GEOSPHERE ENVIRONMENTAL

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Geosphere Environmental Ltd, Brightwell Barns, Ipswich Road, Brightwell, Suffolk, IP10 0BJ.
T: 01603 298 076 / 01473 353 519. W: www.geosphere-environmental.co.uk

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Prepared By:	Reviewed and Authorised By:
Eleanor Baker	Katie Linehan
Graduate Ecologist	Technical Director of Ecology

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V1	26-10-22	Original Document	EB	
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Executive Summary

Report Description		This Preliminary Ecological Appraisal report has been prepared by Geosphere Environmental Limited for Stantec UK LTD and relates to the proposed commercial development of the site at Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW. The purpose of this report is to identify potential ecological constraints to development, particularly in relation to potential legally protected species onsite, confirm the need for further survey work to confirm all baseline ecological conditions, if necessary and highlight opportunities for ecological enhancement.
Summary of Main Findings		The site comprises bramble scrub, cereal crops; tall ruderal, other neutral grassland and other woodland - broadleaved. The findings of the survey confirm that the habitats onsite have the potential to support foraging bats (albeit limited), nesting birds, badgers, hedgehogs, reptiles and common assemblages of invertebrates. The site is not considered suitable for riparian mammal species, roosting bats, breeding birds or Hazel Dormouse.
Ecological Constraints		The constraints to development will be the removal of habitats considered suitable for protected species, including trees and hedgerows suitable for foraging bats.
Avoidance measures & Timings of Works to reduce impact		**Foraging Bats:** A sensitive lighting scheme should be designed to ensure that any foraging habitat offsite, remains as unlit as possible to allow continued use by bats. **Reptiles:** Clearance of vegetation should be undertaken under an ecological method statement. **Birds:** Any clearance of vegetation should be timed to avoid the bird nesting season (March to August inclusive). If this is not possible, these habitats should be removed following confirmation by a suitably qualified Ecologist that they are not in active use by nesting birds. **Hedgehog:** Clearance of scrub should be undertaken sensitively during the hedgehog active season (March – September). Excavations during development or ground investigation works should be covered overnight to prevent entrapment of hedgehogs. **Badger (redact this section before upload to the public domain):** Prior to any construction works the site should be checked by an ecologist to ensure that badgers have not inhabited the site since the original survey visit.
Biodiversity Enhancement Opportunities		Planting of species that are beneficial to wildlife to provide additional habitat for invertebrates and in turn greater foraging opportunities for species such as hedgehog and foraging bats.
Conclusions		Provided the recommendations within this report are followed and the mitigation hierarchy of avoidance, mitigation, compensation, and enhancement is

		implemented throughout the detailed design process, potential negative effects from development on important ecological features will be negligible. Vegetation clearance should be undertaken under an ecological method statement. In addition, a Landscape and Ecological Management Plan should be conditioned to provide management of ecological features long term.

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1. INTRODUCTION

1.1 Purpose

This Preliminary Ecological Appraisal report has been prepared by Geosphere Environmental Limited for Stantec UK LTD and relates to the proposed commercial development of the site at Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW for which outline/detailed planning permission will be sought. The purpose of this report is to:

- Identify if important ecological features are present that may be affected by development proposals.
- Determine if further survey work is necessary, and if so, provide detailed scope for any further survey and assessment that may be required to support a planning application.
- Highlight opportunities for ecological enhancement.

Any limitations and conditions pertaining to the report are stated within Appendix 1, with a full list of technical references provided within Appendix 2.

1.2 Site Description

The site occupies an area of approximately 0.55 ha and is located around National Grid Reference TG 16290 41030. The indicative development boundary is shown on Figure 1 below:

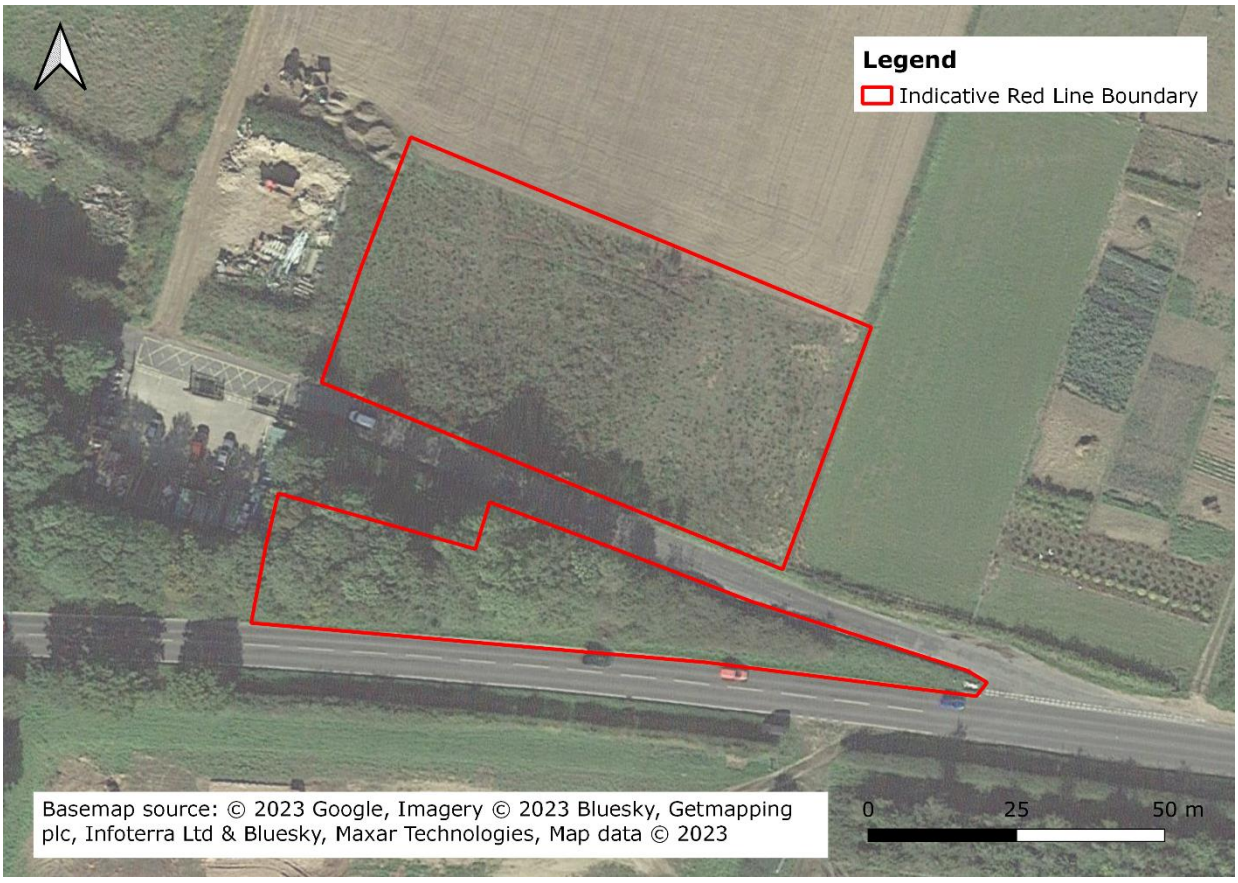


Figure 1 - Indicative Site Boundary

1.3 Proposed Development

The report relates to proposed commercial development at the site at Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW, as shown in Drawing ref. 49868/2001/101-P09 included within Appendix 3.

2. LEGISLATIVE AND POLICY CONTEXT

2.1 Current UK Legislation

The main legislation that applies to ecological issues within England and Wales is as follows:

- The Environment Act 2021 Act became law on 9 November 2021 and introduces a framework to improve and protect the natural environment, overseen by the newly created Office for Environmental Protection. The Act introduces new statutory requirements, including the duty for local authorities to create new local nature recovery strategies. The Act also introduces a new mandatory requirement for developments to achieve measurable biodiversity net gain. A two-year transition period for this requirement is included in the Act, with provision for secondary legislation to set a date for the requirement to come into force. It is likely this will be late 2023 or later. Once in force, all planning permissions in England (subject to exemptions) must be granted subject to a new general pre-commencement condition that requires approval of a biodiversity gain plan. The planning authority would only approve the biodiversity gain plan if the biodiversity value attributable to a development exceeds the pre-development biodiversity value of the onsite habitat by 10%.
- The Conservation of Habitats and Species Regulations 2017 (as amended) transposes European Union Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (formally the EC Habitats Directive) into national law. Under the regulations, public bodies have a duty in exercising their functions to provide for the protection of 'Habitats Sites' and 'European Protected Species' (EPS).
- The Wildlife and Countryside Act 1981, (WCA) (as amended) provides detail on a range of protection and offences relating to wild birds, other animals, and plants. The level of protection depends upon which Schedule of the Act the species is listed on. Licences are available for specific purposes to permit actions that would otherwise constitute an offence in relation to species.
- The Natural Environment and Rural Communities, (NERC), Act 2006 imposes an obligation on all public bodies, including local authorities, to consider whether their activities can contribute to the protection of wildlife. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England and states that: "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

Species-specific conservation legislation is detailed within Appendix 4.

2.2 Planning Policy

The recommendations of this report are in line with the key principles of the Ministry of Housing, Communities and Local Government (MHCLG) (2021) National Planning Policy Framework (NPPF) (ref. **R.1**).

