytes

Green listed:

Blackbird	<i>Turdus merula</i>
Blue tit	<i>Cyanistes caeruleus</i>
Jay	<i>Garrulus glandarius</i>
Magpie	<i>Pica pica</i>
Robin	<i>Erithacus rubecula</i>

Introduced:

Pheasant	<i>Phasianus colchicus</i>
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- 6.14. The site provides suitable nesting habitats for hedgerow and tree nesting species.
- 6.15. The site has the potential to support nests for the following Red listed species: mistle thrush *Turdus viscivorus*.
- 6.16. The site has the potential support nests for the following Amber listed species: dunnock *Prunella modularis*, song thrush *Turdus philomelos* and woodpigeon.
- 6.17. Please note, the species listed in the paragraphs above are not exhaustive, as birds can nest in unexpected locations. Additionally nesting parameters may change between years and following building/habitat management.
- 6.18. No signs of barn owl were found on the site and no foraging habitat is present.

Great crested newts

- 6.19. There are no ponds within the survey site and four further ponds within 250m, which for the size of the development and nature of terrestrial habitat on the site, is a sufficient distance to consider for assessment (Figure 4). GCN are most likely to occupy good quality terrestrial habitat within 250m of a breeding pond (English Nature, 2001).
- 6.20. The terrestrial habitats on the site are considered suboptimal for GCN, consisting of heavily encroached other developed land, unmanaged other neutral grassland and hedgerows along site boundaries.
- 6.21. Terrestrial habitats adjacent the site include a mixture of unsuitable (grazed grassland, riparian habitats and residential dwellings with associated gardens and hardstanding) and suitable (unmanaged grassland and hedgerows) GCN foraging and commuting habitats.
- 6.22. Pond one was assessed as good suitability for GCN (Table 3); please note the pond was assessed from a distance and therefore a precautionary approach was adopted when using the HSI scoring system. Ponds 2-4 were not assessed in detail, as authorised access to the ponds was not available.

- 6.23. The site falls within the Green risk zone for GCN district level licensing, which is classified as “containing sparsely distributed GCN and are less likely to contain important pathways of connecting habitat for this species” (Natural England, 2021).
- 6.24. The River Orwell located approximately 0.8km northeast and residential dwellings to the south, east and west act as habitat barriers and ecologically separate the site from ponds in the local vicinity.

Pond	1
Geographic location	Zone A
	1.00
Pond surface area (m ²)	350m ²
	0.70
Desiccation rate	Sometimes
	0.50
Water quality/ invert density	Moderate
	0.67
Shoreline shade (%)	80%
	0.60
Waterfowl impacts	Absent
	1.00
Fish impacts	Possible
	0.67
Ponds within 1km	9
	0.93
Terrestrial habitat quality	Moderate
	0.67
Macrophyte cover (%)	80%
	1.00
HSI Score	Good
	0.75

Table 3, HSI score for ponds within 250m of the proposed site.

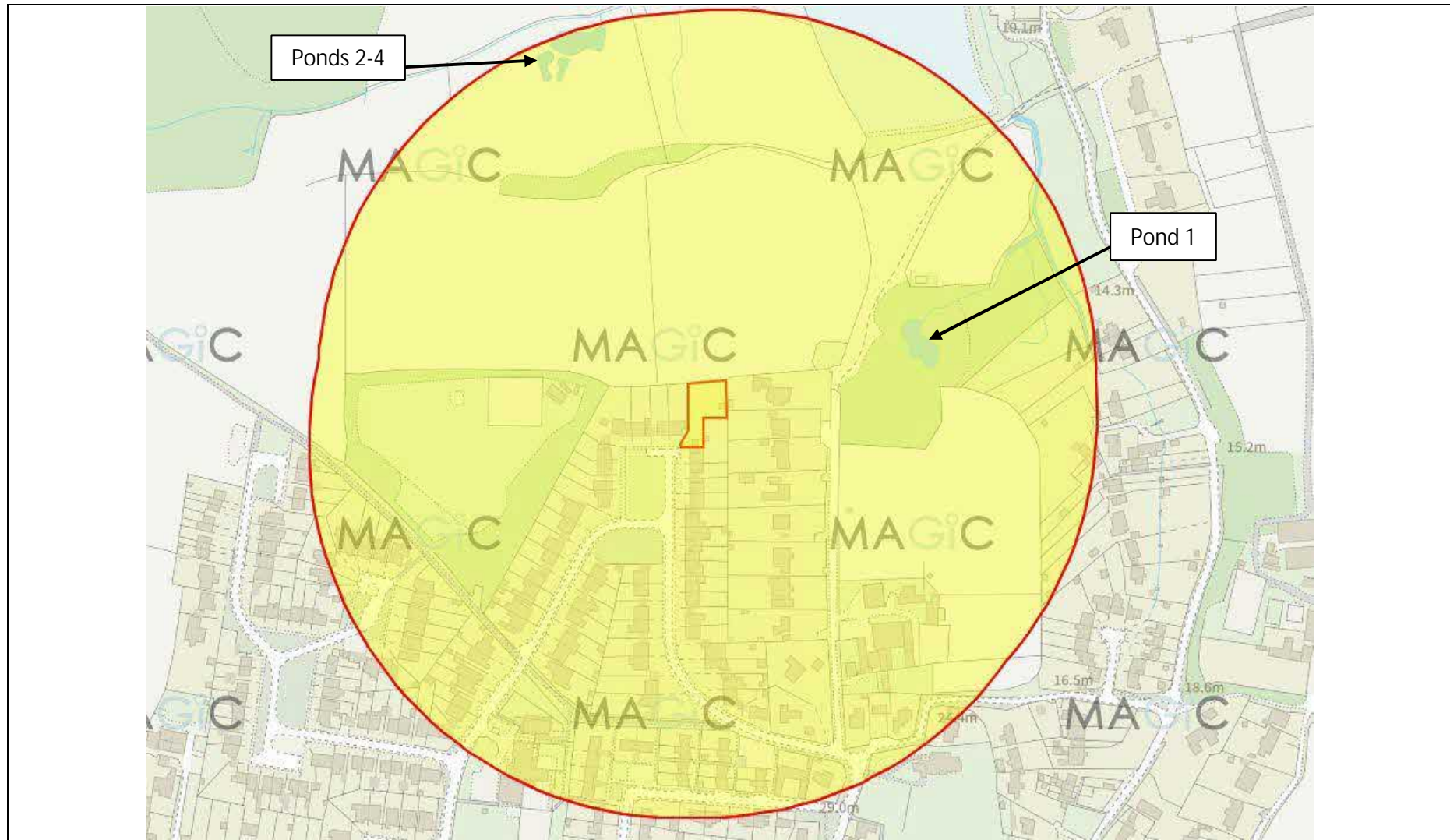
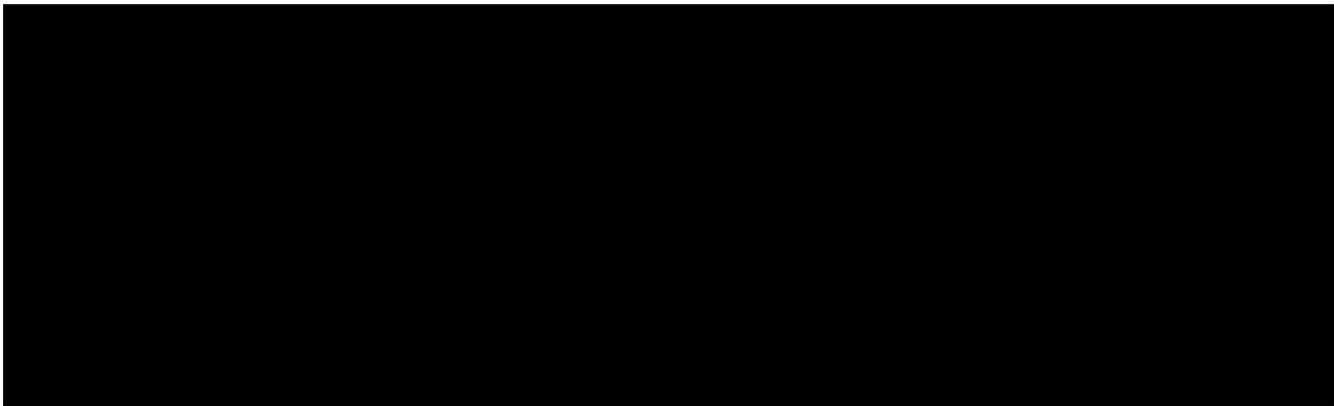


Figure 4
Ponds within 250m of the proposed site.
Image © MAGIC, date accessed 01/12/23

Reptiles

- 6.25. The habitats on the site are considered suboptimal for reptiles, consisting of heavily encroached other developed land, unmanaged other neutral grassland and hedgerows along site boundaries.
- 6.26. Habitats located on the site boundaries including the base of the hedgerows and the dry ditch could be used as commuting habitats by reptiles if they were present in the area.
- 6.27. Terrestrial habitats adjacent the site include a mixture of unsuitable (grazed grassland and residential dwellings with associated gardens and hardstanding) and suitable (unmanaged grassland and hedgerows) reptile foraging and commuting habitats.



Other animals

- 6.30. The site is considered predominantly unsuitable for stag beetles *Lucanus cervus*, with the only deadwood located on site from the recently felled trees, which has had little time to decay/rot (Photo 6).

7. DISCUSSION AND CONCLUSIONS

Protected sites

- 7.1. The development footprint falls outside all identified protected sites (statutory and non-statutory). There are four statutory protected sites and four non-statutory protected sites located within 2km of the site.

The closest statutory protected site (Suffolk Coast AONB), is located on site and designated for its coastal landscapes.

The closest non-statutory protected sites (Broomfield Covert and Rence Park/Upper Grove CWS), are located approximately 1.2km south of the site and designated for their ancient woodland habitats.

- 7.2. Although the proposed development falls outside of all SSSI Impact Risk Zones relating to rural residential developments, being a development of less than 50 units, it falls within Zone A of the Suffolk RAMS, being a housing development within the zone of influence for European designated sites.

- 7.3. The following mitigation will be implemented to avoid potential impacts on European designated sites and their features from the proposed works:

- i. A Recreational Avoidance Mitigation Contribution will be made payable to Babergh District Council. Prices dated at the time of this report are £121.89 per unit.

- 7.4. After these above mitigation measures, we predict no impact on statutory or non-statutory protected.

Habitats

- 7.5. The proposed works will require the demolition of building two, the removal of ≈0.06ha other developed land with encroaching vegetation and clearance of vegetated habitats on site including ≈0.03ha of other neutral grassland and ≈20m of other native hedgerow (Priority Habitat). This is expected to result in a low scale loss of nesting habitat for hedgerow and tree nesting birds, and a low scale loss of foraging features for bats. Please refer to the bat section below for predicted impacts on buildings and trees with potential bat roosts.

- 7.6. As a precautionary measure, the following mitigation will be implemented to avoid impacts on habitats from the proposed works:

- i. A soft landscaping scheme to include:

- a. The planting of new native species-rich (≥ 5 species), hedgerows and trees on and around the site (see Appendix F for suggested species).
- b. The planting of a flowering lawn mixture in garden space, which rich in nectar and pollen (see Appendix F for suggested seed mix).
- ii. Construction works carried out in accordance with British Standards Institution (2012), BS 5837:2012, Trees in relation to design, demolition and construction – recommendations, to protect trees which are to be retained and their root protection areas.

