KJ Ecology Ltd

Biodiversity Management Plan for Waters Farm, Cockbourn Fen Dike, Gedney Fen

July 2024



Client :
G R Merchant Ltd,
Architectural Consultants,
Unit 4, Wrights Mews,
Park Rd,
Holbeach,
Spalding,
PE12 7EE.

Tel. 01406 490800
e-mail office@grmerchantltd.com

Prepared by :
Kevin Johnson BSc PgD PGCE MCIEEM,
KJ Ecology Ltd,
17, The Meadow,
Caistor,
Lincs,
LN7 6XD.

Tel. 07807 655237
e-mail kevin@kjecology.co.uk

This report is for the sole use of the client (G R Merchant Ltd on behalf of Archie Wells Ltd) and its' reproduction or use by anyone else is forbidden unless written consent is given by KJ Ecology Ltd. Any use of this report by an unauthorised third party is at their own risk and KJ Ecology Ltd accepts no liability for any loss resulting from errors, omissions or misrepresentation made by others. Any findings, opinions or recommendations stated in this report are based on conditions as they existed at the time KJ Ecology Ltd undertook the work on the 13th June 2024. Nothing in this report constitutes a legal opinion.

Document Control Sheet

Version	Report Information	Name	Date
1.0	Written	Kevin Johnson	9th July 2024
	Approved	Bill Meek	10th July 2024
	Issued	Kevin Johnson	10th July 2024

Contents

1 Introduction 1
1.1 Terms of Instruction 1
1.2 Site Location 1
1.3 Report Limitations 2
1.4 Background to KJ Ecology Ltd 2
2 Biodiversity Net Gain 2
2.1 Methodology 2
2.2 Results 3
2.2.1 Area Habitats 3
2.2.1.1 On-Site Habitat Baseline 3
2.2.1.2 On-Site Habitat Enhancement 3
2.2.2 Headline Results 3
2.3 Habitat Enhancement 3
2.3.1 Hedgerows 3
2.3.2 Wildflower meadow 4
2.4 Species Enhancement 4
2.4.1 Bat Roosts 4
2.5 Birds 5
3 References 5

Appendices
Appendix 1: Maps 7
Map 1: Location map of the development at Waters Farm, Gedney Fen 8
Map 2: Habitat map for the development at Waters Farm, Gedney Fen 9
Appendix 2: Photos 10
Photos for Waters Farm, Gedney Fen 11
Appendix 3: Habitat Assessment Sheet 12
Habitat assessment sheet for the mown grass 13
Appendix 4: Figure 14
Figure 1: Location of proposed wildlife features for the development at Waters Farm, Gedney Fen 15
Appendix 5: Examples 16
Bat Boxes 17
House Sparrow terraces 17
Blue Tit boxes 17
Swift nest boxes 18

1 Introduction

1.1 Terms of Instruction

G R Merchant Ltd on behalf of Archie Wells Ltd have gained planning permission (H06-0251-24) to Extend an Agricultural Shed at Waters Farm, Cockbourn Fen Dike, Gedney Fen, Spalding. To comply with Conditions 4 and 5, G R Merchant Ltd on behalf of Archie Wells Ltd commissioned Kevin Johnson of KJ Ecology Ltd to write a Biodiversity Management Plan on the 4th June 2024.

Condition 4 states:
Before the commencement of the development hereby permitted beyond oversite, the approval of the Local Planning Authority is required to a scheme of landscaping and tree planting for the site indicating, inter alia, the number, species, heights on planting and positions of all the trees, together with details of post-planting maintenance. Such scheme as is approved by the Local Planning Authority shall be carried out and completed in its entirety during the first planting season following practical completion of the development. All trees, shrubs and bushes shall be maintained by the owner or owners of the land on which they are situated for the period of five years beginning with the date of completion of the scheme and during that period all losses shall be made good as and when necessary.

NOTE: The submitted landscaping proposals shall demonstrate that Biodiversity Net Gain will be achieved on site, using the Biodiversity Metric 3.1 (or any successor).

Reason: To ensure that the development is adequately landscaped, in the interests of its visual amenity and that of the area in which it is set, and that Biodiversity Net Gain will be achieved.