Local planning policies relating to ecology are invariably based upon the conservation of species protected under the above legislation, including species and habitats of principal importance listed under Section 41 of the NERC Act 2006 and the protection of designated sites.

All of these features are considered within the scope of this Preliminary Ecological Appraisal and therefore any recommendations made herein, are likely to be in line with this policy.

3. METHODOLOGY

3.1 Technical Approach

The PEA has been undertaken following guidelines provided by CIEEM's Guidelines for Preliminary Ecological Appraisal, (ref. **R.2**), and BS 42020: 2013 Biodiversity standards, (ref. **R.3**) to provide an indication of the ecological value of the site and the potential for the site to be used by protected species.

Scientific names and common names of plant species identified are as they appear in Stace, (ref. **R.4**).

The conclusions and recommendations for further works are in accordance with current legislation and guidance.

3.2 Personnel

This report was produced by Eleanor Baker MSc BSc (Hons), who has practical and shadowing experience in ecological consultancy including surveys and mitigation for a range of protected species and in producing Preliminary Ecological Appraisals and Impact Assessments. All surveyors used to establish baseline information are suitably qualified and experienced; surveyors' names and qualifications are stated under each survey heading below. This report was reviewed and approved by Katie Linehan BSc (Hons) MSc FGS PIEMA MCIEEM, who is experienced in ecological consultancy including the production of Preliminary Ecological Appraisals and Impact Assessments.

3.3 Ecological Desk Study

A data search was conducted of freely available biological records. The sources of information included:

- The Multi-Agency Geographic Information for the Countryside (MAGIC) online database (ref. **R.5**) was consulted to obtain geographic information on key statutory designated nature conservation sites and other ecological features of relevance to the site.
- Norfolk Biodiversity Information Service (NBIS) was contacted to provide details of legally protected species and non- statutory designated conservation sites within 2km of the site. Only records of protected species from within the last ten years are considered within this report.
- Ordnance survey maps were used to identify ponds/ditches within 500m of the site to assess the potential for Great Crested Newt (GCN) within the immediate vicinity of the site.
- A desk-based search for ponds within 500m of the site was undertaken using the MAGIC online database basemaps (ref. **R.5**).

3.4 Preliminary Ecological Appraisal

The surveys used to inform the Preliminary Ecological Appraisal comprise of a habitat survey and protected species scoping survey. The Preliminary Ecological Appraisal considers findings of the outcome of the survey work alongside any features highlighted by the desk study.

The site survey was undertaken on 02 October 2022 by Richard Fenna (Principal Ecologist and Arboricultural Consultant) and Eleanor Baker. The weather conditions at the time of the survey were dry and breezy and an approximate temperature of 12°C.

A list of plant species was compiled in accordance with methodology required to establish UK Habitat Classification types (ref. **R.6**) aiming to record to level 4, ensuring habitats were recorded to at least level 3 where it was not possible to record to level 4. Level 5 was recorded wherever possible/relevant. Care was taken to accurately record all habitats of principal importance (if present). Secondary codes were added to polygons where deemed appropriate, taking special care to map mandatory codes for habitat mosaic, complex and origin. Survey was undertaken at the fine scale minimum mapping unit (MMU) of 25m^2 (polygons) and 1m width/5m long (lines). Key ecological features below the MMU in either area or length were mapped as points, except ponds (if present), which are mapped as polygons below the MMU to ensure habitat of principal importance (if present) is not undervalued.

The frequency and cover of each species identified as they are distributed in each habitat is estimated using the DAFOR scale, (ref. **R.7**), as follows:

- Dominant - >75% cover;
- Abundant – 51-75% cover;
- Frequent – 26-50% cover;
- Occasional – 11-25% cover;
- Rare – 1-10% cover;
- Locally dominant (LD), abundant (LA) and frequent (LF) is also used where the distribution is patchy.

The site was assessed for its suitability to support protected species and other species of conservation importance, which could pose a planning constraint. All signs and areas of habitat considered suitable for protected species or those of conservation interest, were recorded and photographed. These include burrows, droppings, footprints / paths, hairs, refuges and particular habitat types, such as ponds, known to be used by certain class of fauna. Sites are taken in the context of their surroundings and so include the immediate environs outside of site boundaries, where appropriate.

All ponds within 500m were located on an OS map. The ponds were assessed for their suitability for Great Crested Newt (*Triturus cristatus*) if the ponds were publicly accessible or if access had been granted prior to the survey. This includes a habitat suitability index (HSI) assessment (ref. **R.8**) which assesses the pond based upon a number of factors including the size, water quality, permanence, shading, presence of

fish, the number of nearby ponds and macrophyte cover. A score between 0 and 1 is given; where 0 represents poor suitability and 1 represents excellent suitability.

All established trees that could be accessed onsite were inspected and assessed in terms of their suitability (negligible, low, moderate or high) to support roosting bats, in line with the Bat Conservation Trust (BCT) survey guidelines (ref. **R.9**).

3.5 Ecological Evaluation

The ecological evaluation detailed below is based upon CIEEM Guidelines for Ecological Impact Assessment in the United Kingdom, (ref. **R.10**).

CIEEM Guidelines state that the value or potential value of an ecological resource or feature should be determined within a defined geographical context as follows:

- On an International scale, e.g. Ramsar, SAC or SPA site;
- On a UK scale, for example a SSSI or a National Nature Reserve, (NNR);
- On a National scale, e.g. a reserve of importance to England/Northern Ireland/Scotland/Wales;
- On a Regional scale, e.g. a local site with important regional habitats or UKBAP species;
- On a County scale, e.g. a local site with a habitat that is characteristic of the County or rare on a County scale, or with LBAP species;
- On a District scale, e.g., a site with wildlife corridors likely to improve the biodiversity of the area;
- Local or Parish, e.g., areas of green space in a predominantly urban environment.

The potential for protected species to use the habitats onsite contributes significantly towards the potential value of the habitats onsite.

4. RESULTS

4.1 Designated Sites

All relevant desk study data relating to designated sites is attached in Appendix 5.

There are no designated sites within the site boundary.

There are three statutory designated nature conservation sites within 2km of the site. There are two designated sites, Briton's Lane Gravel Pit SSSI, located 338m north-east of the site, and Sheringham and Beeston Regis Commons SSSI/ Norfolk Valley Fens (SAC), located 834m north of site.

Norfolk Valley Fens (SAC) is recognised for containing a number of ecologically sensitive habitats; alkaline fens are the primary designated habitat and is a very rare habitat in the lowlands. Other important habitats found within this designation include Northern Atlantic wet heaths, European dry heaths, alluvial forests and calcareous fens.

There are a further five internationally protected sites within 20km of the site boundary.

- Overstrand Cliffs (SAC), 6.6km North East of site;
- The North Norfolk coast (SPA, SAC, RAMSAR), 7.3km North West of site;
- The wash and North Norfolk coast (SAC), 7.3km North West;
- Southern North Sea (possible SAC), 15.9km East of site;
- Paston Great Barn (SAC), 17.1km South East of site is the only known example of a maternity roost of Barbastelle (*Barbastella barbastellus*) bats in a building. A maternity colony utilises a range of cracks and crevices in the roof timbers in the 16th century thatched barn.

Five non-statutory designations are present within the 2km search radius. The closest of which is Gibbet and Marlpit Plantations County Wildlife Site (CWS) located 88m south-west of site. This CWS is recognised for its acidic areas of mature Oak woodland. Other non-statutory sites within 2km of the site include Sheringham Old Wood CWS and Pretty Corner & the Plains CWS.

4.2 Habitats

The results of the habitat survey detailed below and annotated on Figure 2.