Bats

- 7.7. The proposed works are expected to result in a low scale loss of potential roosting, foraging and commuting habitats for bats through the demolition of building two, clearance of vegetation and through increased noise and light levels.
- 7.8. As a precautionary measure, the following mitigation will be implemented to avoid impacts on bats from the proposed works:
 - i. If proposed works change to incorporate trees with PRF-I bat roosting potential, a soft-fell approach will be adopted and one standalone bat box installed on a suitably mature tree or building for every PRF-I tree felled prior to their removal and to compensate for the loss of potential roosting features (Greenwood's Ecohabitats three crevice bat box – Appendix G). Soft-felling is where the tree limbs are cut, slowly lowered to the ground and left overnight with roosting features pointing upwards, to allow any roosting bats the opportunity to disperse. If a bat is found, works must cease immediately and a suitably licensed ecologist sought to advise on appropriate mitigation.
 - ii. Any lighting schemes will follow guidance from the Bat Conservation Trust (GN08/23) and CIE 150:2017. Warm-white (<3,000K) lights with UV filters (where necessary) will be installed away from roosting locations and linear features. Lighting units will feature a beam angle <math><70^\circ</math>, connected to movement sensors and feature baffles, hoods, louvres and horizontal cut off units at
- 7.9. Building Regulations state that the energy efficiency of buildings must be improved where possible and that contractors must assess the condensation risk within the roof space and make appropriate provisions in line with BS 5250:2011. This British Standard states that both High Resistance (bitumen type 1F) and Low Resistance (non-bitumen coated roofing membranes (NBCRM)) underlays are acceptable as long as appropriate ventilation is provided. As NBCRM are proven to entangle bats through regular contact, which also compromises the integrity of

the membrane, the Bat Conservation Trust recommend only NBCRM that have passed the snagging propensity test (must be supplied/installed with the necessary certification) or traditional type 1F bitumen are used.

7.10. As enhancements, the following will be implemented:

- i. One integrated bat box installed on the new residential dwelling on site (Bat Block – Appendix G).
- ii. One standalone bat box installed on a suitable tree on site (Greenwood’s Ecohabitats three crevice bat box – Appendix G).

7.11. After these precautionary mitigation measures, we predict no impact on bats as a result of the development plans. We consider that a European Protected Species Licence will not be required, and no further surveys are necessary.

Birds

7.12. The proposed works are expected to result in a low scale loss of bird nesting habitat through the demolition of building two and clearance of vegetation, including ≈0.03ha of other neutral grassland and ≈20m of other native hedgerow (Priority Habitat).

7.13. As a precautionary measure, the following mitigation will be implemented to avoid impacts on birds from the proposed works:

- i. Any works affecting bird nesting habitat such as management of hedgerows and trees would ideally need to be conducted outside the main nesting season. If work is planned during the bird nesting season (between 1st March and 31st July), then a precautionary check of all habitats will be conducted by a qualified ecologist immediately prior to starting any work. If any nesting birds are found, an appropriate protection zone from the nest will be required and will be maintained until the young have fledged.

7.14. As enhancements, the following will be implemented:

- i. One integrated swift box installed on the new residential dwelling on site (Swift Block – Appendix G).
- ii. One small bird box installed on an appropriate tree on site (Schwegler 1B or 2H Nest Box – Appendix G).

7.15. Natural England and Local Planning Authorities (“LPA”) have recognised a significant decline in swift populations across the country, and are actively endorsing integrated swift boxes to

provide a net gain in biodiversity, as is encouraged by National Planning Policy Framework (NPPF) 2023.

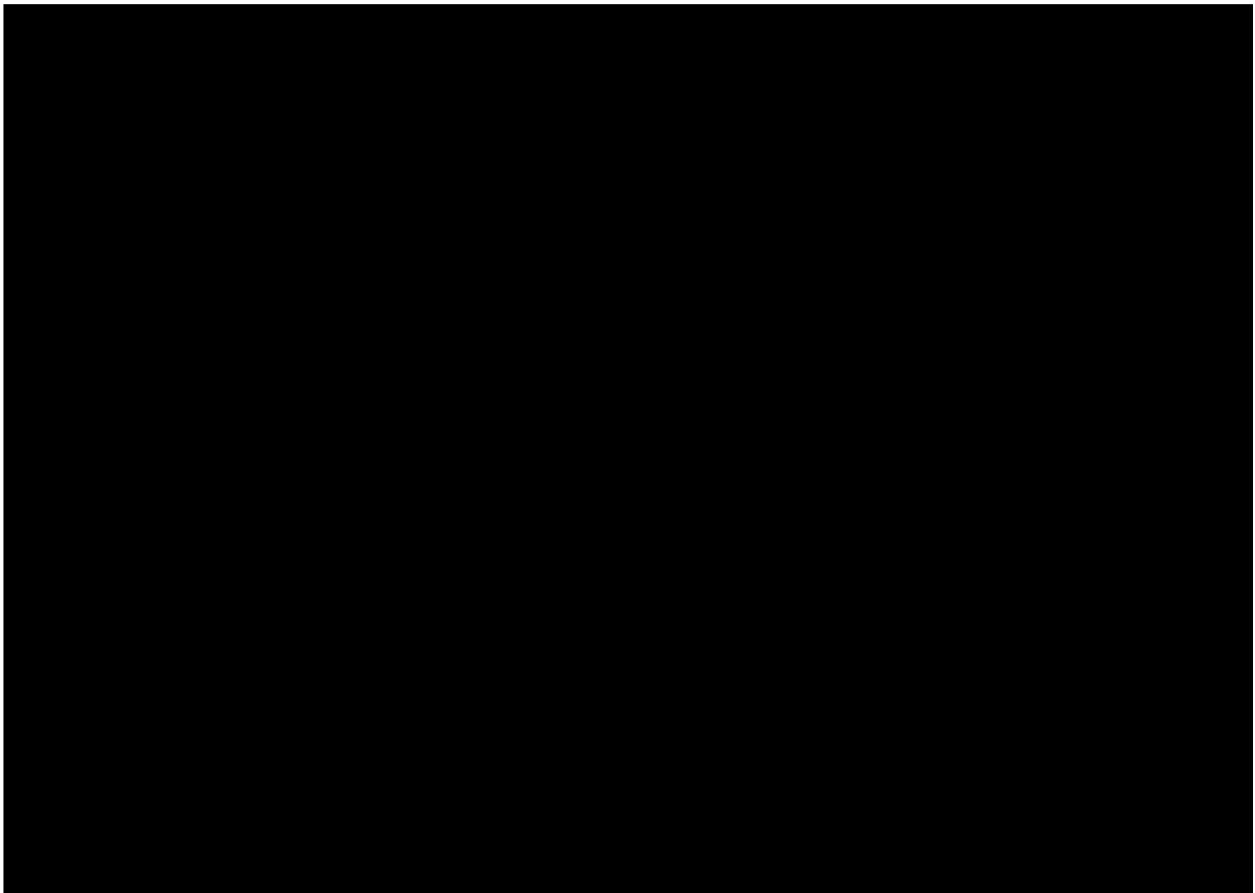
Great crested newts

- 7.16. The proposed works are expected to result in a low scale loss of suboptimal terrestrial habitat through the clearance of ≈ 0.06 ha other developed land with encroaching vegetation, ≈ 0.03 ha of other neutral grassland and ≈ 20 m of other native hedgerow (Priority Habitat).
- 7.17. Taking a worst-case scenario of 0.01-0.1ha of land being lost or damaged between 100-250m of a breeding pond, the risk assessment calculation (set out in the GCN method statement template provided by Natural England) indicates an “offence highly unlikely”.
- 7.18. We consider it highly unlikely that GCN would forage and/or commute across the proposed area of works, with all aquatic and suitable terrestrial habitats located north/northeast of the proposed development.
- 7.19. Habitats located within the proposed area of works are considered suboptimal for GCN, consisting of other developed land with encroaching vegetation and other neutral grassland.
- 7.20. As a precautionary measure, the following precautionary method statement will be implemented to avoid impacts on GCN from the proposed works:
 - i. Vegetation on site will be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas. A one-way vegetation clearance will be adopted, moving south to north so any animals, if present, can move north to more suitable habitats.
 - ii. A hand destructive search of all suitable amphibian and reptile habitat and with an awareness that amphibians and reptiles may be present. In the highly unlikely event that any GCN or reptiles are found, work will cease immediately and a licenced ecologist contacted to remove any GCN and reptiles to safety and advice on how to proceed. This will be conducted outside of the hibernation period between mid-March and October.
 - iii. Construction materials will be stored off the ground on pallets and waste materials in skips, to prevent providing shelter for animals and subsequent harm when materials are moved.
 - iv. Any excavations will have a rough sawn plank placed inside to act as a ramp to allow any animals that have fallen in to escape. The excavations will be checked each morning works are scheduled for, to remove any animals trapped.
 - v. A log pile will be created in the northwest corner of the site using the remains of the felled trees (Appendix I).

- vi. A soft landscaping scheme to include the planting of new native species-rich (≥ 5 species), hedgerows and trees on and around the site (see Appendix B for suggested species).
- 7.21. After the precautionary method statement is followed, we predict no impact on GCN as a result of the development plans, and no further surveys are necessary.

Reptiles

- 7.22. The proposed works are expected to result in a low scale loss of suboptimal reptile habitat through the clearance of ≈ 0.06 ha other developed land with encroaching vegetation, ≈ 0.03 ha of other neutral grassland and ≈ 20 m of other native hedgerow (Priority Habitat).
- 7.23. Although suitable reptile habitats are present on site, they are in small quantities (≈ 0.09 ha) and more suitable habitats occur to the north and northeast of the site.
- 7.24. As a precautionary measure, the precautionary method statement outlined in the GCN section above will avoid impacts on reptiles from the proposed works.
- 7.25. After the precautionary method statement is followed, we predict no impact on reptiles as a result of the development plans, and no further surveys are necessary.



Other animals

- 7.29. The surrounding habitat of the site is considered suitable for hedgehogs. To maintain potential hedgehog routes within the site and between the site and further habitats, any fencing installed will be porous and provide access openings for hedgehogs (see Appendix H for examples).
- 7.30. General mitigation to protect wildlife during the construction period are as follows:
- i. Any excavations will have a rough sawn plank placed inside to act as a ramp to allow any animals that have fallen in to escape. The excavations will be checked each morning works are scheduled for, to remove any animals trapped.
 - ii. Construction materials will be stored off the ground on pallets and waste materials in skips, to prevent providing shelter for animals and subsequent harm when materials are moved.
- 7.31. As enhancements, the following will be implemented:
- i. A log pile will be created in the northeast corner of the site using the remains of the felled trees (Appendix I). Once the wood has begun to decay/rot, it will become suitable for a wide variety of wildlife, including stag beetles.
 - ii. The installation of one bee brick on new residential dwelling (Bee brick – Appendix J).

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Appendix A

Methods

Desktop Review

A desktop review of published data, such as records of protected sites and species, OS maps and satellite images has been carried out. A data search was carried out with the Suffolk Biodiversity Information Service ("SBIS").

A field survey visit was conducted to confirm the findings of the desktop review and to record habitats and species located on site.

Equipment available for use during the survey were binoculars, ladders, torches, endoscope and a digital camera.

Habitats

The habitats on site have been defined using the UK Habitat Classification Version 2.0 (UKHab Ltd, 2023). Natural Environment and Rural Communities (NERC) Act (2006) habitats listed under section 41 have been identified where appropriate.

Bats

An assessment of the habitats on and surrounding the site for bat interest was made, in accordance with latest bat survey guidelines (Collins, 2023).