This Condition is imposed in accordance with Policies 2, 3 and 28 of the South East Lincolnshire Local Plan, 2019 and the Environment Act 2021.

Condition 5 States:
Prior to the commencement of the development hereby permitted beyond oversite, a Biodiversity Net Gain Plan to demonstrate a net gain in biodiversity on-site shall be submitted to, and approved in writing by, the Local Planning Authority. This shall be supported by a Biodiversity Management Plan setting out how the biodiversity enhancements will be managed and monitored for the lifetime of the development.

Note: Development can incorporate a number of simple, low-cost measures to deliver biodiversity benefits and enhance priority habitats and species, such as, the use of bat and barn owl roost boxes and integrating nesting opportunities into buildings. The use of

swift bricks on new developments would help minimise the decline in swifts, a priority species.

Reason: To ensure that the development is able to deliver a net gain in biodiversity. This Condition is imposed in accordance with Policy 28 of the South East Lincolnshire Local Plan, 2019 and national guidance contained in the National Planning Policy Framework, December 2023.

1.2 Site Location

The proposed development site is in a rural setting and is on the North side of Cockbourn Fen Dike, Gedney Fen at Grid Ref TF 3866 2003 as shown in Map 1 (Appendix 1). Waters Farm is 4.6kms South-east of Holbeach, 4.4kms South-west of Long Sutton and 1.8kms North-west of Sutton St James.

1.3 Report Limitations

This report is for the sole use of the client and its' reproduction or use by anyone else is forbidden unless written consent is given by the author.

1.4 Background to KJ Ecology Ltd

On the 4th June 2024 KJ Ecology Ltd was appointed to write a Biodiversity Management Plan for an extension to an agricultural shed at Waters Farm, Cockbourn Fen Dike, Gedney Fen, Spalding. KJ Ecology Ltd is an independent Ecological Consultancy run by Kevin Johnson BSc Pgd PGCE MCIEEM (Member of the Charted Institute of Ecology and Environmental Management) and has several years of experience in environmental consultancy work. This work has ranged from working on the rail, roads, airports, house building projects, barn conversions and pipeline work. Kevin Johnson was initially an Ecology and Environmental Lecturer at various colleges and taught students how to carryout surveys and about the environment. Kevin Johnson then went on to work for a number of ecological consultancies such as Penny Anderson Associates, which is one of the original environmental consultancy companies and is well respected.

2 Biodiversity Net Gain

2.1 Methodology

On the 13th June 2024 a baseline assessment was done for the site and the baseline map is shown in Map 2, Appendix 1. For each habitat identified as per UK Habitat Classification – Habitat Definitions V2(July 2023), the area was then measured; a condition assessment was carried out as per Statutory Biodiversity Metric Condition Assessment Sheets and Methodology, (February 2024) and finally the strategic significance of the site. These values are then added to the Statutory Biodiversity Metric Calculation Tool (February 2024) which automatically calculates the habitat units on site.

The proposed illustrative Masterplan was then used to enter the data for the new proposed habitats into the Statutory Biodiversity Metric Calculation Tool (February 2024). This included any retained or enhanced habitats. For each habitat type, the area was taken, the target condition for each habitat was assessed using Statutory Biodiversity Metric Condition Assessment Sheets and Methodology, (February 2024), the strategic significance of the site and finally if the habitat is going to be created in advance or delayed. Using this data and the baseline data, the Statutory Biodiversity Metric Calculation Tool (February 2024) would then calculate if there has been any Biodiversity Net Gain. If the required minimum 10% Biodiversity Net Gain has not been reached, then further discussions with the client are required until an agreed motion forward has been reached.

2.2 Results

The results can be seen in the accompanying Excel spreadsheet – Waters Fm Gedney Fen - Biodiversity Metric Calc.

2.2.1 Area Habitats

2.2.1.1 On-Site Habitat Baseline

The gravel area (Photo 1, Appendix 2) where the shed extension is going (Line 1) is classed as Urban – Artificial unvegetated, unsealed surface and has no value in the Biometric. To achieve a net gain on site, the mown grass area (Photo 2, Appendix 2) will be used. This 0.0319ha of modified grassland is in Poor habitat condition (Appendix 3) and creates 0.06 habitat units. This area is to be enhanced.