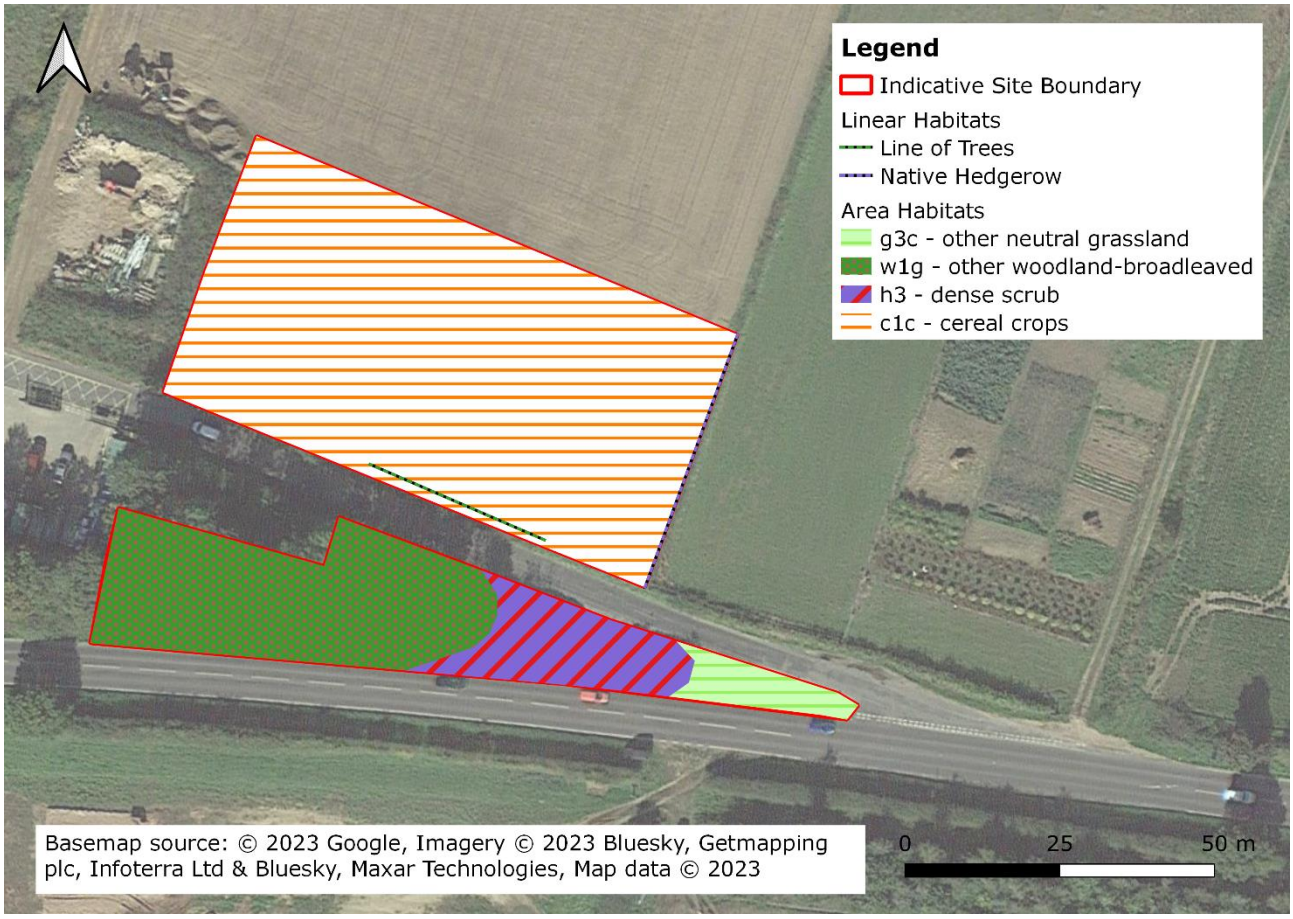


Figure 2 – Habitat Survey Plan

A list of species recorded during the survey is shown in Appendix 6.

4.2.1 Habitats Within the Survey Area

The following area-based habitat types were recorded within the survey area. Descriptions of the target notes (TN) and relevant photographs are included in Appendix 7:

- Cereal Crops; Tall Ruderal – c1c 717 (TN1).
- Other Neutral Grassland – g3c (TN2).
- Bramble Scrub - h3d (TN3).
- Other Woodland - Broadleaved – w1g (TN4, TN5).

Linear habitats recorded within the survey area include:

- Hedgerow, native – h2a (TN6).
- Line of Trees – w1g6.

Offsite habitats recorded include:

- Other Cereal Crops – c1c 7 (TN7).
- Modified Grassland – g4 (TN8).

There are two parcels of land within the site boundary, separated by Holt Road.

The northern parcel forms part of an arable field which has been left fallow (Cereal Crops; Tall Ruderal – c1c7 17 (TN1), with rare occurrences of Mugwort, Broad-leaved Dock, Brambles and Butterfly Bush. A Line of trees is present to the south of this parcel, comprising of young field maple.

The hedgerow (Hedgerow, native – h2a) (TN5) along the eastern boundary of the site is fairly young and recently planted. Species comprised entirely of Hawthorn, with an approximate height of 1m, and width of approximately 0.5m.

The southern parcel comprises a small patch of grass (Other Neutral Grassland – g3c) (TN2), with Toadflax, Yorkshire Fog and Common Nettle; A section of woodland (Other Broadleaved Woodland – w1g7) (TN4) including field maple, ash and pedunculate oak; with some dense scrub, (Bramble Scrub - h3d) (TN3), with Bramble the dominant species, Common Nettle and Dog Rose was also present but occasional.

A small portion of Holt Road (Developed Land; Sealed Surface) is proposed to be removed once new access is created.

4.2.2 Habitats Outside the Development Zone

The northern parcel is surrounded by arable fields with Other cereal crops to the north and west and modified grassland to the east. There is woodland located further to the north and west. A road separates the northern parcel from the southern parcel, to the south and east is a road, beyond which is arable land.

One pond is situated within 500m of the development zone, located 359m east of the site.

4.3 Species

4.3.1 Protected Species Records

Records of protected species and notable species listed within 2km of the site were returned from NBIS. Absence of records should not be taken as confirmation that a species is absent from the search area.

Table 1 overleaf provides a summary of the biological records for the site:

Table 1 – Selected Protected Species Records				
Common Name	**Scientific Name**	**Biological Records Within 2km**	**Date of Most Recent Record**	**Protective Status ***
Amphibian				
Great Crested Newt	Triturus cristatus	No	Historical records only (2010)	HabRegs, WCA Sch 5 + 6, Priority species.
Reptile				
Common Lizard	*Zootoca vivipara*	No	Historical records only (2010)	WCA Sch 5, Priority species.
Slow Worm	*Anguis fragilis*	No	Historical records only (2005)	WCA Sch 5, Priority species.
Adder	*Vipera berus*	No	-	WCA Sch 5, Priority species.
Grass Snake	*Natrix helvetica*	No	-	WCA Sch 5, Priority species.
Mammal				
Badger	*Meles meles*	Yes	2018	PBA.
Otter	*Lutra lutra*	Yes	2017	HabRegs, WCA Sch 5 + 6, Priority species.
Water Vole	*Arvicola amphibius*	No	-	HabRegs, WCA Sch 5 + 6, Priority species.
Hedgehog	*Erinaceus europaeus*	Yes	2018	WCA Sch 6, Priority species.
Barbastelle Bat	*Barbastella barbastellus*	Yes	2018	HabRegs, WCA Sch 5 + 6, Priority species.
Brandt's Bat	*Myotis brandtii*	No	-	HabRegs, WCA Sch 5 + 6.
Whiskered Bat	*Myotis mystacinus*	Yes	2015	HabRegs, WCA Sch 5 + 6.
Natterer's Bat	*Myotis nattereri*	Yes	2018	HabRegs, WCA Sch 5 + 6.
Serotine Bat	*Eptesicus serotinus*	Yes	2018	HabRegs, WCA Sch 5 + 6.
Noctule Bat	*Nyctalus noctula*	Yes	2018	HabRegs, WCA Sch 5 +6, Priority species.
Leisler's bat	*Nyctalus leisleri*	No	-	HabRegs, WCA Sch 5 + 6.
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Yes	2018	HabRegs, WCA Sch 5 + 6, Priority species.
Common Pipistrelle	*Pipistrellus pipistrellus*	Yes	2018	HabRegs, WCA Sch 5 + 6.
Nathusius's pipistrelle	*Pipistrellus nathusii*	Yes	2018	HabRegs, WCA Sch 5 + 6.
Brown Long-eared Bat	*Plecotus auritus*	Yes	2018	HabRegs, WCA Sch 5 + 6, Priority species.

Table 1 – Selected Protected Species Records

Common Name	Scientific Name	Biological Records Within 2km	Date of Most Recent Record	Protective Status *
Daubenton's bat	*Myotis daubentonii*	Yes	2018	HabRegs, WCA Sch 5 + 6.
Hazel Dormouse	*Muscardinus avellanarius*	No	-	HabRegs, WCA Sch 5 + 6, Priority species.
Plants				
No protected plant species were returned from the biological records data search. One non-native invasive species, Japanese Knotweed (*Fallopia japonica*), was noted to have been seen within 2km of the site boundary.				
Invertebrates				
Thirty-one UKBAP invertebrates were returned from the biological records search. Species noted within 2km of the site boundary include Cinnabar (Tyria jacobaeae), Dark-barred Twin-spot Carpet (Xanthorhoe ferrugata), Small Phoenix (Ecliptopera silaceata), Pretty Chalk Carpet (Melanthia procellata), Rosy Rustic (Hydraecia micacea), Moss Carder-bee (Bombus muscorum), White-line Dart (Euxoa tritici) and Ghost Moth (Hepialus humuli).				
Birds				
Sixty-five schedule 1 bird species were returned from within the biological records data search. Notable species include Hobby (Falco subbuteo), Firecrest (Regulus ignicapilla), Fieldfare (Turdus pilaris), Dotterel (Charadrius morinellus), Common Crossbill (Loxia curvirostra), Red-throated Diver (Gavia stellata), Redwing (Turdus iliacus), Scaup (Aythya marila) and Slavonian Grebe (Podiceps auritus). 21 further UKBAP bird species were returned from the biological records, recorded within 2km of the site boundary. Some of the UKBAP species noted include Yellowhammer (Emberiza citrinella), Tree Pipit (Anthus trivialis), House Sparrow (Passer domesticus), Tree Sparrow (Passer montanus), Arctic Skua (Stercorarius parasiticus) and Lesser Redpoll (Acanthis cabaret).				
Notes: *WCA Sch 1 - Wildlife and Countryside Act (1981) Schedule 1. WCA Sch 5 - Wildlife and Countryside Act (1981) Schedule 5 (Killing, injuring and sale of certain species), WCA Sch 6 - Wildlife and Countryside Act (1981) Schedule 6 (Animals which may not be killed or taken by certain methods), WCA Sch 8 - Wildlife and Countryside Act (1981) Schedule 8 (Plants which are protected), Priority species- species listed within UK Biodiversity Action Plan Species, and Natural Environment and Rural Communities Act (2006) Section 41. Species and Habitats of Principal Importance. PBA - Protection of Badgers Act (1992). HabRegs- Conservation of Habitats and Species Regulations (2017). BoCC 5 Red / Amber - Birds of Conservation Concern - Red or Amber listed.				