The building(s) on site was assessed for its potential to support roosting bats and involved a thorough internal and external search of all suitable cavities, holes and crevices. All suitable areas, including objects, ledges and floors were inspected for the following signs:

- Bat droppings

- Stains around roosting places and entrance points

- Urine marks

- Prey remains

- Areas devoid of cobwebs

- Live or dead bats

- Suitable cracks and crevices for bats to enter

In exposed conditions, the signs of bat usage such as droppings and urine marks can be obliterated by heavy rain.

An evaluation system was applied to the building(s) using the following criteria:

- Suitability – none. No habitat features on site likely to be used by any roosting bats at any time of year i.e. a complete absence of crevices/suitable shelter at all ground/underground levels.

- Negligible roost suitability for bats. These buildings have no obvious potential roosting features for bats, or minor features in an isolated or unsuitable location such that the presence of a bat roost is considered highly unlikely. However, a small element of uncertainty remains as bats can use small and

apparently unsuitable features on occasions. Such buildings usually fall into two main types: generally, well maintained without cracks and crevices, no gaps between bargeboard or soffit and wall, or without an attic space; or those which contain some or all of the above features, but are both draughty and thick in cobwebs or contain strong odours such as solvents, diesel etc. It must be borne in mind that a building from this latter group can become suitable for bats following refurbishment. This often happens to houses once the attic space has been cleaned and under-felted prior to timber treatment. When no suitable habitats for bats are found, no further surveys or European Protected Species (“EPS”) mitigation licence are required.

Low roost suitability for bats. Buildings in this category have one or more potential roost sites that could be used by individual bat opportunistically. These buildings do not however provide suitable conditions (such as space, shelter, temperature, humidity, or light and noise disturbance) to be used on a regular basis by a large number of bats. Structures with low roost suitability for bats will require one dusk emergence survey conducted between May and August to assess their current use by bats.

Moderate roost suitability for bats. These buildings contain one or more potential roosting sites which could be regularly used by bats owing to their size, shelter, protection and conditions. These buildings are however unlikely to support a roost of high conservation status (maternity roost or hibernation roost). Structures with moderate roost suitability for bats will require two surveys, two dusk emergence surveys conducted between May and September with at least one of the surveys undertaken between May and August, to assess their current use by bats.

High roost suitability for bats. This group includes buildings with one or more potential roost sites which are obviously suitable for use by a larger number of bats on a regular basis and potentially for longer periods of time owing to their size, shelter, protection and conditions. These buildings may support a roost of high conservation status (maternity roost or hibernation roost) and will require three activity surveys to assess their current use by bats. The surveys should include at least three dusk emergence surveys conducted between May and September with at least two of surveys undertaken between May and August.

Trees on and around the site were assessed for their suitability to support roosting bats. The assessment involved a ground level inspection of the exterior of the trees to search for features offering roosting potential to bats such as split limbs, woodpecker holes, cavities, lifted bark, dense thick-stemmed ivy, etc.

An evaluation system was applied to the trees using the following criteria:

Suitability - none. Either no potential roosting features in the tree or highly unlikely to be any. Trees highly unlikely to be used by roosting bats.

Further Assessment Required. Further assessment required to establish if potential roosting features are present in the tree.

Potential Roosting Feature – Individual (“PRF-I”). Potential roosting features only suitable for individual bats or very small numbers of bats, either due to the size of lack of suitable surrounding habitats i.e. trees with limited roosting potential.

Potential Roosting Feature – Multiple (“PRF-M”). Potential roosting features suitable for multiple bats and may therefore be used by a maternity colony.

The habitats on and around the site were assessed for their commuting and foraging potential for bats. An evaluation system was applied to the commuting and foraging potential using the following criteria.

Suitability – none. No habitat features on site likely to be used by any commuting or foraging bats at any time of year i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats.

Negligible commuting and foraging potential for bats. Habitat features unlikely to be used by commuting or foraging bats i.e. no obvious flight-paths or foraging opportunities. However, a small element of uncertainty remains in order to account for non-standard bat behaviour.

Low commuting and foraging potential for bats. Habitats that could be used by a small number of commuting or foraging bats such as, a gappy hedgerow, unvegetated stream or lone trees, but are isolated and not well connected to the surrounding landscape.

Moderate commuting and foraging potential for bats. Habitats that are continuous and connected to the wider landscape such as, lines of trees, scrub, linked back gardens, grasslands and water features.

High commuting and foraging potential for bats. Habitats that are continuous and connected to the wider landscape such as, river valleys, watercourses, hedgerows, lines of trees, deciduous woodland, and grazed parkland. These habitats are likely to be used regularly by commuting or foraging bats and are likely to be close to, or connected to, known roosts.

Birds

The site and its surrounding habitats were assessed for their potential to support breeding birds. Bird nesting habitat could include grassland, hedgerows, scrub, trees and buildings.

Bird species noted during the site visit were recorded. Trees, buildings and grassland were checked for use by barn owls, swifts and skylarks.

Great crested newts

Habitats on and near the site were assessed for their suitability for great crested newts (“GCN”).

Water features on and near the site were assessed for their suitability for occupation by GCN, according to a Habitat Suitability Index (“HSI”). The HSI is a theoretical index of a waterbody’s suitability to support a breeding population of GCN and is calculated from a series of ten variables recorded on site, as detailed in Table 4.

Indices	Name	Description
SI1	Geographic Location	Lowland England or upland England, Scotland and Wales
SI2	Pond area	To the nearest 50m ²
SI3	Permanence	Number of years' pond dry out of ten
SI4	Water quality	Measured by invertebrate diversity
SI5	Shade	Percentage shading of pond edge at least 1m from shore
SI6	Fowl	Level of waterfowl use
SI7	Fish	Level of fish population
SI8	Pond count	Number of ponds within 1km divided by 3.14
SI9	Terrestrial habitat	Quality of surrounding terrestrial habitat
SI10	Macrophytes	Percentage extent of macrophyte cover on pond surface

Table 4, HSI indices.

The HSI score is the geometric mean of the ten suitability indices calculated:

$$HSI = (SI1 \times SI2 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9 \times SI10)^{1/10}$$

Once calculated, the HSI score for a waterbody can be categorised as follows:

Excellent (>0.8)

Good (0.7 – 0.79)

Average (0.6 – 0.69)

Below Average (0.5 – 0.59)

Water voles, otters and white-clawed crayfish

Water features on and adjacent to the site were assessed for use by water vole, otter and white-clawed crayfish. Otters in England typically use areas of fresh water and streams and ditches for moving between habitats. Otter holts are usually located underneath tree roots, in tunnels. Field signs of presence include spraints on prominent features such as bridges, tree bases or boulders, and footprints.

Water voles inhabit burrows in the banks of ponds, ditches, streams and rivers. Field signs include droppings left in latrine spots, burrow entrances or feeding remains.

White-clawed crayfish inhabit streams and rivers with a moderate flow rate, and lakes. Clear, well-oxygenated water is preferred. Typical habitat features include crevices in rocks, gaps between stones, submerged plants and tree roots.

Reptiles

The habitats on the site and within the proposed area of works were assessed for suitability for reptiles.

Reptiles rely on conditions that allow them to maintain their body temperature through basking. They require access to direct sunlight, shelter from the elements, sufficiently large populations of prey species and hibernation sites.

Reptiles typically favour a habitat mosaic with a diverse vegetation structure, which could include grassland, scrub and woodland.



Dormice

Dormice habitats include deciduous woodland, hedgerows and scrub. Dormice are found mainly in the south of England, including Kent and Sussex, with sporadic populations elsewhere. An assessment of the suitability of site habitats for occupation by dormice was made.

Other protected species

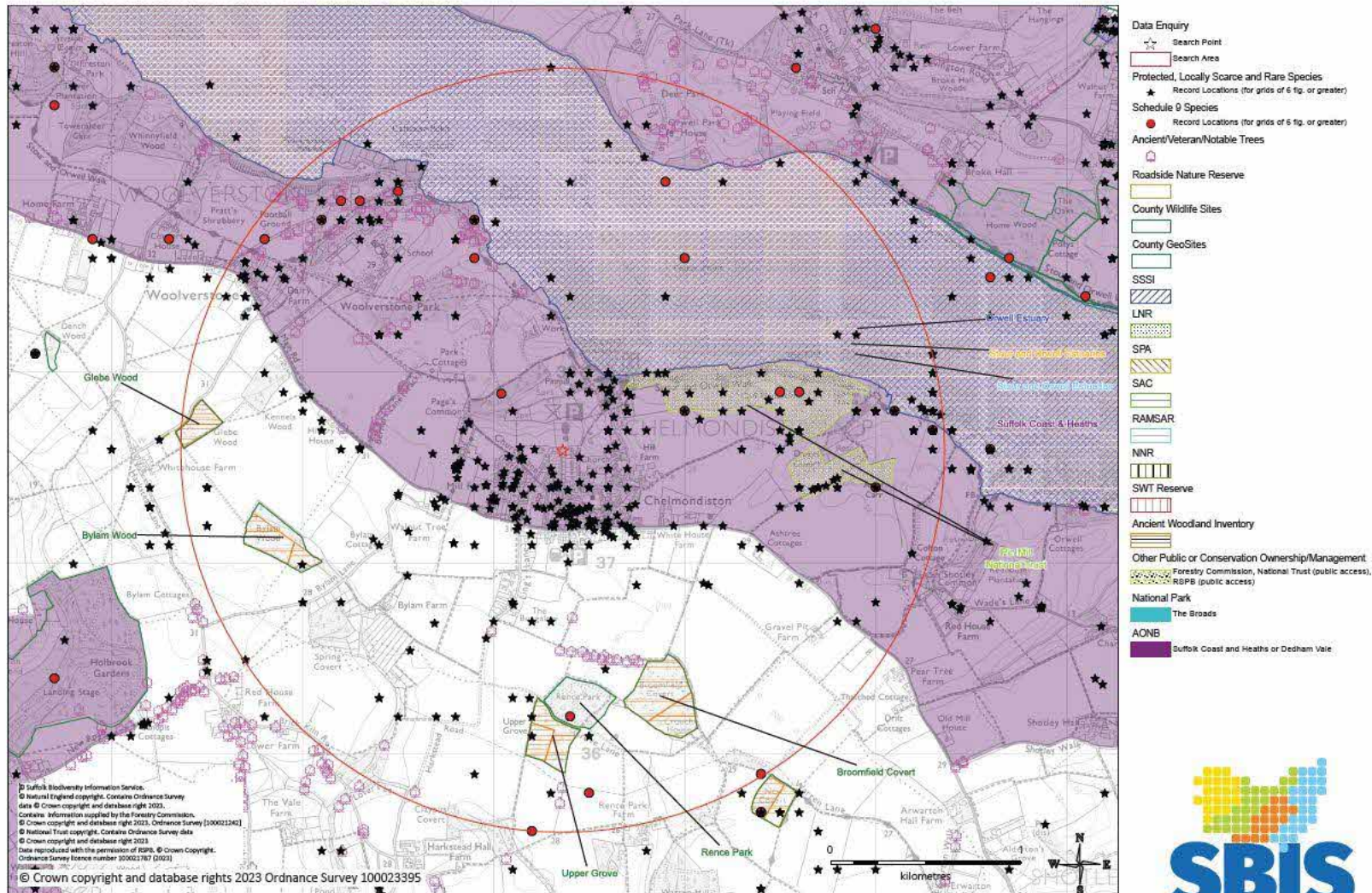
Particular regard was made to the nature of the proposed development and the potential of impact upon any other protected species, species which are nationally or locally scarce, or species subject to other conservation designations such as Red Data Book or Priority S41 species, from the development work, should these be present in the area.

Constraints

The field survey was conducted outside of the optimal survey period for flowering plants. Although the habitats recorded on site are unlikely to change to those described in this report, flora biodiversity is likely to be under recorded.