2.2.1.2 On-Site Habitat Enhancement

The modified grassland is to be enhanced by creating a wildflower meadow. This is categorised as Other neutral grassland and in the 30 year time frame of the biometric will reach a moderate habitat condition. This will produce 0.2 habitat units.

2.2.2 Headline Results

The initial baseline gave 0.06 habitat units and the new scheme will create 0.2 habitat units. This is a 0.13 habitat unit gain according to the Biometric or 210.08% net gain. This means that the plans have reached the required 10% net gain.

2.3 Habitat Enhancement

2.3.1 Hedgerows

As the biometric will not take into account any new hedge planting as there is no hedge around the new shed extension, it has not been added to the biometric. A new species rich native hedge will be planted around the shed extension as shown in Figure 1, Appendix 4. The new hedge will be Hawthorn (*Crataegus monogyna*) dominant with Blackthorn (*Prunus spinosa*), Guelder Rose (*Viburnum opulus*), Spindle (*Euonymus europaeus*), Hazel (*Corylus avellana*), Holly (*Ilex*

aquifolium), Elder (*Sambucus nigra*) and Dog rose (*Rosa canina agg.*). These bare root plants will be planted up in the Winter period when they are dormant. This hedge will then be allowed to grow to 1.5m high and wide. When the hedge has reached these dimensions the hedge can be cut in February time to allow the birds to eat the berries. If necessary the hedges will be laid. In the first Summer and subsequent dry Summers, the hedge pants will need watering until they become established.

Two new Wild Cherry (*Prunus avium*) trees and two new Rowan (*Sorbus aucuparia*) trees are to be planted in the new hedgerow. These trees need to be planted between January and March with stakes. If it is a dry Summer, the plants will require watering in the first year while they establish. Once they have established they will need checking yearly and any diseased branches will need to be cut out. If the trees die they will be replaced the following Winter.

2.3.2 Wildflower meadow

To reach the required biodiversity units, the wildflower area will need sowing in Springtime and will require cutting in late August/early September time with the vegetation being moved off site. If possible a second cut in November time on the wildflower area is required to reduce the vigour of the grasses. Some reseeding of flower species may be required to attain the moderate habitat condition. The soil is loamy and clay soils of coastal flats with naturally high groundwater, so the wildflower mix should be for this soil type such as Loam & Alluvial Soils Wildflower Seed BS4P or Heavy Clay soils Wildflower Seed BS5P from Boston Seeds. The wildflower seeds need to be bought from a reputable UK seed merchant such as:
https://www.wildflower.co.uk
https://www.bostonseeds.com
https://britishwildflowermeadowseeds.co.uk

2.4 Species Enhancement

2.4.1 Bat Roosts

Summer bat roosts, especially maternity roosts, need between six and ten hours of sunlight a day to warm the roost, so a Southerly or Westerly aspect is required. Some bats require cooler temperatures (lone males) so need different aspects – more Northerly. Bats need clear unobstructed airspace in front of the roosting site and away from lights. According to BCT (Bat Conservation Trust) they need to be at least 4m above ground level and close to trees and hedges where bats feed.

Using this information, it is proposed to place two Woodcrete bat boxes up as shown in Figure 1, Appendix 4. Examples are shown in Appendix 5. These will be checked once a year to ensure that the boxes are in good condition.

2.5 Birds

According to the RSPB the following needs to be considered when siting a nest box:

- Boxes for Tits, Sparrows or Starlings (*Sturnus vulgaris*) should be fixed two to four metres up a tree or a wall;
- Unless there are trees or buildings which shade the box during the day, face the box between North and East, thus avoiding strong sunlight and the wettest winds;
- Make sure that the birds have a clear flight path to the nest without any clutter directly in front of the entrance. Tilt the box forward slightly so that any driving rain will hit the roof and bounce clear;
- House Sparrows (*Passer domesticus*) and Starlings will readily use nest boxes placed high up under the eaves. Since these birds nest in loose colonies, two or three can be sited spaced out on the same side of the house. Keep these away from areas where House Martins (*Delichon urbicum*) normally nest;
- Two boxes close together may be occupied by the same species if they are at the edge of adjoining territories and there is plenty of natural food. While this readily happens in the countryside, it is rare in gardens, where you normally can only expect one nesting pair of any one species. The exceptions to this are House and Tree Sparrows (*Passer montanus*) and House Martins, which are colonial nesters. By putting up different boxes, several species can be attracted.