4.3.2 Species Discounted from Further Consideration

Legally protected species for which there is no suitable habitat on site include Hazel Dormouse (*Muscardinus avellanarius*), Otter (*Lutra lutra*) and Water vole (*Arvicola amphibius*). These species are therefore not considered further in this report.

4.3.3 Plants

No evidence of any rare plants was noted during the site survey.

The woodland is w1g7 (other broadleaved woodland types) and is a fairly young native, broadleaved plantation woodland, with limited ground flora, including ground ivy and bramble. The woodland only has a single storey canopy, of single aged trees.

It should be noted that additional plant species may be present at the site at other times of the year. That said, given the nature of the identified habitats (i.e., themselves common and widespread) within and immediately adjacent to the proposed works areas, no notable plant species are expected within the affected areas. The proposed re-development of the site is therefore expected to be unconstrained by notable flora.

4.3.4 Invertebrates

The areas of site that may be impacted are of low species diversity and are unlikely to support an assemblage of rare invertebrates, and due to the size of the habitats present the impact to invertebrates is considered negligible.

4.3.5 Great Crested Newt

There is one pond located within 500m of the site. A Habitat Suitability Index (HSI) was undertaken in 2021 to assess the pond's suitability to support Great Crested Newts. A score between 0 and 1 is given; where 0 represents poor suitability and 1 represents excellent suitability. The results are summarised in Table 2 below:

Table 2 – HSI Scores of Ponds

Pond	Distance From Site	Connected or Separated from Site	Pond Size (m^2)	HSI Score	Pond Suitability for Great Crested Newts
1	359m east	Separated by Britons Lane. Very limited connectivity between the pond and site; mainly arable land.	178	0.69	**Average**

There is no breeding habitat onsite and only one pond within 500m. The scrub within the southern parcel of land, provides suitable habitat for GCN however, these habitat areas are so small in size. The pond is over 250m away from this habitat and has limited connectivity to the pond, and further areas of suitable habitat. As such, GCN are unlikely to be present onsite.

4.3.6 Birds

The dense scrub offers suitable habitat for nesting birds, whilst the scattered trees provide suitable foraging opportunities for common species of bird.

4.3.7 Reptiles

The majority of the site is considered sub optimal for reptiles due to the previous management of arable land and extremely limited foraging and commuting habitat present. Small areas of the site, such as the margins of the scrub, neutral grassland, and woodland are potentially suitable for reptiles.

Taken together, the habitats on site are at most only suitable for low numbers of common reptiles.

4.3.8 Badger

A badger dropping was noted on the site boundary. However, whilst the dense scrub is suitable to support foraging badgers, the size of the site and small area of suitable habitat suggest the presence of a badger set is unlikely.

4.3.9 Hedgehog

The site provides limited foraging habitat for hedgehog in the grassland, scrub and ruderal vegetation. Suitable nesting and hibernating habitat could be possible in the dense scrub.

4.3.10 Bats

None of the trees onsite had any bat roost potential. The trees were inspected, with no features observed. The trees were all also fairly young and small in diameter.

The majority of the habitats within the site offer limited foraging opportunities for bats, with the exception of the small areas of scrub and woodland in the southern parcel, however the size of these habitats are so small in size, the habitat that will be impacted by the proposed development is considered of negligible value to foraging bats.

There are suitable habitats for foraging bats offsite in the surrounding area, so it is assumed that low numbers of foraging bats will make use of the site as part of the larger areas of habitat in the surrounding areas.

5. EVALUATION, CONSTRAINTS AND RECOMMENDATIONS

5.1 Nature Conservation Sites

The desk study identified five nature conservation sites with non-statutory designations within a 2km radius of the site, with the statutory protected sites within 2km.

The development site does not contain any habitats which could support the important species associated with either the statutory or non-statutory sites and there is not potential habitat connectivity between the site and the statutory sites.

It is considered unlikely, given the distance from the survey area and the nature of the proposed development works, that the Nature Conservation sites listed above will be directly affected by any construction activity on the surveyed area. It is considered unlikely that commercial development at Sheringham Recycling Centre is of sufficient size to have any indirect impacts on the designated sites.

5.2 Habitats

The woodland on/adjacent to the site is recently established plantation woodland. A single tree within the woodland will be removed to facilitate the construction of the new road. Adjacent to Holt Road, the line of trees is proposed to also be removed. To compensate for the loss of these trees, further woodland and trees should be planted onsite.

The proposed development should aim to deliver a biodiversity net gain, by including more habitat area, and better-quality habitat within the proposals, than are currently present onsite. This may require consideration of enhancement of retained habitats. Metric calculations in accordance with the most recent methodology (Biodiversity Metric 3.1, refs. **R.11** and **R.12** as per the original V1 of this PEA) will likely be a requirement of planning in order to show how that net gain can be achieved.

5.3 Legally Protected and Notable Species

The ecological evaluation for protected species is detailed Table 3 overleaf:

Table 3 – Protected Species - Ecological Constraints and Recommended Actions

Ecological Constraint/ Receptor	Biological Records Within 2km	Value of Supporting Feature	Potential Impact/Effect	Recommended Actions (Avoidance/mitigation/compensation Measures and Recommendations for Further Works)	Timing Restrictions
Reptiles	Yes	Habitats onsite offer limited foraging and hibernation habitats suitable for reptiles.	Death or injury of reptiles, should they be present on site and/or using areas of the site.	**Reduction of impact:** Vegetation clearance should be undertaken under and Ecological Method Statement. Due to the limited suitability of the habitat to be removed, this approach is considered appropriate. The Method Statement should include timings and details of the clearance methods and post clearance maintenance methods (including a toolbox talk to all site staff involved) to minimise the risk of harm to reptiles, if present.	Clearance should be undertaken when reptiles are active: generally, March to October inclusive.
Nesting Birds	Yes	The site offers a very small area of dense scrub suitable for nesting birds. Habitats are not important at a local level.	Loss of habitat for breeding and foraging birds. Destruction of active nest sites.	**Avoidance:** To ensure that no offences occur under the WCA, it is recommended that any scrub and tree clearance work is undertaken outside of the bird nesting season. If it is not possible to undertake clearance works outside of the nesting bird season, a suitably qualified ecologist should be employed to determine if nesting birds are using the site prior to works commencing, to avoid negative impact on protected species. Any active nests that are found would need to be provided with a 10m buffer which would have to be left until the young had fledged, (typically four weeks from eggs being laid for the garden and woodland species likely to be present). Clearance works within the area can recommence only once the nest is no longer in use.	Clearance during September to February only unless supervised by an Ecologist.
Bats: Foraging	Yes	The limited foraging habitat onsite are of negligible value to foraging bats. Adjacent and offsite habitats are suitable for foraging bats.	Loss of small sections of habitat from the site, not considered important at a local level. Potential for lighting overspill to negatively affect the adjacent habitats.	**Avoidance:** A sensitive lighting scheme should be designed in coordination between a qualified lighting engineer and a suitably qualified Ecologist, according to current best practice guidelines (ref. **R.13**). This should ensure that any foraging habitat offsite remains as unlit as possible to allow continued use by bats. **Reduction of Impact:** Trees will be assessed, retained, and protected following BS 5837: (2012) 'Trees in Relation to Design, Demolition and Construction' (ref. **R.1**). **Compensation:** Additional habitat, such as planting woodland, urban trees and native shrubs will provide suitable foraging habitats for bats.	N/A
Hedgehog	Yes	Habitats onsite offer limited foraging and hibernation habitats suitable for hedgehog.	Death or injury to hedgehogs.	**Reduction of impact:** Ideally clearance of vegetation should be timed to avoid hibernation and follow the subsequent guidelines: The vegetation should be cut in two stages. Ideally, the habitat should first be cut to 30cm above ground (using hand tools), before then being hand searched for hedgehog. If hedgehog are found during vegetation removal, stop work in that area, then leave overnight for hedgehogs to move from the area and undertake a second cut to ground level the following day. Excavations during development or ground investigation works should be covered overnight to prevent entrapment of hedgehogs (and other animals) that could commute across the site.	Vegetation clearance ideally during hedgehog active season (March – October.
If it is intended to submit this report with a planning application, the below section on Badger should be redacted prior to uploading this report onto the public domain.					
Badger	Yes	No Badger setts or foraging signs were identified within the site during the habitat survey; however, this species could move onto site at any time if Badger are present in the local area.	N/A – at present.	**Avoidance:** Prior to any construction works the site should be checked by an ecologist to ensure that badgers have not inhabited the site since the original survey visit. All open excavations should be covered overnight to prevent entrapment of badgers or other mammals during development.	None – Pre-construction check can be undertaken anytime.