Appendix B

Map of protected sites within 2km



Greenlight (30 Collimer Close, Chelmondiston TM20362 37594) 2km Data Enquiry

Date: 30/10/2023 | Drawn by: Andy Mercer

Appendix C

Protected sites citations

SSSI citations

Site name: Orwell Estuary **County:** Suffolk

District: Ipswich, Suffolk Coastal and Babergh

Status: Site of Special Scientific Interest (SSSI) notified under section 28C of the Wildlife and Countryside Act 1981 as inserted by Schedule 9 to the Countryside & Rights of Way Act 2000.

Local Planning Authority: Ipswich Borough Council, Suffolk Coastal District Council and Babergh District Council

National Grid Reference: TM228379 **Area:** 1336.59 (ha)

Ordnance Survey Sheet: 1:50,000: 169 **1:10,000:** TM 13 NE, TM 14 SE, TM 23 NW, TM 23 SW, TM 22

Date Notified: 9 April 2003

Reasons for Notification:

The Orwell Estuary is of national importance for breeding avocet *Recurvirostra avosetta*, its breeding bird assemblage of open waters and their margins, nine species of wintering waterfowl (including black-tailed godwit *Limosa limosa islandica*), an assemblage of vascular plants, and intertidal mud habitats.

General description:

The Orwell is a long and relatively narrow estuary with extensive mudflats and some saltmarsh.

Extensive mudflats border the channel and support large patches of eelgrass *Zostera marina*, and dwarf eelgrass *Z. noltii* as well as large numbers of invertebrates that are important for feeding waders. Where it occurs, the saltmarsh tends to be sandy and fairly calcareous with a wide range of communities. Glasswort *Salicornia spp.* and small cord-grass *Spartina maritima* are the principal colonisers of the mud, and sea aster *Aster tripolium* is abundant on the lower marsh. The central areas of marsh are dominated by common saltmarsh-grass *Puccinellia maritima*, sea purslane *Atriplex portulacoides*, and common sea-lavender *Limonium vulgare*. Other species include sea arrowgrass *Triglochin maritimum*, annual sea-blite *Suaeda maritima*, sea-milkwort *Glaux maritima*, greater sea-spurrey *Spergularia media*, and sea plantain *Plantago maritima*. There are small areas of vegetated shingle on the foreshore of the lower reaches, but most of the saltmarsh is fringed by sea couch *Elytrigia atherica* or by common reed *Phragmites australis* and sea club-rush *Bolboschoenus maritimus* further upstream.

The freshwater grazing marshes which adjoin the estuary at Shotley, and the wet grassland and standing water of Trimley marshes, each form an integral part of the ornithological interest of the site. Shotley marshes are especially important for feeding dark-bellied brent geese *Branta bernicla bernicla*, wigeon *Anas penelope* and snipe *Gallinago gallinago*, and for breeding redshank *Tringa totanus* and lapwing

Vanellus vanellus. Trimley marshes have become an important refuge for wintering and passage birds, as well as a key breeding site.

Breeding birds

The Orwell Estuary supports a nationally important breeding number of avocet. It also supports a nationally important assemblage of breeding birds characteristic of open waters and their margins comprising little grebe *Tachybaptus ruficollis*, great crested grebe *Podiceps cristatus*, mute swan *Cygnus olor*, shelduck *Tadorna tadorna*, gadwall *Anas strepera*, garganey *Anas querquedula*, shoveler *Anas chlypeata*, pochard *Aythya ferina*, tufted duck *Aythya fuligula*, avocet, ringed plover *Charadrius hiaticula*, redshank, and reed bunting *Emberiza schoeniclus*. The breeding bird assemblage is concentrated in three main areas: Trimley Marshes, Shotley Marshes, and Loompit Lake.

Non-breeding birds

The estuary regularly supports an important assemblage of more than 20,000 non-breeding waterfowl. It supports considerable numbers of oystercatcher *Haematopus ostralegus*, ringed plover, knot *Calidris canutus islandica*, curlew *Numenius arquata* and turnstone *Arenaria interpres*, but is particularly important for four other species of wader. These are grey plover *Pluvialis squatarola*, dunlin *Calidris alpina alpina*, black-tailed godwit (which regularly occur in numbers of international importance) and redshank. These regularly attain nationally important numbers in winter. The intertidal mud habitats, saltmarsh and adjacent areas used as high tide roosts are important for these wading birds.

Considerable numbers of wigeon and shoveler use the site, whilst cormorant, shelduck, gadwall and pintail *Anas acuta* regularly occur in numbers of national importance. Also of national importance are the large numbers of dark-bellied brent geese. Numbers often fluctuate because of interchange with neighbouring estuaries. The intertidal mud habitats, saltmarsh, freshwater marshes and river channel are important to these birds for feeding and roosting.

Vascular plant assemblage

The site supports a nationally important vascular plant assemblage, including at least nine nationally scarce plants. They are characteristic of intertidal mud, saltmarsh, shingle and coastal grazing marsh habitats. These are eelgrass, dwarf eelgrass, slender hare's-ear *Bupleurum tenuissimum*, golden-samphire *Inula crithmoides*, lax-flowered sea-lavender *Limonium humile*, shrubby sea-blite *Suaeda vera*, small cord-grass, perennial glasswort *Sarcocornia perennis*, and divided sedge *Carex divisa*.

Intertidal mud habitats

The Orwell Estuary supports a large area of intertidal mud habitat with very rich littoral sediments, particularly sandy muds. There is a high invertebrate species richness within the sediments. The estuary also supports an example of a nationally important tide swept algae community with sponges, ascidians and red algae.

In addition to the reasons for notification, the Orwell Estuary supports an inland nesting colony of cormorants at their only site in Suffolk.

SPA citations

**EC Directive 79/409 on the Conservation of Wild Birds
Special Protection Area (SPA)**

Name: Stour and Orwell Estuaries

Unitary Authority/County: Essex, Suffolk.

Site description: The Stour and Orwell estuaries straddle the eastern part of the Essex/Suffolk border in eastern England. The SPA is coincident with Cattawade Marshes Site of Special Scientific Interest (SSSI), Orwell Estuary SSSI and Stour Estuary SSSI. The estuaries include extensive mud-flats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. The mud-flats hold *Enteromorpha*, *Zostera* and *Salicornia* spp. The site also includes areas of low-lying grazing marsh at Shotley Marshes on the south side of the Orwell and at Cattawade Marshes at the head of the Stour. Trimley Marshes on the north side of the Orwell includes several shallow freshwater pools, as well as areas of grazing marsh, and is managed as a nature reserve by the Suffolk Wildlife Trust. In summer, the site supports important numbers of breeding avocet *Recurvirostra avosetta*, while in winter it holds major concentrations of waterbirds, especially geese, ducks and waders. The geese also feed, and some waders roost, in surrounding areas of agricultural land outside the SPA. The site has close ecological links with the Hamford Water and Mid-Essex Coast SPAs, lying to the south on the same coast.

Size of SPA: The SPA covers an area of 3,676.92 ha.

Qualifying species:

The site qualifies under **article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and season	Period	% of GB population
Avocet <i>Recurvirostra avosetta</i>	21 pairs - breeding	5 year peak mean 1996 – 2000	3.6%

The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	Count and season	Period	% of subspecies/population
Redshank <i>Tringa totanus</i>	2,588 individuals - autumn passage	5 year peak mean 1995/96 – 1999/2000	2.0% <i>britannica</i>
Dark-bellied brent goose <i>Branta bernicla bernicla</i>	2,627 individuals - wintering	5 year peak mean 1995/96 – 1999/2000	1.2% <i>bernicla</i> , Western Siberia (breeding)
Pintail <i>Anas acuta</i>	741 individuals - wintering	5 year peak mean 1995/96 – 1999/2000	1.2% Northwestern Europe (non-breeding)
Grey plover <i>Pluvialis squatarola</i>	3,261 individuals - wintering	5 year peak mean 1995/96 – 1999/2000	1.3% Eastern Atlantic (non- breeding)
Knot <i>Calidris canutus</i> <i>islandica</i>	5,970 individuals - wintering	5 year peak mean 1995/96 – 1999/2000	1.3% <i>islandica</i>
Dunlin <i>Calidris alpina alpina</i>	19,114 individuals - wintering	5 year peak mean 1995/96 – 1999/2000	1.4% <i>alpina</i> , Western Europe (non-breeding)
Black-tailed godwit <i>Limosa limosa islandica</i>	2,559 individuals - wintering	5 year peak mean 1995/96 – 1999/2000	7.3% <i>islandica</i>
Redshank <i>Tringa totanus</i>	3,687 individuals - wintering	5 year peak mean 1995/96 – 1999/2000	2.8% <i>britannica</i>

Bird counts from: Wetland Bird Survey (WeBS) database.

Assemblage qualification:

The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 63,017 individual waterbirds (5 year peak mean 1993/94 - 1997/98), including great crested grebe *Podiceps cristatus*, cormorant *Phalacrocorax carbo*, dark-bellied brent goose *Branta bernicla bernicla*, shelduck *Tadorna tadorna*, wigeon *Anas penelope*, gadwall *Anas strepera*, pintail *Anas acuta*, goldeneye *Bucephala clangula*, ringed plover *Charadrius hiaticula*, grey plover *Pluvialis squatarola*, lapwing *Vanellus vanellus*, knot *Calidris canutus islandica*, dunlin *Calidris alpina alpina*, black-tailed godwit *Limosa limosa islandica*, curlew *Numenius arquata*, redshank *Tringa totanus* and turnstone *Arenaria interpres*.

Non-qualifying species of interest: The SPA/Ramsar site as a whole, including the proposed extensions, is used by non-breeding marsh harrier *Circus aeruginosus*, hen harrier *Circus cyaneus*, merlin *Falco columbarius*, peregrine *Falco peregrinus*, short-eared owl *Asio flammeus* and kingfisher *Alcedo atthis* (all species listed in Annex I of the EC Birds Directive) in numbers of less than European importance (less than 1% GB population). It also supports breeding common tern *Sterna hirundo*, little tern *Sterna albifrons* and kingfisher (all listed in Annex I) in numbers of less than European importance.

Status of SPA:

- 1) Stour and Orwell Estuaries was classified as a Special Protection Area on 13 July 1994.
- 2) Extensions to the Stour and Orwell Estuaries SPA were classified on 19 May 2005.



Ramsar citations

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

- The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
- Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
- Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

FOR OFFICE USE ONLY.

Joint Nature Conservation Committee

Monkstone House
City Road

Peterborough
Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: RIS@JNCC.gov.uk

DD MM YY

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

Designated: 13 July 1994

3. Country:

UK (England)

4. Name of the Ramsar site:

Stour and Orwell Estuaries

5. Designation of new Ramsar site or update of existing site:

This RIS is for: Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area:

** Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

Ramsar Information Sheet: UK11067	Page 1 of 11	Stour and Orwell Estuaries
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Produced by JNCC: Version 3.0, 13/06/2008

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7. Map of site included:

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) **hard copy** (required for inclusion of site in the Ramsar List): yes ✓ -or- no ;
- ii) **an electronic format** (e.g. a JPEG or ArcView image) Yes
- iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** yes ✓ -or- no .

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

8. Geographical coordinates (latitude/longitude):

051 57 16 N 001 09 38 E

9. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Felixstowe

The Stour Estuary forms the south-eastern part of Essex/Suffolk boundary.

The Orwell Estuary is a relatively long and narrow estuary with extensive mudflats and some saltmarsh, running from Ipswich in the north, southwards towards Felixstowe.