Using this information and to fulfil the criteria of Condition 5, two Sparrow terraces, a Blue Tit (*Cyanistes caeruleus*) style box and two pairs of Swift (*Apus apus*) style nests will be placed around the site as shown in Figure 1, Appendix 4. Examples are shown in Appendix 5.

Condition 5 also requires a Barn Owl (*Tyto alba*) box, but these are modern barns that are in constant use. For this reason, a pole mounted Barn Owl box will be placed in the Northern hedge as per Figure 1, Appendix 4.

The bird boxes will be monitored in the Winter period when old nests will be cleaned out and any damaged boxes replaced.

3 References

Barker, J. Hoskin, R. & Butterworth, T. (2019) Biodiversity Net Gain: Good Practice Principles for development – A Practical Guide, CIRIA, London

Bat Conservation Trust (2018) Bats and artificial lighting in the UK – Guidance Note 08/18, London, BCT

Bat Conservation Trust (2012) Bats and Buildings, London, BCT

Natural England (2024) Statutory Biodiversity Metric Calculation Tool - macro-enabled, [Online], Natural England. Available at https://assets.publishing.service.gov.uk/media/65c60e5114b83c000ca715f4/The_Statutory_Biodiversity_Metric_Calculation_Tool_-_Macro_enabled_02.24.xlsm [accessed 12th February 2024]

Natural England (2024) The Statutory Biodiversity Metric - Technical Annex 1 - Condition Assessment Sheets and Methodology, [Online], Natural England. Available at: https://assets.publishing.service.gov.uk/media/65c60f00cc433b000ca90b33/Statutory_Biodiversity_Metric_Condition_Assessments-_Feb24.xlsx [accessed 12th February 2024]

Ordnance Survey (2024) OSmap, [Online] Ordnance Survey. Available at: https://getamap.ordnancesurvey.co.uk [accessed 5th July 2024]