6. OPPORTUNITIES FOR ECOLOGICAL ENHANCEMENT

The following general enhancements have been recommended to be included within the final development Scheme:

- Planting of native plant species beneficial to wildlife should be incorporated into the final design. This will provide additional habitat for invertebrates, which will in turn provide a food source for reptiles, birds, bats, and Hedgehog.
- The final development plan should incorporate tree mounted bat and bird boxes into the scheme. This will provide additional roosting and nesting habitats for bats and birds post-development.
- To help achieve biodiversity net gain on the site, areas of natural habitat would need to be included within the scheme. Metric calculations will likely be a requirement of planning, to show that net gain can be achieved.
- A Landscape and Ecological Management Plan should be conditioned to provide management of ecological features long term.

Examples of potential enhancement features are included as Appendix 8.

7. CONCLUSIONS

The proposed development will not adversely affect the statutory or non-statutory designated nature conservation sites.

None of the habitats that occur within the survey area were considered to have high ecological importance on an international, national, regional, county scale or local scale.

The findings of the habitat survey and protected species scoping survey confirm that the habitats onsite have the potential to support foraging bats (albeit limited), Badger, nesting birds and Hedgehog. No additional surveys will be required.

The recommendations within Section 5 of this report should be adhered, to reduce the impact on protected species.

Vegetation clearance should be undertaken under an ecological method statement. In addition, a Landscape and Ecological Management Plan should be conditioned to provide management of ecological features long term.

Opportunities exist for the provision of ecological enhancements in the form of the incorporation of locally sourced native plant species, or those of known wildlife benefit, into any future landscape strategy.

APPENDICES

Appendix 1 – Report Limitations and Conditions

General Limitations and Exceptions

This report was prepared solely for our Client for the stated purposes only and is not intended to be relied on by any other party or for any other use. No extended duty of care to any third party is implied or offered.

Geosphere Environmental Ltd does not purport to provide specialist legal advice.

The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon until considered within the context of the whole report.

Interpretations and recommendations contained within the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based upon current legislation in force at that time.

Ecology Limitations and Exceptions

Any limitations associated with the report will be stated. The consequences of any limitations, findings and/or recommendations in the report are made clear in line with CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition, Chartered Institute of Ecology and Environmental Management, Winchester and BSI (2013) BS 42020:2013 Biodiversity – 'Code of practice for planning and development'.

This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context.

The wildlife and habitats present on any site are subject to change over time. Surveys of this kind can have limited validity, with the possibility of behaviour patterns and territory boundaries varying over time, due to the dynamics of adjacent populations.

New information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore, with any change in circumstances or after the expiry of one year from the date of the report, the report should be referred to us for re-assessment and, if necessary, re-appraisal.

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the natural environment.

The scoping survey does not assess the presence or absence of a species but is used to assess the potential for habitat to support them. Additional surveys may be recommended if, on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that protected species may be present.

If bats or any other European protected species are found to be present onsite and the proposed activities will cause disturbance or destruction of a roost site then this report will only summarise the potential requirements. For works to continue a detailed mitigation plan with appropriate compensation measures would be required and a development licence would need to be sought from Natural England.

This survey does not constitute an invasive species survey and should not be treated as such.

Owing to seasonal variances and prevailing weather, conditions may sometimes be sub-optimal for surveying and this may delay or disrupt planned survey programmes. If applicable, full details are given in the report.

Geosphere Environmental Ltd may not be aware of information that could be held by other organisations or individuals, and it is always possible for features of nature conservation interest to be unrecorded during surveys.

Scientific survey data will be shared with local biological records centre in accordance with the CIEEM professional code of conduct.

Appendix 2 – References

R.1. Ministry of Housing, Communities and Local Government (MHCLG) (2021) National Planning Policy Framework (NPPF).

R.2. CIEEM, (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

R.3. BSI (2013) BS 42020:2013 Biodiversity – Code of practice for planning and development. BSI Standards Limited 2013.

R.4. Stace, C. A. (2010). New Flora of the British Isles (third edition), Cambridge University Press.

R.5. Magic 11.10.2022 Site Check Report. www.magic.gov.uk.

R.6. Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1. http://www.ukhab.org/

R.7. Goldsmith, B. (1991). Monitoring for Conservation and Ecology, Chapman & Hall.

R.8. Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155.

R.9. BCT (2016). 'Bat Surveys – Good Practice Guidelines' Bat Conservation Trust, London, 3rd Edition.

R.10. CIEEM (December 2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

R.11. Panks, Stephen et. al. (April 2022). Natural England Joint Publication JP039 Biodiversity Metric 3.1, Auditing and Accounting for Biodiversity: Technical Supplement. http://publications.naturalengland.org.uk/file/6089603756064768

R.12. Panks, Stephen et. al. (April 2022). Natural England Joint Publication JP039 Biodiversity Metric 3.1, Auditing and Accounting for Biodiversity: Technical Supplement. http://publications.naturalengland.org.uk/file/6593707725029376

R.13. Institution of Lighting Professionals (2018) Bats and artificial lighting in the UK, Bats and the Built Environment series – Guidance Note 08/18

R.14. BS 5837: (2012), 'Trees in Relation to Design, Demolition and Construction' - recommendations.

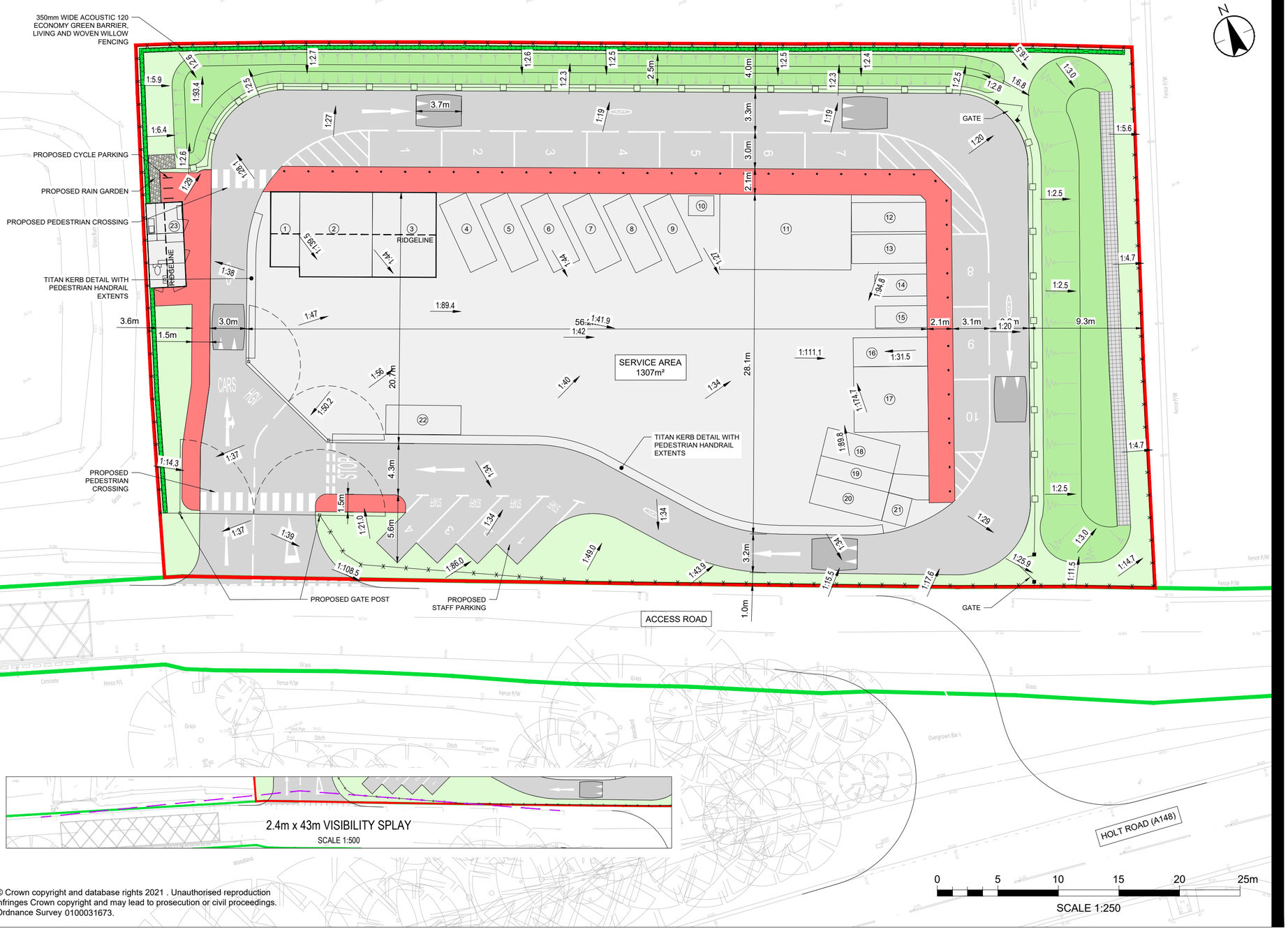
Appendix 3 – Drawings

General Arrangement – Drawing ref. 49868/2001/101-P09

BIN STORAGE	
NUMBER	TYPE
1-3	REUSE STORAGE
4-9	COMPACTOR WASTE BINS
10	SHELTER
11	SMALL BANKS AND BINS
12-13	ISO CONTAINERS
14-22	CONTAINERS
23	WELFARE UNIT