Administrative region: Essex; Suffolk

10. Elevation (average and/or max. & min.) (metres): **11. Area (hectares):** 3676.92

Min. -1
Max. 3
Mean 0

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Stour and Orwell Estuaries is a wetland of international importance, comprising extensive mudflats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. It provides habitats for an important assemblage of wetland birds in the non-breeding season and supports internationally important numbers of wintering and passage wildfowl and waders. The site also holds several nationally scarce plants and British Red Data Book invertebrates.

13. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

2, 5, 6

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 2

Contains seven nationally scarce plants: stiff saltmarsh-grass *Puccinellia rupestris*; small cord-grass *Spartina maritima*; perennial glasswort *Sarcocornia perennis*; lax-flowered sea lavender *Limonium humile*; and the eelgrasses *Zostera angustifolia*, *Z. marina* and *Z. noltei*.

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Contains five British Red Data Book invertebrates: the muscid fly *Phaonia fusca*; the horsefly *Haematopota grandis*; two spiders, *Arctosa fulvolineata* and *Baryphema duffeyi*; and the Endangered swollen spire snail *Mercuria confusa*.

Ramsar criterion 5

Assemblages of international importance:**Species with peak counts in winter:**

63017 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6 – species/populations occurring at levels of international importance.**Qualifying Species/populations (as identified at designation):****Species with peak counts in spring/autumn:**

Common redshank, *Tringa totanus totanus*, 2588 individuals, representing an average of 2% of the population (5-year peak mean 1995/96-1999/2000)

Species with peak counts in winter:

Dark-bellied brent goose, *Branta bernicla bernicla*, 2627 individuals, representing an average of 1.2% of the population (5-year peak mean 1995/96-1999/2000)

Northern pintail, *Anas acuta*, NW Europe 741 individuals, representing an average of 1.2% of the population (5-year peak mean 1995/96-1999/2000)

Grey plover, *Pluvialis squatarola*, E Atlantic/W Africa -wintering 3261 individuals, representing an average of 1.3% of the population (5-year peak mean 1995/96-1999/2000)

Red knot, *Calidris canutus islandica*, W & Southern Africa (wintering) 5970 individuals, representing an average of 1.3% of the population (5-year peak mean 1995/96-1999/2000)

Dunlin, *Calidris alpina alpina*, W Siberia/W Europe 19114 individuals, representing an average of 1.4% of the population (5-year peak mean 1995/96-1999/2000)

Black-tailed godwit, *Limosa limosa islandica*, Iceland/W Europe 2559 individuals, representing an average of 7.3% of the population (5-year peak mean 1995/96-1999/2000)

Common redshank, *Tringa totanus totanus*, 3687 individuals, representing an average of 2.8% of the population (5-year peak mean 1995/96-1999/2000)

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See www.bto.org/survey/webs/webs-alerts-index.htm.

Details of bird species occurring at levels of National importance are given in Section 22

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15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Atlantic

b) biogeographic regionalisation scheme (include reference citation):

Council Directive 92/43/EEC

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	shingle, sand, mud
Geomorphology and landscape	lowland, coastal, valley, subtidal sediments (including sandbank/mudbank), intertidal sediments (including sandflat/mudflat), estuary
Nutrient status	
pH	
Salinity	brackish / mixosaline, fresh, saline / euhaline
Soil	no information
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Lowestoft, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/lowestoft.html) Max. daily temperature: 13.0° C Min. daily temperature: 7.0° C Days of air frost: 27.8 Rainfall: 576.3 mm Hrs. of sunshine: 1535.5

General description of the Physical Features:

The Stour and Orwell estuaries include extensive mudflats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. The site also includes an area of low-lying grazing marsh at Shotley Marshes on the south side of the Orwell.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

The Stour and Orwell estuaries include extensive mudflats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. The site also includes an area of low-lying grazing marsh at Shotley Marshes on the south side of the Orwell.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Sediment trapping

19. Wetland types:

Inland wetland, Marine/coastal wetland

Code	Name	% Area
G	Tidal flats	44.2

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H	Salt marshes	35
F	Estuarine waters	19.8
4	Seasonally flooded agricultural land	0.7
E	Sand / shingle shores (including dune systems)	0.3

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Orwell is a relatively long and narrow estuary with extensive mudflats bordering the channel that support large patches of eelgrass *Zostera* sp. The saltmarsh tends to be sandy and fairly calcareous with a wide range of communities. There are small areas of vegetated shingle on the foreshore of the lower reaches. Grazing marshes adjoin the estuary at Shotley. The Stour estuary is a relatively simply structured estuary with a sandy outer area and a muddier inner section. The mud is rich in invertebrates and there are areas of higher saltmarsh. The shoreline vegetation varies from oak-dominated wooded cliffs, through scrub-covered banks to coarse grasses over seawalls, with reed-filled borrow dykes behind.

Ecosystem services

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

Nationally important species occurring on the site.**Higher Plants.**

Puccinellia rupestris (nationally scarce); *Spartina maritima* (nationally scarce); *Sarcocornia perennis* (nationally scarce); *Limonium humile* (nationally scarce); *Zostera angustifolia* (nationally scarce); *Zostera marina* (nationally scarce); *Zostera noltei* (nationally scarce).

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

Birds**Species currently occurring at levels of national importance:****Species regularly supported during the breeding season:**

Pied avocet , *Recurvirostra avosetta*, W Europe 21 pairs, representing an average of 2.8% of the GB population (5-year peak mean 1996-2000)

Species with peak counts in spring/autumn:

Ringed plover , *Charadrius hiaticula*, Europe/Northwest Africa 638 individuals, representing an average of 2.1% of the GB population (5-year peak mean 1995/96-1999/2000)

Species with peak counts in winter:

Great crested grebe , *Podiceps cristatus cristatus*, NW Europe 245 individuals, representing an average of 1.5% of the GB population (5-year peak mean 1995/96-1999/2000)

Great cormorant , *Phalacrocorax carbo carbo*, NW Europe 232 individuals, representing an average of 1% of the GB population (5-year peak mean 1995/96-1999/2000)

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Common shelduck , <i>Tadorna tadorna</i> , NW Europe	2955 individuals, representing an average of 3.8% of the GB population (5-year peak mean 1995/96-1999/2000)
Eurasian curlew , <i>Numenius arquata arquata</i> , N. a. <i>arquata</i> Europe (breeding)	1824 individuals, representing an average of 1.2% of the GB population (5-year peak mean 1995/96-1999/2000)
Ruddy turnstone , <i>Arenaria interpres interpres</i> , NE Canada, Greenland/W Europe & NW Africa	690 individuals, representing an average of 1.4% of the GB population (5-year peak mean 1995/96-1999/2000)

Species Information

Nationally important species occurring on the site.

Invertebrates.

Phaonia fusca; *Haematopota grandis* (Meigen) (RDB3); *Arctosa fulvilineata* (RDB3); *Baryphyma duffeyi* (RDB3); *Mercuria (=Pseudamnicola) confusa* (RDB1).

23. Social and cultural values:

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

- Aesthetic
- Archaeological/historical site
- Livestock grazing
- Non-consumptive recreation
- Sport hunting
- Tourism
- Transportation/navigation

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? **No**

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	
Local authority, municipality etc.	+	

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National/Crown Estate	+	
Private	+	+

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	
Tourism	+	+
Recreation	+	+
Cutting of vegetation (small-scale/subsistence)	+	
Bait collection	+	
Permanent arable agriculture		+
Grazing (unspecified)	+	
Hunting: recreational/sport	+	
Sewage treatment/disposal	+	
Harbour/port	+	
Flood control	+	
Transport route	+	+
Urban development		+
Non-urbanised settlements	+	+

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Explanation of reporting category:

1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA - Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Erosion	2	Natural coastal processes exacerbated by fixed sea defences, port development and maintenance dredging.	+		+

For category 2 factors only.
 What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?
 Erosion - Erosion is being tackled through sediment replacement for additional erosion that can be attributed to port development and maintenance dredging. A realignment site has been created on-site to make up for the loss of habitat due to capital dredging. General background erosion has not been tackled although a Flood Management Strategy for the site is being produced.

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Is the site subject to adverse ecological change? YES

27. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Management agreement	+	
Site management statement/plan implemented	+	
Area of Outstanding National Beauty (AONB)	+	+

b) Describe any other current management practices:

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

29. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Fauna.

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

High tide bird counts.

Environment, Flora and Fauna.

Vegetation, bird and invertebrate surveys/monitoring carried out on NGO reserves.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

None reported

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Activities, Facilities provided and Seasonality.

A popular area for tourists as it is within an AONB. There are more visitors in the summer. However it is well used throughout the year by walkers, bird watches and for sailing.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol,
BS1 6EB

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33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,
Northminster Road, Peterborough, PE1 1UA, UK

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Site-relevant references

- Anon. (2002) *Suffolk Coast and Estuaries Coastal Habitat Management Plan: Executive summary*. English Nature, Peterborough (Living with the Sea LIFE Project) www.english-nature.org.uk/livingwiththesea/project_details/good_practice_guide/HabitatCRR/ENRestore/CHaMPs/SuffolkCoast/SuffolkCHaMP.pdf
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- Crewe, MD (1997) *Suffolk birds 1996 Volume 46*. Suffolk Naturalists' Society, Ipswich
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County Wildlife Sites citations

CWS Number	Babergh 42
Site Name	BYLAM WOOD
Parish	WOOLVERSTONE
District	Babergh
NGR	TM188371
Description	Bylam Wood is situated in an intensively farmed landscape south of Woolverstone and is listed in Natural England's Inventory of Ancient Woodland. In the eastern section there is a good woodland structural diversity. Oak and sycamore with occasional alder and ash form the tree layer and beneath there is an understorey of mainly hazel coppice. Bluebell, bracken and the uncommon plant climbing corydalis are frequent in the field layer. In other areas there has been some felling and replanting, including conifer, and dense growth of bramble and tall herb vegetation has become established.
Area	6.81
CWS Number	Babergh 43
Site Name	BROOMFIELD COVERT
Parish	HARKSTEAD
District	Babergh
NGR	TM208362
Description	Broomfield Covert is an ancient woodland and listed in the Suffolk Ancient Woodland Inventory, compiled by English Nature. A house and garden separate Broomfield Covert from the neighbouring Rence Park, another ancient woodland. The majority of the wood has been cleared and densely planted with conifers and oaks, and semi-natural woodland is restricted to the margins of the wood. Blackthorn, elder and hawthorn can be found growing here together with bramble, bluebell and bracken forming the ground floor layer. A number of oak pollards on the woodland boundary are the only remaining indication of the wood's antiquity. Broomfield Covert is managed extensively for timber production.
Area	10.48

CWS Number	Babergh 47
Site Name	GLEBE WOOD
Parish	WOOLVERSTONE
District	Babergh
NGR	TM185377
Description	<p>Glebe Wood is a small ancient woodland situated to the south of Woolverstone and is listed in Natural England's Inventory of Ancient Woodland. The wood is carpeted with bluebells in the spring. A large proportion of Glebe Wood has been felled and replanted with sweet chestnut, now mostly overstood coppice which along with oak standards offer plenty of bat roosting habitat. There is a small patch of <i>Leylandii</i> on the south-eastern edge amongst the holly, hazel and sycamore understory. A swathe of woodland which was cleared some years ago by Eastern Electricity has now matured providing further structural diversity. Two species of botanical value are present in the wood: a good stand of butcher's broom can be found in the north-eastern corner, and climbing corydalis, a plant associated with ancient woodlands on light soils, is abundant throughout. A hedgerow has been planted across the arable fields between Glebe Wood and nearby CWS Bylam Wood.</p>
Area	2.85

CWS Number	Babergh 65
Site Name	RENCE PARK/UPPER GROVE
Parish	HARKSTEAD
District	Babergh
NGR	TM204362
Description	<p>This site is listed in the Suffolk Ancient Woodland Inventory compiled by Natural England and lies to the south of Chelmondiston and the B1456. Rence Park, the northern woodland, is separated from Upper Grove by a track (Grove Lane). Both woods are partly enclosed by a ditch and bank which is a characteristic feature of medieval woods. A large proportion of woodland has been cleared and replanted with conifers. The remainder of Rence Park / Upper Grove consists of semi-natural woodland; mainly sweet chestnut coppice with hazel, maple and hawthorn, restricted to the margins of the woods. Elsewhere there is dense bramble with occasional patches of bluebell. Felling has created some structural diversity to the wood, which is surrounded by arable fields on all sides, but there is hedgerow connectivity to the nearby CWS Broomfield Covert in the east and other small woods to the south. Rence Park and Upper Grove are managed mainly for timber production.</p>
Area	12.16

Appendix D

Legislation

European Protected Species

The Ramsar Convention (1971) on Wetlands of International Importance especially as Waterfowl Habitat seeks to promote the conservation and wise use of wetlands, particularly those which support internationally significant numbers of water birds. This is achieved through the designation of Ramsar Sites.