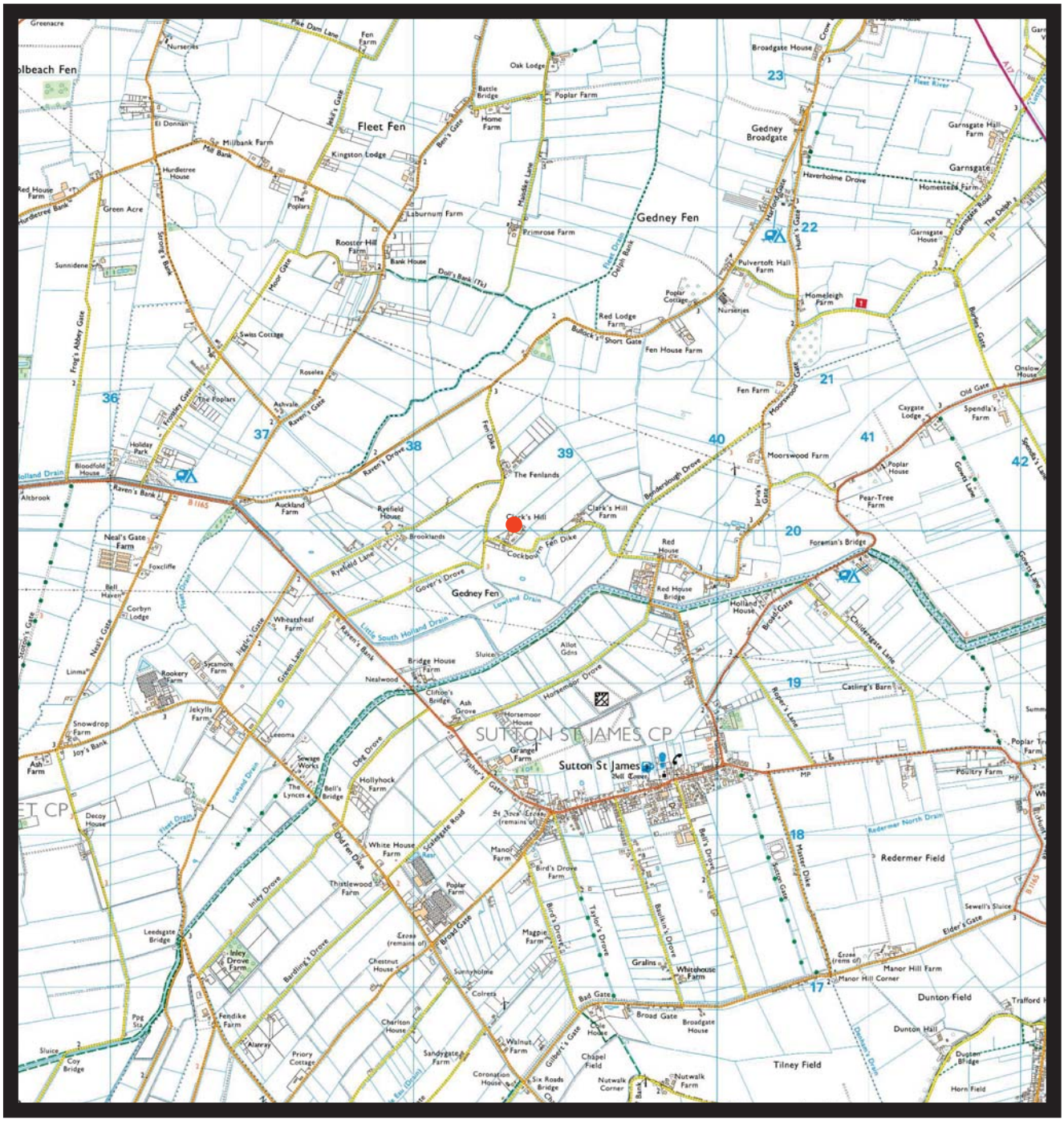
RSPB (2021) Making and placing a bird box, [Online], RSPB, Available at: https://www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/nestboxes/nestboxes-for-small-birds/making-and-placing-a-bird-box [accessed 18th April 2021]

UKHabLtd (2023) UK Habitat Classification Version 2.0. Available at: https://www.ukhab.org [accessed 30th September 2023]

Appendix 1

Maps

Map 1: Location map of the development at Waters Farm, Gedney Fen.



0 0.5 1km

Ordnance Survey C Crown Copyright 2024. All Rights reserved
Licence Number 100051497. Plotted Scale 1:40,000