Key

- SITE BOUNDARY
- EXISTING HIGHWAY BOUNDARY
- PROPOSED CARRIAGEWAY
- PROPOSED SERVICE AREA
- PROPOSED PEDESTRIAN WALKWAY (CONTRASTING COLOUR TBC)
- PROPOSED LANDSCAPE AREA
- PROPOSED DRAINAGE SWALE
- PROPOSED RAIN GARDEN
- PROPOSED GABION BASKET RETAINING WALL
- (11) BIN STORAGE & REFERENCE CODE
- PROPOSED PERIMETER CHAIN LINK & BARBED WIRE FENCE
- PROPOSED TIMBER TRIP RAIL FENCE, POSTS AT 2m CENTRES
- PROPOSED VEHICLE RESTRAINT BOLLARDS LOCATED AT 2m CENTRES
- PROPOSED ACOUSTIC BARRIER
- 2.4 x 43m VISIBILITY SPLAY - NO OBSTRUCTIONS WITHIN AREA OF VISIBILTY SPLAY ARE TO BE PERMITTED
- PROPOSED SPEED HUMP - TYPE AND SIZE TBC



Plotted: 04.10.2023 2023.10.04 4:39:05 PM By: Foulkes, David
ORIGINAL SHEET: ISO A2 \\com-vfps-001\com\projects\v4\868 sheringham recycling centre\cad\dwgs\2001_civ\49868_2001_101 - general arrangment

Stantec UK Limited
CAMBRIDGE
50/60 Station Road, Cambridge, CB1 2JH
Tel: +44 1223 882 000
www.stantec.com/uk

Notes

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

1. All dimensions are in metres unless noted otherwise.
2. All levels are in metres relative to Ordnance Datum Newlyn unless noted otherwise.
3. All coordinates are in metres relative to Ordnance Survey National Grid.
4. The Contractor is to verify all dimensions on site before commencing work or preparing shop drawings.
5. This drawing is to be read in conjunction with all Engineers and Architects drawings and specifications.

Issued/Revision		By	Appd	
P09 SWALE FOOTPRINTS AMENDED RAIN GARDEN ADDED	DF	TB	2023.10.04	
	DF	-	TB	2022.08.22
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Issue Status

PLANNING APPROVAL

This document is suitable only for the purpose noted above.
Use of this document for any other purpose is not permitted.

Client/Project Logo

Norfolk County Council

Client/Project
NORFOLK COUNTY COUNCIL

SHERINGHAM RECYCLING CENTRE

Title
PROPOSED GENERAL ARRANGEMENT AND LEVEL DESIGN

Project No.	Scale
49868	A2 @ 1:250
Revision	**Drawing No.**
P09	**49868/2001/101**

Appendix 4 – Species-Specific Legislation

Badger

The Protection of Badgers Act 1992 exists for welfare reasons, to protect badgers from cruelty. Under the act it is a criminal offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so, or to intentionally or recklessly interfere with a sett.

Bats

All bat species are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. It is illegal to kill or injure bats, cause disturbance at their resting places or to block access to, damage or destroy their roost sites.

Great Crested Newts

Great Crested Newts are protected under the Wildlife and Countryside Act 1981 (as amended) Section 5 and the Conservation of Habitats and Species Regulations 2017. It is illegal to intentionally or deliberately kill, injure or capture Great Crested Newts or intentionally, deliberately or recklessly damage or destroy their breeding and resting places or obstruct access to their place of shelter or protection.

Hazel Dormouse

Hazel Dormice are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5 and the Conservation of Habitats and Species Regulations 2017. It is illegal to intentionally or deliberately kill, injure or capture a Dormouse or intentionally, deliberately or recklessly disturb a Dormouse, or damage its breeding or resting place or obstruct its place of shelter or protection.

Otters and Water Voles

Otters are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5 and the Conservation of Habitats and Species Regulations 2017. It is illegal to take, injure, kill or sell an otter, it is also an offence to damage, destroy or obstruct access to a resting place or disturb or harm an Otter at any time.

Water Voles are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5. It is illegal to deliberately kill, injure, capture or disturb them or to destroy, damage or obstruct access to any places used for shelter or protection.

White-clawed Crayfish

White-clawed Crayfish (*Austropotamobius pallipes*) are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5, Sections 9(1) & 9 (5). It is an offence to intentionally take White-clawed

Crayfish from the wild or to sell them. It is also a qualifying Annex II species for some Special Areas of Conservation under the Habitats Directive.

Birds

Wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). It is illegal to take or harm them, their nests (whilst in use or being built) or their eggs.

Additionally, for some species listed under Schedule 1 of the Act, it is an offence to intentionally or recklessly disturb the adults while they are in and around their nest or intentionally or recklessly disturb their dependent young.

Reptiles

Common reptiles include Slow-worm, Adder, Grass Snake and Common Lizard. These are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5, Sections 9 (1) & 9 (5) only. It is illegal to kill or injure them.

It is not illegal to capture, disturb or to damage their habitats. However, the reptiles themselves are protected so any works to damage their habitat could risk causing harm to reptiles and hence could be illegal.

Rare reptiles which include Sand Lizard and Smooth Snake are restricted to a few locations in Britain and are fully protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9 and the Conservation of Habitats and Species Regulations 2017. It is illegal to kill, injure or intentionally disturb them whilst occupying a 'place used for shelter or protection' and destruction of these places.

Appendix 5 – Desk Study Data

Site Check Report Report generated on Tue Oct 11 2022
You selected the location: Centroid Grid Ref: TG16284101
The following features have been found in your search area:

Areas of Outstanding Natural Beauty (England)

Reference	23
Name	Norfolk Coast
Date Designated	Apr-68
Hyperlink	http://www.landscapesforlife.org.uk/about-aonbs/visit-aonbs/norfolk-coast-aonb
Statutory Area in Sq.km	445.9

Sites of Special Scientific Interest (England)

Name	Briton's Lane Gravel Pit SSSI
Reference	1001924
Natural England Contact	Conservation Delivery and Projects Team
Natural England Phone Number	0845 600 3078
Hectares	21.5
Citation	1001319
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1001319

Name	Sheringham and Beeston Regis Commons SSSI
Reference	1001778
Natural England Contact	EMILY SWAN
Natural England Phone Number	0845 600 3078
Hectares	24.94
Citation	1003902
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003902

Special Areas of Conservation (England)

Name	NORFOLK VALLEY FENS
Reference	UK0012892
Hectares	616.31
Hyperlink	http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0012892

Local Nature Reserves (England)
No Features found

National Nature Reserves (England)
No Features found

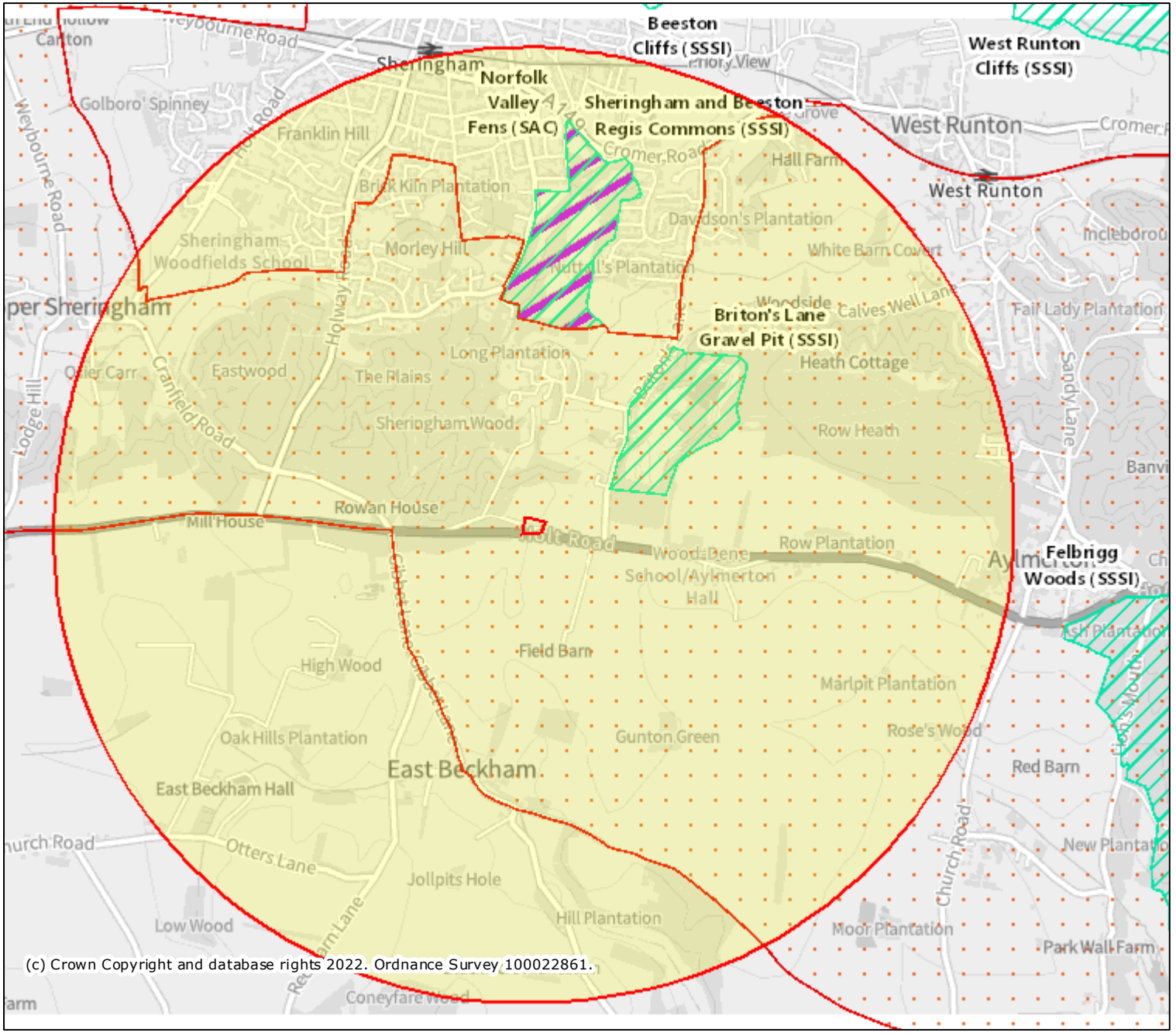
National Parks (England)
No Features found

Ramsar Sites (England)
No Features found

Proposed Ramsar Sites (England)
No Features found

Special Protection Areas (England)
No Features found

2km Statutory Sites



Legend

- Areas of Outstanding Natural Beauty (England)
- Local Nature Reserves (England)
- National Nature Reserves (England)
- National Parks (England)
- Ramsar Sites (England)
- Proposed Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Projection = OSGB36
xmin = 612100
ymin = 338900
xmax = 621000
ymax = 343200

0 0.5 1
km

Map produced by MAGIC on 11 October, 2022.