The European Community Council Directive on the Conservation of Wild Birds (79/409/EEC) sets out general rules for the conservation of all naturally occurring wild birds, their nests, eggs and habitats. It requires member states to designate Special Protection Areas (SPAs) for protection of certain species.

The main piece of legislation relating to nature conservation in Great Britain is The Wildlife and Countryside Act 1981 (as amended). This Act is supplemented by provision in The Countryside and Rights of Way (CRoW) Act 2000 and The Natural Environment and Rural Communities Act 2006 (in England and Wales). This act provides varying degrees of protection for the listed species of flora and fauna, including comprehensive protection of wild birds, their nests and eggs.

The Countryside and Rights of Way Act 2000 strengthens the protection given to SSSIs. It revises the procedures for the notification of SSSIs and for the consenting of operations which may damage the special interest of a SSSI. Local authorities have a duty to take steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of SSSIs. The act also strengthens the existing provisions of the Wildlife and Countryside Act 1981 for the enforcement of wildlife legislation, including a new offence of "recklessly" destroying or damaging the habitats of certain protected species.

UK wildlife is also protected under The Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. In 2017, these Regulations, together with subsequent amendments, were consolidated into The Conservation of Habitats and Species Regulations 2017.

The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Protection of Badgers Act 1992 consolidates previous badger legislation by providing comprehensive protection for badgers and their setts, with a requirement that any authorised sett disturbance or destruction be carried out under licence.

The Hedgerows Regulations 1997 aim to protect important hedgerows in the countryside. They make it illegal to remove most countryside hedges without first notifying the local planning authority, and provide protection for 'important hedgerows'.

County Wildlife Site is a non-statutory designation used to identify high quality wildlife habitats in a county context. Local Authorities have a responsibility as part of their planning function to take account of sites of substantial nature conservation value and to consider them alongside other material planning considerations. The location of County Wildlife Sites will be included in Local Plans and Development Documents.

National Planning Policy - National Planning Policy Framework (NPPF)

Section 15 of the National Planning Policy Framework 2023 (NPPF): Conserving and enhancing the natural environment states that 'planning policies and decisions should contribute to and enhance the natural and local environment by ... minimising impacts on and providing net gains for biodiversity.'

Office of The Deputy Prime Minister ("ODPM") Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

Paragraph 98 of Circular 06/2005 states that 'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat'.

Implications of legislation and policies

Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

Where mitigation or compensation measures are required to ensure that no significant impacts will result on biodiversity from the development, the proposed measures may be secured through planning conditions or by EPS Mitigation Licences from Natural England.

Bats

All bat species in Britain are protected under the Wildlife and Countryside Act 1981 through inclusion on Schedule 5. They are also protected under the Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. On 30th November 2017, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2017.

European protected animal species (“EPS”) and their breeding sites or resting places are protected under Regulation 42. It is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. It is an offence to damage or destroy a breeding or resting place of such an animal. It is also an offence to have in one's possession or control, any live or dead European protected species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit an offence only if he deliberately disturbs such animals in a way as to be likely significantly to affect (a) the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or (b) the local distribution of abundance of that species. The existing offences under the Wildlife and Countryside Act (1981) as amended which cover obstruction of places used for shelter or protection (for example, a bat roost), disturbance and sale still apply to European protected species.

This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the approach to be used. The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

Barn Owls

The Habitats Regulations (1994), as amended, states that a person commits an offence in the case of Barn Owl only if this species is disturbed in the breeding season. This applies equally to all those bird species listed under Schedule 1.

Breeding Birds

It is an offence to kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while that nest is in use or being built (even of "pest" species); take or destroy the eggs of any wild bird.

Great Crested Newts

Great crested newts are protected under both English and European law. It is an offence to kill, injure, disturb or take great crested newts or to damage or destroy their places of shelter, whether the animals are present or not.

Water Vole

The water vole received limited legal protection in April 1998 through its inclusion in Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) for some offences. Legal protection makes it an offence to:

intentionally kill, injure or take (capture) a water vole;

- possess or control a dead or live water vole, or any part of a water vole;
- intentionally or recklessly damage or destroy access to any structure or place which water voles use for shelter or protection or disturb Water Voles while they are using such a place;
- sell, offer for sale or advertise for sale live or dead Water Voles

Water voles, their breeding sites and resting places are protected by law. In most cases, work can be planned to avoid harming water voles. If works cannot avoid disturbing them or damaging their habitats, you may be able to get a licence from Natural England.

Otters

Otters are protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and revised by the Countryside and Rights of Way Act 2004, making it an offence to:

- intentionally kill, injure or take an otter;
- possess or control any (live or dead) otter, or any part of or anything derived from an otter;
- intentionally or recklessly damage or destroy or obstruct access to any structure or place used for shelter or protection by an otter;
- intentionally or recklessly disturb an otter while it is occupying a structure or place for that purpose;
- to sell, offer for sale, possess or transport for the purpose of sale any (live or dead) otter or part or derivative of an otter;
- to advertise for buying and selling such things.

Furthermore, otters are included on Schedule 2 of the Conservation (Habitats &c.) Regulations (1994), making it an offence to:

- deliberately to capture or kill a wild animal of a European protected species;
- deliberately to disturb any such animal;
- deliberately to take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.

Otters are also listed as a priority species on the UK and Biodiversity Action Plans.

White-Clawed Crayfish

This crayfish is listed under Annex II of the habitats directive and areas are designated as Special Areas of Conservation to protect this species. Outside of this a licence is required to capture this species. It is listed as a priority species under the Biodiversity Action Plan and is a Species of Principal Importance under section 41 of the NERC Act 2006.

Reptiles

Reptiles such as common lizard, slowworm, grass snake or adder are protected under Section 9 of the Wildlife & Countryside Act (1981) as amended. The legislation makes it illegal to deliberately or recklessly kill or injure

any native reptile. This protection therefore requires that reasonable effort be made to avoid harm to reptiles during developments on land occupied by reptiles.

Badger

The Wildlife and Countryside Act (1981) and its subsequent amendment in 1985 made it an offence to take, kill, injure or ill-treat a badger. The badger gained further protection under the auspices of The Protection of Badgers Act (1992) which consolidates all former protective legislation in relation to badgers, except their inclusion on Schedule 6 of the Wildlife and Countryside Act 1981.

Under the 1992 Act, the badger sett is protected against obstruction, destruction, and damage; furthermore, the animal's access to and from the sett must not be impeded. It should be noted that the concept/definition of the sett extends beyond the main sett to include annexe, subsidiary and outlying setts. However, although the badger and its sett are protected (including access to the sett), the wider habitat and foraging ground is not.

Dormice

Dormice are protected from being killed, injured, captured or disturbed and their resting and breeding places should not be damaged or destroyed.

Natural England Licensing - EPS Mitigation Licensing

Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence, for the purposes of development (e.g. destruction of a bat roost, loss of great crested newt aquatic and terrestrial habitat, etc).

Appendix E

Plant species recorded on site

English name	Scientific name
Barren brome	<i>Bromus sterilis</i>
Beech	<i>Fagus sylvatica</i>
Bent	<i>Agrostis</i> sp.
Bindweed	<i>Convolvulus</i> sp.
Birch	<i>Betula</i> sp.
Bramble	<i>Rubus fruticosus</i>
Bristly oxtongue	<i>Helminthotheca echioides</i>
Buddleja	<i>Buddleja</i> sp.
Cleavers	<i>Galium aparine</i>
Common storksbill	<i>Erodium cicutarium</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Cranesbill	<i>Geranium</i> sp.
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum officinale</i>
Dill	<i>Anethum graveolens</i>
Elder	<i>Sambucus nigra</i>
Fennel	<i>Foeniculum vulgare</i>
Feverfew	<i>Tanacetum parthenium</i>
Field maple	<i>Acer campestre</i>
Forget-me-not	<i>Myosotis</i> sp.
Green alkanet	<i>Pentaglottis sempervirens</i>
Hawthorn	<i>Craetagus monogyna</i>
Herb-robert	<i>Gernium robertianum</i>
Hogweed	<i>Heracleum</i> sp.
Holly	<i>Ilex aquifolium</i>
Mallow	<i>Malva</i> sp.
Meadow grass	<i>Poa</i> sp.
Medick	<i>Medicago</i> sp.
Nettle	<i>Urtica dioica</i>
Prickly sow thistle	<i>Sonchus asper</i>
Ragwort	<i>Jacobaea vulgaris</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Smooth sow thistle	<i>Sonchu oleraceus</i>
Spear thistle	<i>Cirsium vulgare</i>
Walnut	<i>Juglans regia</i>
White clover	<i>Trifolium repens</i>
Willowherb	<i>Epilobium</i> sp.
Yorkshire fog	<i>Holcus lanatus</i>

Appendix F

Native species suitable for planting and sowing

Plants should be obtained from specialist nurseries and preferably be of local genetic stock.