Site Plan 1:40,000

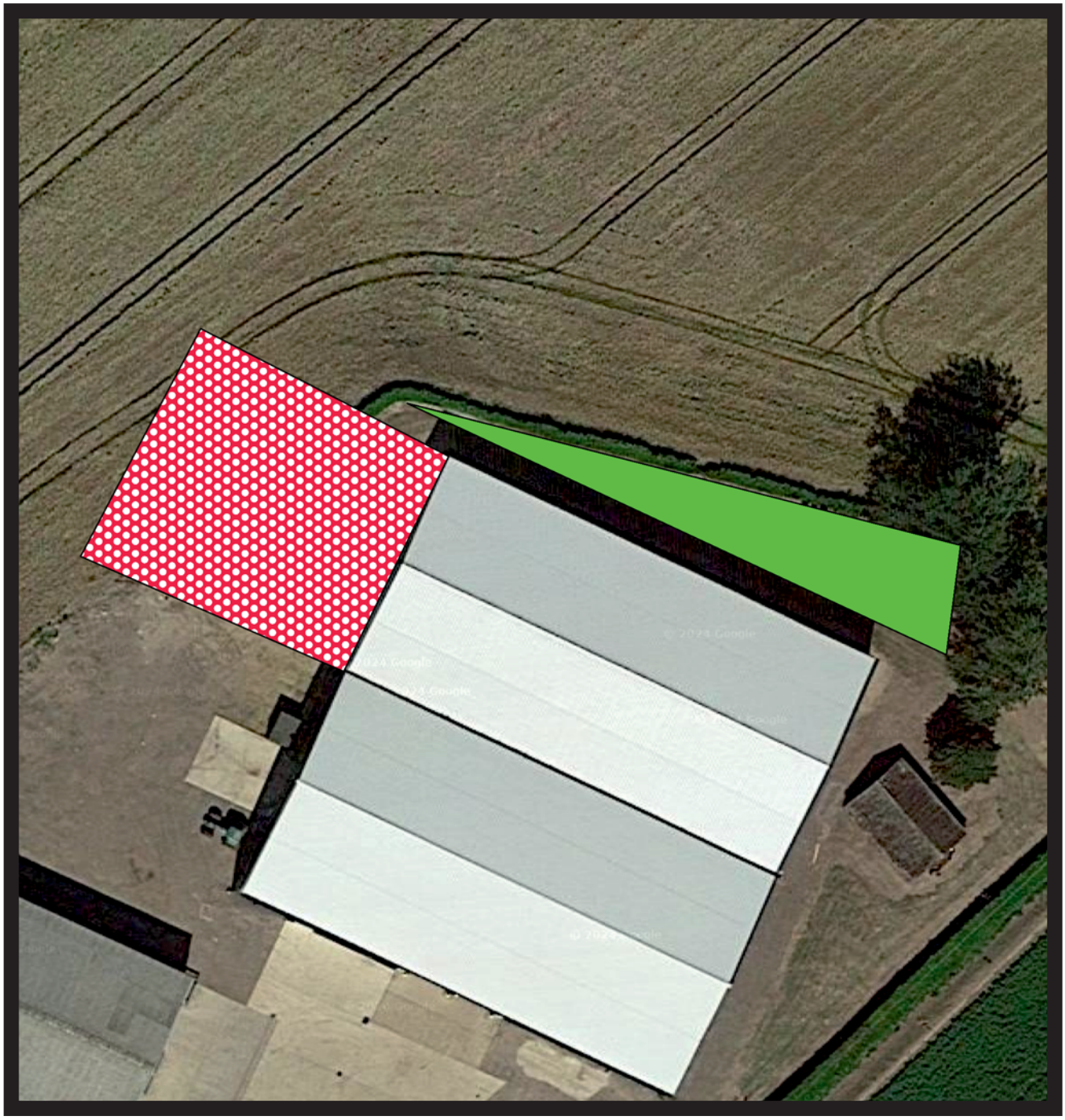
Legend

Location of site



KJ Ecology Ltd
Drawn by : KJ
Date : 09/07/2024

Map 2: Habitat map for the development at Waters Farm, Gedney Fen.



0 10 20m

Ordnance Survey C Crown Copyright 2024. All Rights reserved
Licence Number 100051497. Plotted Scale 1:1,000

Site Plan 1:1,000

Legend

Modified grassland

Artificial unvegetated; unsealed surface



KJ Ecology Ltd
Drawn by : KJ
Date : 09/07/2024

Appendix 2

Photos

Photos for Waters Farm, Gedney Fen

	
Photo 1: Area of shed extension	Photo 2: Area of lawn to be created into wildflower meadow