Site Check Report Report generated on Tue Oct 11 2022
You selected the location: Centroid Grid Ref: TG16284101
The following features have been found in your search area:

Ramsar Sites (England)

Name	NORTH NORFOLK COAST
Reference	UK11048
Hectares	7862.29

Special Areas of Conservation (England)

Name	PASTON GREAT BARN
Reference	UK0030235
Hectares	0.96
Hyperlink	http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0030235

Name	OVERSTRAND CLIFFS
Reference	UK0030232
Hectares	29.35
Hyperlink	http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0030232

Name	NORTH NORFOLK COAST
Reference	UK0019838
Hectares	3162.44
Hyperlink	http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0019838

Name	THE WASH & NORTH NORFOLK COAST
Reference	UK0017075
Hectares	107719.95
Hyperlink	http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0017075

Name	NORFOLK VALLEY FENS
Reference	UK0012892
Hectares	616.31
Hyperlink	http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0012892

Possible Special Areas of Conservation (England)

Name	SOUTHERN NORTH SEA
Reference	UK0030395

Hectares	3698885.14

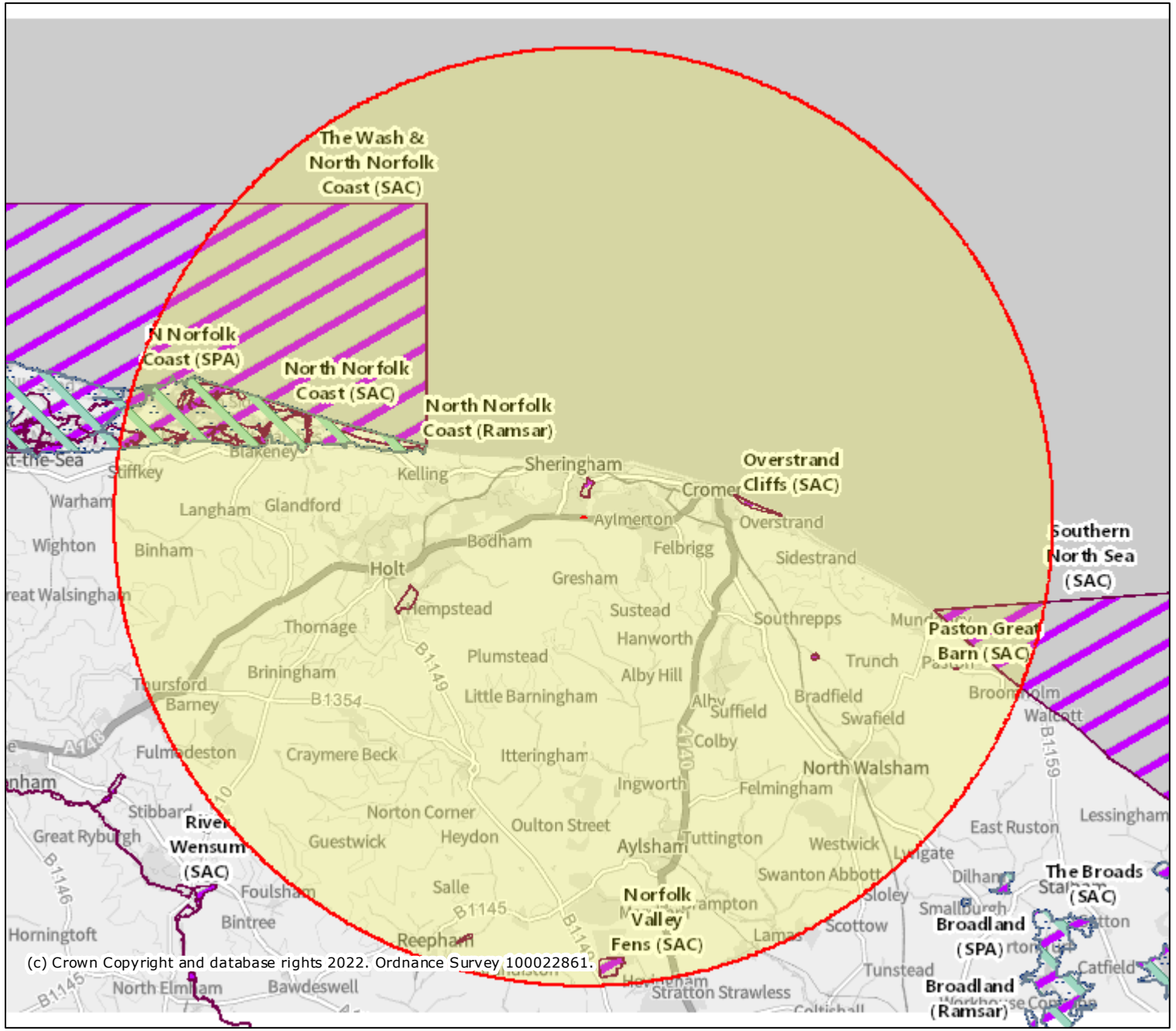
Special Protection Areas (England)

Name	N NORFOLK COAST
Reference	UK9009031
Hectares	7862.29

Proposed Ramsar Sites (England)
No Features found

Potential Special Protection Areas (England)
No Features found

20km Internationally Protected Sites



(c) Crown Copyright and database rights 2022. Ordnance Survey 100022861.

Legend

- Ramsar Sites (England)
- Proposed Ramsar Sites (England)
- Special Areas of Conservation (England)
- Possible Special Areas of Conservation (England)
- Special Protection Areas (England)
- Potential Special Protection Areas (England)

Projection = OSGB36
xmin = 571900
ymin = 319800
xmax = 661100
ymax = 362300

0 5 10
km

Map produced by MAGIC on 11 October, 2022.

Appendix 6 – Onsite Plant Species

PLANT SPECIES ENCOUNTERED DURING PHASE 1 HABITAT SURVEY

GEOSPHERE ENVIRONMENTAL

Project Number: 6985, EC,AR

Project Name: Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW **Date:** 04/12/2023

Surveyor	RF,EB	**Date of Survey**	02/10/2022

Species of Plants			**Habitat**				
Type	**Common Name**	**Scientific Name**	**Ruderal**	**Hedgerow**	**Bramble Scrub**	**Other Neutral Grassland**	**Woodland**
T	Field Maple	*Acer campestre*	O				O
F	Mugwort	*Artemisia vulgaris*	R				
F	Black Horehound	*Ballota nigra*			R		
T	Birch	*Betula* sp.	R				
F	Butterfly-bush	*Buddleja davidii*	R				
F	Creeping Thistle	*Cirsium arvense*	R			R	
F	Spear Thistle	*Cirsium vulgare*	R			R	
F	Canadian Fleabane	*Conyza canadensis*	R				
T	Hawthorn	*Crataegus monogyna*		D			
G	Cock's-foot	*Dactylis glomerata*				R	
F	Willowherb	*Epilobium* sp.	R				
F	Common Stork's-bill	*Erodium cicutarium*	R				
G	Red Fescue	*Festuca rubra*				R	
T	Ash	*Fraxinus excelsior*					O
F	Cut-leaved Crane’s-bill	*Geranium dissectum*	R				
F	Ground Ivy	*Glechoma hederacea*					R
F	Hogweed	*Heracleum sphondylium*				R	
G	Yorkshire Fog	*Holcus lanatus*	R			R	
F	White dead-nettle	*Lamium album*				R	
F	Flax	*Linum* sp.				R	
F	Common Mallow	*Malva setigera*				R	
F	Ribwort Plantain	*Plantago lanceolata*	R			R	
F	Greater Plantain	*Plantago major*	R				
T	Wild Cherry	*Prunus avium*			R		O
T	Pedunculate Oak	*Quercus robur*					O
T	Dog Rose	*Rosa canina*			R		
T	Bramble	*Rubus fruticosus* agg.	R		D		R
F	Broad-leaved Dock	*Rumex obtusifolius*	R			R	

Common Scientific names identified are as they appear in Stace, C. (2010) New Flora of the British Isles (3rd edition), Cambridge University Press.
*Note: Species marked with asterisks do not appear in Stace