Key: (f) – fruit and berry species; (e) – evergreen species; (se) semi-evergreen species; (d) – deciduous species

Trees	
Alder (d)	<i>Alnus glutinosa</i>
Apples (f; d)	<i>Malus</i> spp. (local varieties)
Ash (d)	<i>Fraxinus excelsior</i>
Beech (d)	<i>Fagus sylvatica</i>
Bird cherry (f; d)	<i>Prunus padus</i>
Elder (f; d)	<i>Sambucus nigra</i>
Elm (d)	<i>Ulmus procera</i>
Field maple (d)	<i>Acer campestre</i>
Pedunculate oak (d)	<i>Quercus robur</i>
Rowan (f; d)	<i>Sorbus aucuparia</i>
Pears (f; d)	<i>Pyrus</i> spp.
Silver birch (d)	<i>Betula pendula</i>
Small-leaved lime (d)	<i>Tilia cordata</i>
White willow (d)	<i>Salix alba</i>
Wild cherry (f; d)	<i>Prunus avium</i>
Walnut (d)	<i>Juglans regia</i>

Shrubs	
Blackthorn (f; d)	<i>Prunus spinosa</i>
Buckthorn (f; d)	<i>Rhamnus catharticus</i>
Crab apple (f; d)	<i>Malus sylvestris</i>
Dog rose (f; d)	<i>Rosa canina</i>
Dogwood (f; d)	<i>Cornus sanguinea</i>
Field maple (d)	<i>Acer campestre</i>
Guelder-rose (f; d)	<i>Viburnum opulus</i>
Hawthorn (f; d)	<i>Crataegus monogyna</i>
Hazel (d)	<i>Corylus avellana</i>
Holly (e)	<i>Ilex aquifolium</i>
Honeysuckle (f; d)	<i>Lonicera periclymenum</i>
Spindle (f; d)	<i>Euonymus europaeus</i>
Wild privet (f; se)	<i>Ligustrum vulgare</i>
Yew (f; e)	<i>Taxus baccata</i>

Flowering plants	
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Black knapweed	<i>Centaurea nigra</i>
Common cat's-ear	<i>Hypochoeris radicata</i>
Common sorrel	<i>Rumex acetosa</i>
Common vetch	<i>Vicia sativa</i>
Cowslip	<i>Primula veris</i>
Field scabious	<i>Knautia arvensis</i>
Foxglove	<i>Digitalis purpurea</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Primrose	<i>Primula vulgaris</i>
Red clover	<i>Trifolium pratense</i>
Selfheal	<i>Prunella vulgaris</i>
Sweet violet	<i>Viola odorata</i>
Wild daffodil	<i>Narcissus pseudonarcissus</i>
Yarrow	<i>Achillea millefolium</i>

Grasses	
Common bent	<i>Agrostis capillaris</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Meadow fescue	<i>Festuca pratensis</i>
Red fescue	<i>Festuca rubra</i>
Rough meadow-grass	<i>Poa trivialis</i>
Small timothy	<i>Phleum bertolonii</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>
Yellow oat-grass	<i>Trisetum flavescens</i>

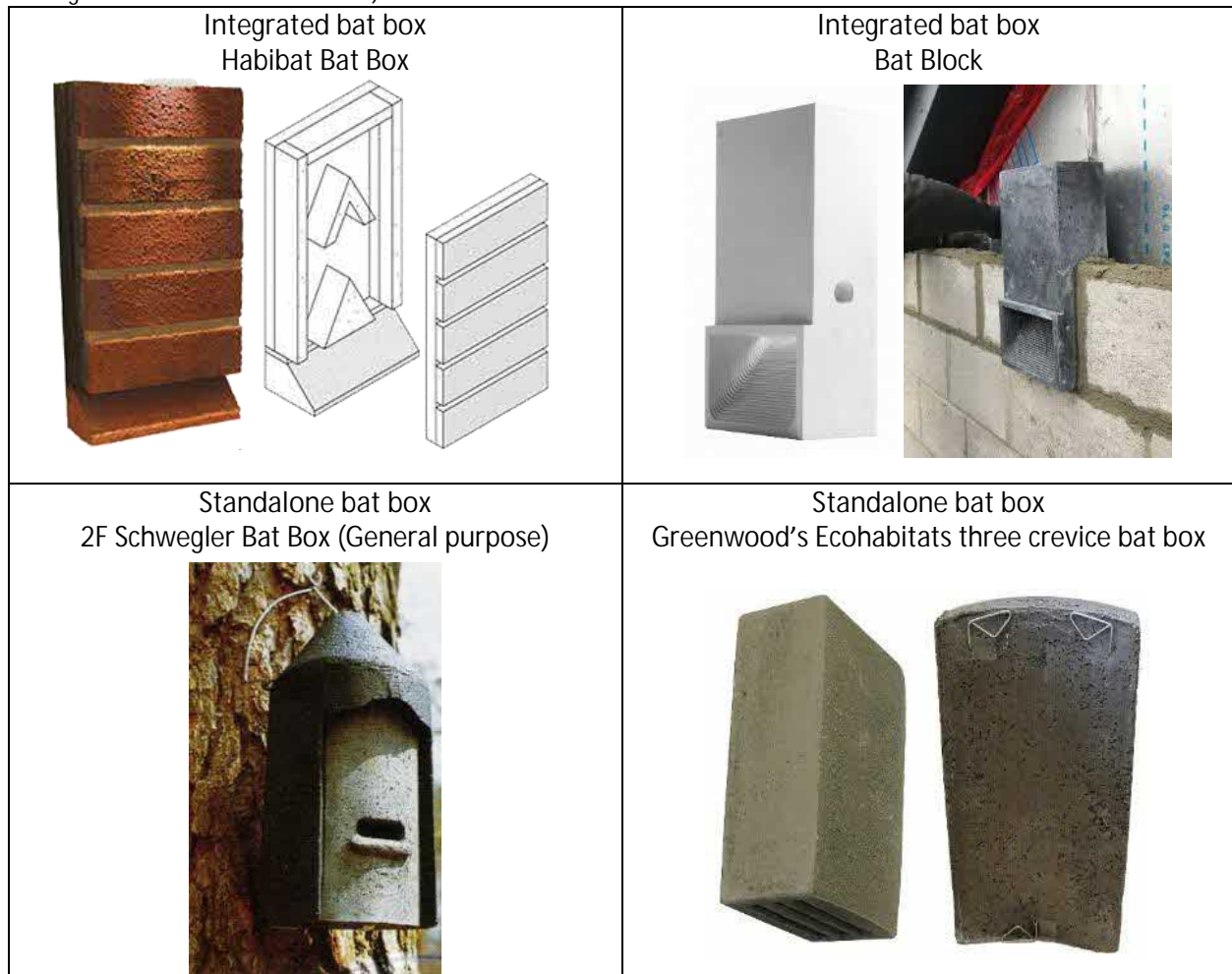
Flowering Lawn Mixture – EL1 Emorsgate Seeds

<https://wildseed.co.uk/product/mixtures/complete-mixtures/special-habitat-mixtures/flowering-lawn-mixture/>

Appendix G

Examples of bat and bird boxes

(images sourced from www.nhbs.com, www.habibat.co.uk, www.manthorpe.co.uk, www.barnowltrust.org.uk and www.greenwoodsecohabitats.co.uk)



Recommendations for installing bat boxes:

(Sourced from Bat Conservation Trust www.bct.org)

Ideally, several boxes should be put up facing in different directions to provide a range of conditions.

Locate boxes:

Where bats are known to feed close to hedges and treelines (some bats use a treeline or hedgerow for navigation, putting boxes near these features may help the bats find the box).

On trees: boxes should be placed on the trunk of a mature tree, where there is a clear flight line/accessible entrance.

On buildings: boxes should be placed as close to the eaves as possible.

As high as possible (ideally, at least 3 to 4m above the ground, where safe installation is possible).

In sunny places, sheltered from strong winds (usually between south-west and south-east).

Make sure the boxes are secured.

Boxes can be installed on trees using adjustable ties to avoid damaging the trees. Otherwise, timber screw bolts or nails can be used. Aluminium alloy nails are less likely to damage saws and chipping machinery.

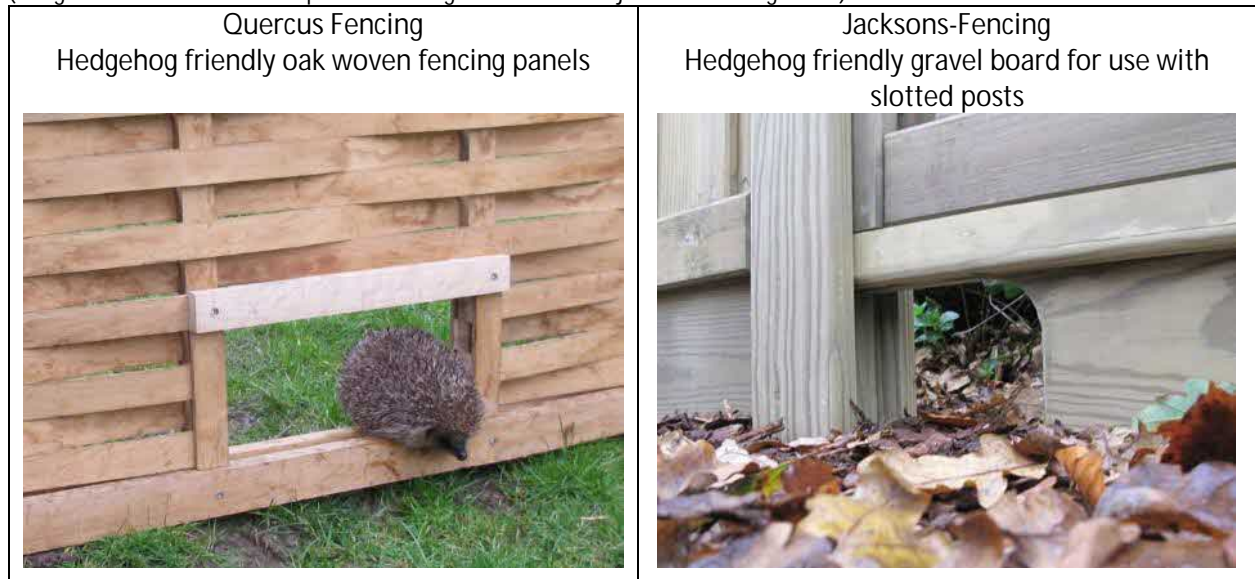
Bats need time to find and explore new homes, and it may be several months or even years before boxes have residents. Once bats find a place they want to live they can return over and over again. Droppings on the landing area, urine stains around the lower parts of the box and chittering noises from inside on warm afternoons and evenings are signs of occupation.

<p>Small bird nesting box 1B Schwegler Nest Box</p> 	<p>Small bird nesting box 2H Schwegler Robin Box</p> 
<p>Integrated swift box Swift Block</p> 	<p>Integrated swift box Manthorpe Swift Brick</p> 
<p>Recommendations for installing bird boxes: (Sourced from British Trust for Ornithology www.bto.org, Manthorpe www.manthorpe.co.uk and Barn Owl Trust www.barnowltrust.org.uk)</p>	
<p>The highest priority when siting a nest box must be to provide a safe and comfortable environment in which birds can nest successfully.</p> <p>Tips for putting up a nest box:</p> <ul style="list-style-type: none"> Boxes should be sited 1-3m from the ground, ideally on tree trunks but can be placed on the side of a shed or wall. Avoid areas where foliage obscures the entrance hole. Don't place boxes too close to another nest box of the same type, as this may promote aggressive behaviour between neighbours. Shelter your nest box from prevailing wind, rain and strong sunlight. The box should face between north and east, and angled vertically or slightly downwards to prevent rain entering. Make sure cats cannot get into the box. Keep nest box away from bird feeders. Use galvanized or stainless steel screws or nails. If fixing boxes to trees, galvanised wire can be used to tie the box to the trunk or hang it from a branch. Make sure to regularly inspect these fittings (every two or three years) to ensure the box remains securely attached. <p>Tips for putting up house sparrow terraces and swift bricks/boxes:</p> <ul style="list-style-type: none"> Locate ≥5m high on the gable wall of the property and above the level of the insulation zone. Where possible, install in locations that are unlikely to receive large amounts of direct sunlight during the hottest times of the day, ideal places include below the overhang of the verge and barge board. 	

Appendix H

Examples of hedgehog friendly fencing

(images sourced from www.quercusfencing.com and www.jackson-fencing.co.uk)



Recommendations for installing hedgehog friendly fencing:

(Sourced from Hedgehog Street www.hedgehogstreet.org)

A hedgehog friendly fence should have a gap measuring at least 13cm by 13cm in the gravel board. These gaps allow any hedgehog to pass through but are too small for nearly all pets.