Appendix 3

Habitat Assessment Sheet

Habitat assessment sheet for the mown grass

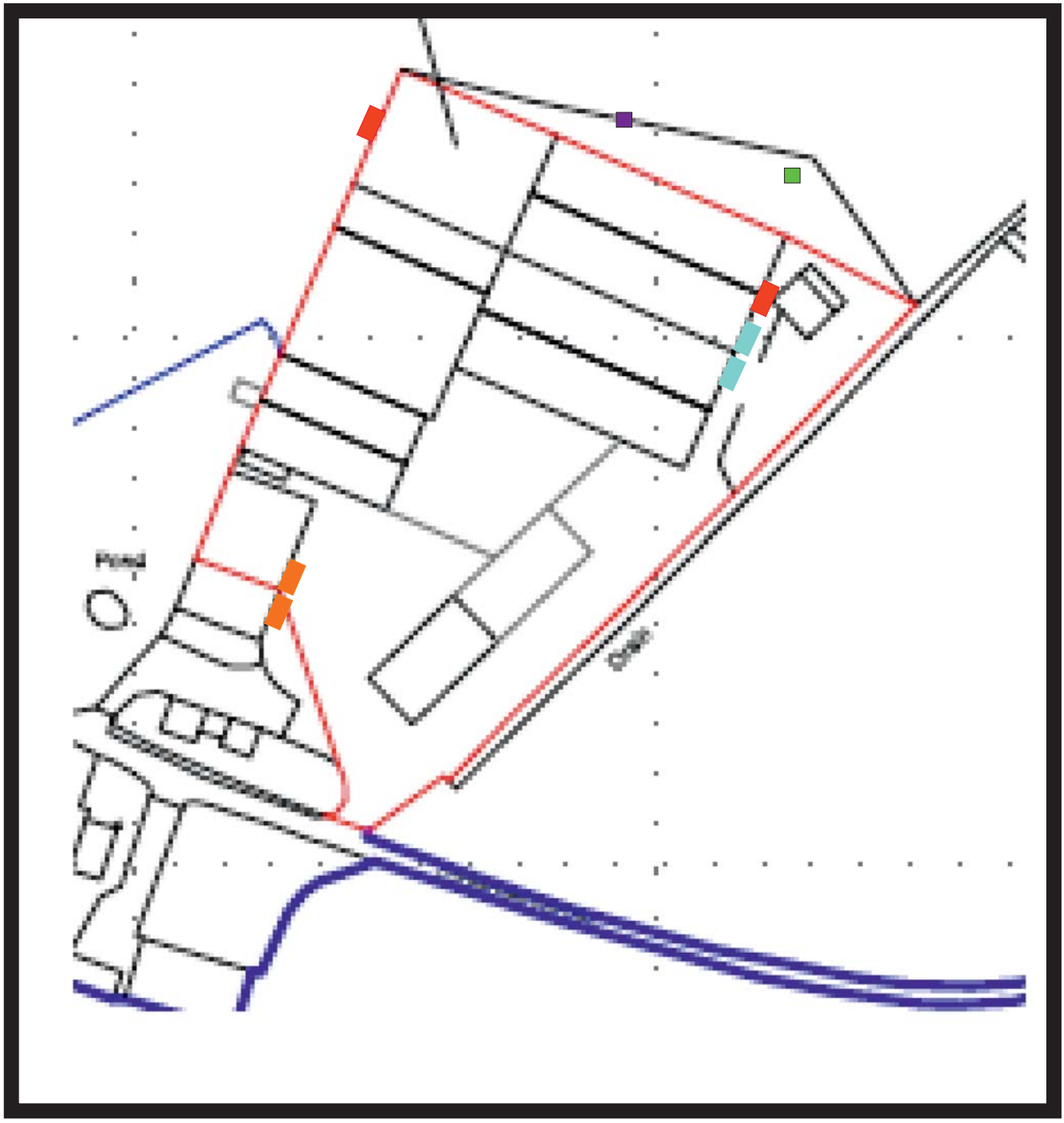
	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	N	2-3 spm2
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	N	Constantly mown
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	None present
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	None present
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Y	Near Laurel hedge
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y	None present
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y	None present
	Essential criterion achieved (Yes or No)		N
	Number of criteria passed		5

Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 6 or 7 criteria including passing essential criterion A	Good (3)	
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	1

Appendix 4

Figure

Figure 1: Location of proposed wildlife features for the development at Waters Farm, Gedney Fen.



Not to scale

Legend

- Bat boxes
- Sparrow terrace
- Swift box
- Barn Owl box
- Blue Tit box



KJ Ecology Ltd
Drawn by : KJ
Date : 09/07/2024

Appendix 5

Examples

Bat Boxes





House Sparrow terraces





Blue Tit boxes





Swift nest boxes