Species of Plants			Habitat				
Type	**Common Name**	**Scientific Name**	**Ruderal**	**Hedgerow**	**Bramble Scrub**	**Other Neutral Grassland**	**Woodland**
T	Willow	*Salix* sp.	R				
F	Common figwort	*Scrophularia nodosa*					
F	Common Ragwort	*Senecio jacobaea*	R				
F	Red campion	*Silene dioica*				R	
F	White campion	*Silene latifolia*				R	
F	Alexxanders	*Smyrnium olusatrum*				O	
F	Dandelion	*Taraxacum officinale* agg.	R				
F	White Clover	*Trifolium repens*	R				
T	English Elm	*Ulmus procera*			R		
F	Common Nettle	*Urtica dioica*	R		R	R	

Common Scientific names identified are as they appear in Stace, C. (2010) New Flora of the British Isles (3rd edition), Cambridge University Press.
*Note: Species marked with asterisks do not appear in Stace

Appendix 7 – Target Notes

Target Note 1

Target Note 2

Target Note 3

Target Note 4

GEOSPHERE ENVIRONMENTAL

NOTE

Target Note 1
The northern parcel mainly comprised of cereal crops; tall ruderal vegetation

Target Note 2
The east of the southern parcel is other neutral grassland

Target Note 3
The central portion of the southern parcel comprises of bramble scrub

Target Note 4
The west of the southern parcel is other woodland - broadleaved

PROJECT
Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW

PROJECT NUMBER
6983,EC,AR

TITLE
Ecological Target Notes Relating to Extended Phase 1 Habitat Survey

DATE
04/12/2023

Target Note 5

Target Note 6

Target Note 7

Target Note 8

GEOSPHERE ENVIRONMENTAL

NOTE

Target Note 5
The west of the southern parcel is other woodland - broadleaved

Target Note 6
A native hedgerow runs along the eastern side of the northern parcel

Target Note 7
Other cereal crops are present to the north of the site

Target Note 8
Modified grassland is present to the east of the site

PROJECT
Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW

PROJECT NUMBER
6983,EC,AR

TITLE
Ecological Target Notes Relating to Extended Phase 1 Habitat Survey

DATE
04/12/2023

Appendix 8 – Ecological Enhancements

EXAMPLE BAT BRICKS AND BOXES

Please note that once bats have inhabited a roost (integrated or external box) they may only be disturbed by licensed bat workers.

GEOSPHERE ENVIRONMENTAL

External Bat Box: Vincent Pro Bat Box

This attractive bat box has been designed by leading bat researcher, Collin Morris, based on a tried and tested design from the Vincent Wildlife Trust.

The box features three vertical chambers of different sizes, providing ideal roosting space for a variety of species. Beneath the crevice entrances is a ladder which provides a rough surface for bats to land.

Proven with seven UK species: Barbastelle, Leisler's, common pipistrelle, soprano pipistrelle, brown long-eared, Natterer's and whiskered bat.

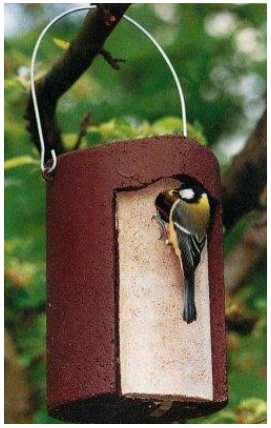
SOURCE
https://www.nhbs.com/vincent-pro-bat-box

TITLE
Example Bat Bricks and Boxes

DATE
22/05/2023

EXAMPLE BIRD BOXES

External Bird House: 1B Schwegler Bird Nest Box (General)



These Woodcrete nest boxes last for at least 20-25 years. Woodcrete is a breathable blend of wood, concrete and clay which will not rot, leak, crack or warp, whilst preventing condensation and maintaining more constant temperatures inside than wooden boxes.

Schwegler bird boxes are backed by conservation organisations, government agencies and forestry experts and experiments have shown that the highest density if bird populations (i.e. breeding pairs per hectare) is achieved with Schwegler nest boxes.

They are carefully designed to provide a stable environment and to mimic natural nest and roost sites with internal brood chamber dimensions that are similar to natural woodpecker cavities. Schwegler have a patented method of installation on trees that prevents the tree trunk from growing over the hanger from which the box is suspended.

SOURCE
https://www.nhbs.com/1b-schwegler-nest-box

External Bird House: Vivara Pro Barcelona WoodStone Open Nest Box

These attractive nestboxes are manufactured from WoodStone which is a mix of concrete and FSC certified wood fibres. Unlike a traditional wooden nest box, these boxes will not rot away or deteriorate and are guaranteed for 10 years. This robust material safeguards against attacks from predators such as woodpeckers, cats and squirrels, whilst also providing a well insulated interior with a more consistent internal temperature than an ordinary wooden box. This is especially important during the breeding season and ensures that young birds have a greater chance of survival. Nesting sites have become rare for cavity nesting birds due to changes in woodland management practices, so you can provide much-needed space for rearing chicks and birds that are roosting overwinter with these durable, long-lasting nest boxes.

These open nest boxes are suitable for wrens, robins, spotted flycatchers, pied and grey wagtails, song thrushes and blackbirds, and they are available in brown, green or grey to complement both natural woodland and garden settings.

The best height for your nest box is between 1.5m and 3m high, and open nest boxes should be sited in undergrowth such as ivy to provide cover for the nest.

These nest boxes have a removable front panel for easy cleaning.

SOURCE
https://www.nhbs.com/vivara-pro-barcelona-woodstone-open-nest-box?bkfno=234962

TITLE
Example Bird Bricks and Boxes

DATE
04/12/2023

GEOSPHERE ENVIRONMENTAL

TREES AND SHRUBS BENEFICIAL TO WILDLIFE

The lists of plants below are taken from current Natural England guidance (ref. **1**), a web-based data based managed on behalf of the RHS and the Wildlife Trusts (ref. **2**) and professional judgement. When buying native plants, ensure they are from a reputable source, as many wildflowers are illegally taken from the wild.

GEOSPHERE ENVIRONMENTAL

Large Trees

Common Name	Latin Name	Common Name	Latin Name
Beech	*Fagus sylvatica*	Pedunculate Oak	*Quercus robur*
Common Ash	*Fraxinus excelsior*	White Willow	*Salix alba*
Wild Cherry	*Prunus avium*	Small-leaved Lime	*Tilia cordata*
Bird Cherry	*Prunus padus*	Elm	*Ulmus procera*
Sessile Oak	*Quercus petraea*		

Medium/Small Trees

Common Name	Latin Name	Common Name	Latin Name
Field Maple	*Acer campestre*	Apples	*Malus* spp.
Alder	*Alnus glutinosa*	Pears	*Pyrus* spp.
Silver Birch	*Betula pendula*	Rowan	*Sorbus aucuparia*
Holly	*Ilex aquifolium*	Yew	*Taxus baccata*

Shrubs Suitable for Hedges

Common Name	Latin Name	Common Name	Latin Name
Hazel	Corylus avellana	Blackthorn	Prunus spinosa
Hawthorn	Crataegus monogyna	Buckthorn	Rhamnus cathartica
Privets	Ligustrum spp.	Elder	Sambucus nigra
Wild Privet	Ligustrum vulgare	Guelder rose	Viburnum opulus
Cherry Plum	Prunus cerasifera		

Climbing Shrubs

Common Name	Latin Name	Common Name	Latin Name
Climbing Roses	*Rosa* spp.	Honeysuckles	*Lonicera* spp.
Dog Rose	*Rosa canina*	Native Honeysuckle	*Lonicera periclymenum*
Ivies	*Hedera* spp.	Field Rose	*Rosa arvensis*
Climbing Roses	*Rosa* spp.	Common Ivy	*Hedera helix*
Climbing Brambles	*Rubus* spp.	Wild Clematis	*Clematis vitalba*

Other Shrubs for Nectar, Pollen or Fruits

Common Name	Latin Name	Common Name	Latin Name
Serviceberry	*Amelanchier canadensis*	Mock Orange	*Philadelphus* spp.
Californian lilac	*Ceanothus* spp.	Firethorn	Pyracantha spp
Japanese quince	*Chaenomeles japonica*	Lilac	*Syringa vulgaris*
Creeping Cotoneaster	*Cotoneaster frigidus*	Laurustinus	*Viburnum tinus*
Himalayan Honeysuckle	*Leycesteria formosa*	Bodant Viburnum	*Viburnum x bodnantense*
Mahonia	*Mahonia* spp.		

REFERENCE

1. Natural England (2007). NE29: Plants for Wildlife-friendly Gardens.
2. RHS and the Wildlife Trusts (2015). Gardening with Wildlife in Mind. http://www.joyofplants.com/wildlife/

TITLE
Trees and Shrubs Beneficial To Wildlife

DATE
22/05/2023

GEOSPHERE ENVIRONMENTAL

Ec Ecology.

Fr Flood Risk.

Ge Geotechnical.

En Environmental.

Kw Knotweed.

GEOSPHERE ENVIRONMENTAL LTD

Brightwell Barns, Ipswich Road, Brightwell, Suffolk, IP10 0BJ

T: 01603 298076 | 01473 353519 | **E**: info@geosphere-environmental.co.uk | **W**: geosphere-environmental.co.uk