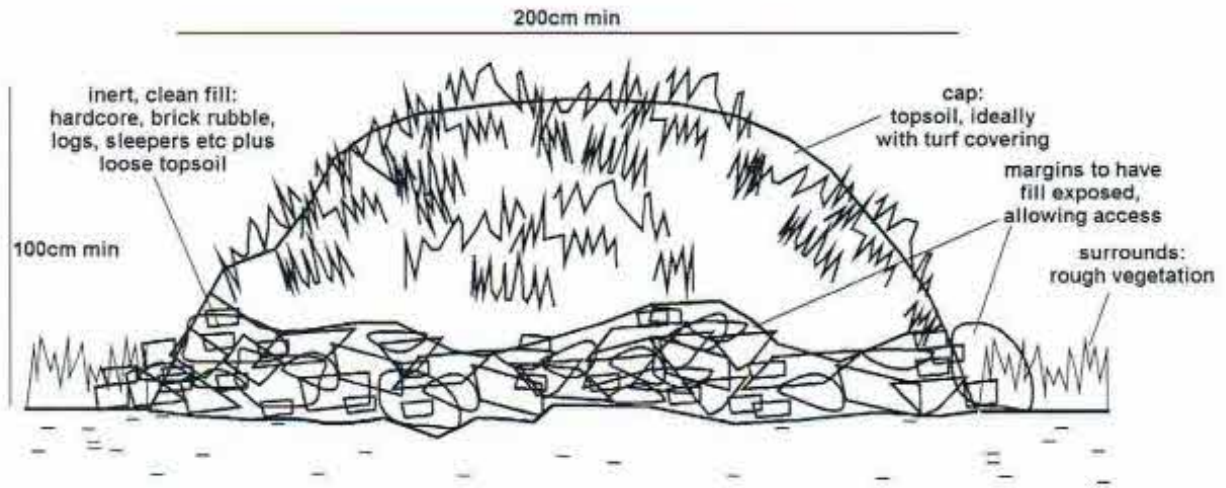
At least one hedgehog friendly fence panel should be located on each side of your garden, to provide unimpeded access.

Almost all fencing materials can be made hedgehog friendly, but may require DIY adaptations. Please note that some concrete gravel boards contain metal rods running along the length of the boards to provide strength and rigidity, and cannot be cut. To overcome this, a gap can be left between the gravel board and post to provide the required gap.

Appendix I Habitat piles

Figure 3: Suggested hibernaculum design

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



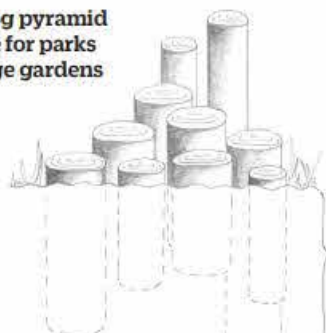
Source: English Nature (2001) Great Crested Newt Mitigation Guidelines, Peterborough.

- ▶ Log pyramids can be built at any time of year
- ▶ Use wood from any broadleaved tree
- ▶ The logs should be at least the thickness of an adults arm
- ▶ Site the logs in partial shade if possible to prevent them drying out
- ▶ Partially bury the logs in the soil so that they don't dry out
- ▶ Allow plants to grow over the log pyramid to retain moisture and provide shade

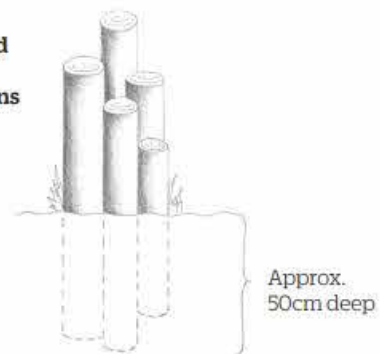
Your log pyramid will also benefit a range of other species including fungi, dead wood invertebrates and the animals that feed on them. It will be a great place for foraging small mammals, basking reptiles and potentially solitary bees.



**Large log pyramid
suitable for parks
and large gardens**





**Log pyramid
suitable for
small gardens**



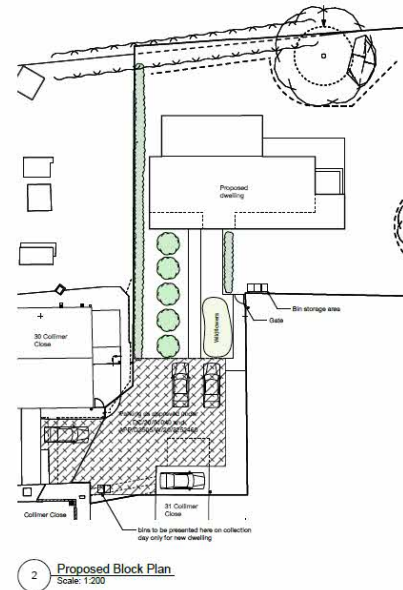
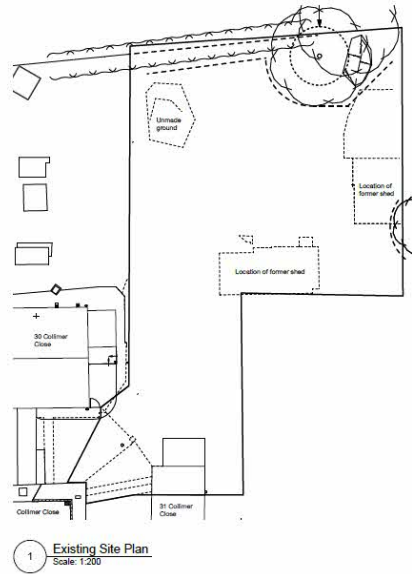
Peoples Trust for Endangered Species (2022) Build a log pyramid for stag beetles. London

Appendix J Bee Bricks

(images sourced from www.nhbs.com and www.greenandblue.co.uk)

Bee post	Bee bricks
	
Recommended bee brick installation (Sourced from NHBS www.nhbs.com)	
<p>Bee bricks will be installed on a south facing sunny spot of an external wall of the residential dwelling, at a minimum height of 1m. No vegetation should be obstructing the holes.</p> <p>Bee posts will be positions south facing in a sun exposed spot, with no vegetation covering the fascia. The posts must be set in a concrete base at a minimum of 30mm, similar to installing a fencepost.</p>	

Appendix K Proposed plans



- NOTES:
1. THIS DRAWING copyright is with Mullins Dowse Architects Ltd.
 2. SETTING OUT all dimensions to structural faces unless specified.
 3. SETTING OUT confirm all dimensions on site.
 4. SCALE 50% NOT SCALE from this drawing.
 5. DIMENSIONS OF JOINERY components are for structural opening sizes: the contractor must allow tolerances for cutting in, fitting and joining.
 6. COMPONENT DIMENSIONS on site for all components prior to manufacture.
 7. REPORT all discrepancies to the client/architect and obtain their instructions/advice before proceeding.
 8. READ THIS DRAWING in conjunction with the relevant structural engineers and other specialist drawings.
 9. READ THIS DRAWING in conjunction with the construction specifications.

- KEY
- Proposed native hedge
 - Proposed fruit trees
 - Proposed wild flowers

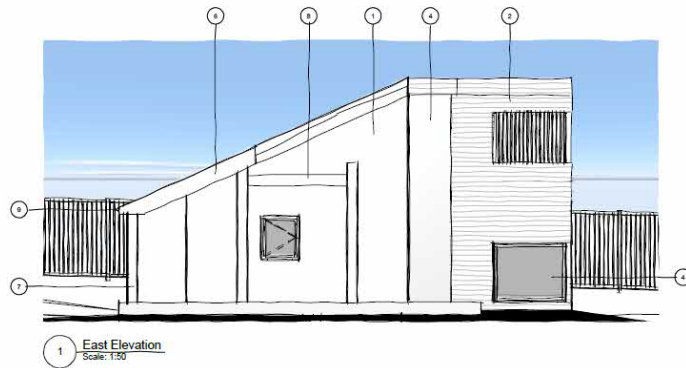


IDA
104 Deep Street, Walsbridge, Leicestershire, LE12 1BX
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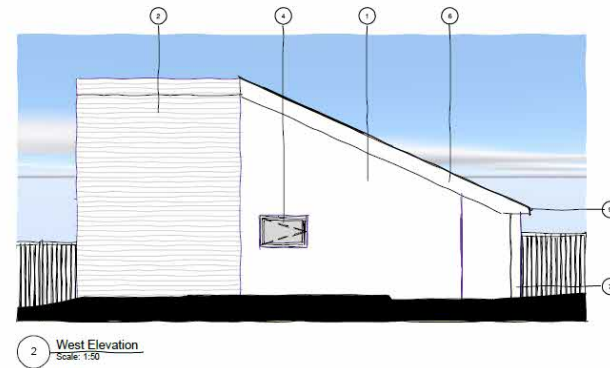
DRAFT 08.11.2023

revision	date	description	drawn	checked
001		Project	Land Adjacent to 30 Collimer Close	
002		Drawing	Site Plan and Site Section	
003		Date	drawn checked	status
004	08.11.2023	AM	ED	PLANNING
005		job ref	drawing	revision
006	6440	004		

Mullins Dowse
Architects



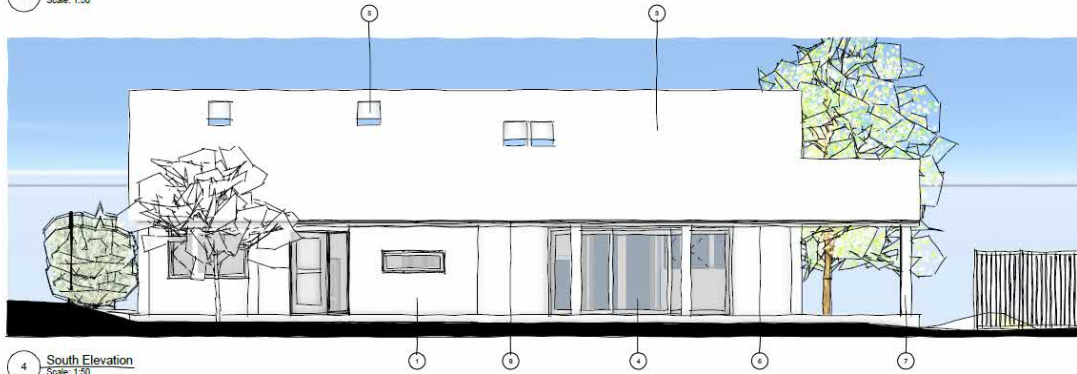
1 East Elevation
Scale: 1:50



2 West Elevation
Scale: 1:50



3 North Elevation
Scale: 1:50



4 South Elevation
Scale: 1:50

- NOTES
1. THIS DRAWING copyright is with Mullins Dowse Architects Ltd.
 2. SETTING OUT: all dimensions to structural faces unless specified
 3. SETTING OUT: confirm all dimensions on site
 4. SCALE: 50 NOT SCALE from this drawing
 5. DIMENSIONS OF JOINERY: components are for structural opening sizes: the contractor must allow tolerances for building in, fitting and joining
 6. CONFIRM DIMENSIONS on site for all components prior to manufacture
 7. REPORT: all discrepancies to the client/contract and obtain their instructions/advise before proceeding
 8. READ THIS DRAWING: in conjunction with the relevant structural engineers and other specialists' drawings
 9. READ THIS DRAWING: in conjunction with the construction specifications.

- MATERIAL KEY
1. Dark Red Brick
 2. Natural Treated Timber Cladding
 3. Slate Tiles, with Solar Panels
 4. Powder Coated Aluminium Windows and Doors
 5. Powder Coated Aluminium Rooflights
 6. Natural Timber Range Beams, Boffa and Fascia
 7. Natural Timber Rafters
 8. Black Gutters and Downpipes

DRAFT 05.11.2023

revision	date	description	drawn	checked
project		Land Adjacent to 30 Collimer Close		
drawing		Elevations		
date	drawn	checked	status	sheet
AUG 2023	AB	ES	PLANNING	A1
job ref	drawing	revision		
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Mullins Dowse Architects