

Biodiversity Net Gain Design Report

Project: Siting for a Glamping Pod

Address: The Dairy, Hollington Road, Cheadle,
Staffordshire, ST10 1RE

Client: Mr Lee Doyle

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Approval Signature:	

1.0 Executive Summary

Hewitt&Carr Services (HCS) was commissioned by Mr Lee Doyle to produce a biodiversity assessment to assist in a development proposal for a glamping pod at The Dairy, Hollington Road, Cheadle (Grid reference: SK 02531 41053).

The site has an area of 475 m² and is located 2.5km southeast of Cheadle within the countryside. From the proposed plan, the site is to have a glamping pod built on the western elevation of the garden.

The following habitats were found on site during the habitat survey:

- B1.2 - Semi-improved Acid Grassland
- J1.2 - Amenity Grassland
- J4 - Bare Ground

Proposed habitats for net gain:

- J1.2 - Amenity Grassland
- B2.1 - Unimproved Neutral grassland
- B1.2 – Semi Improved Acid Grassland
- J1.4 – Introduced Shrub
- J4 – Bare Ground
- J5 – Other habitat (paved surface)

Following the implementation of the proposed habitats, the site will produce a net gain of 11.78%

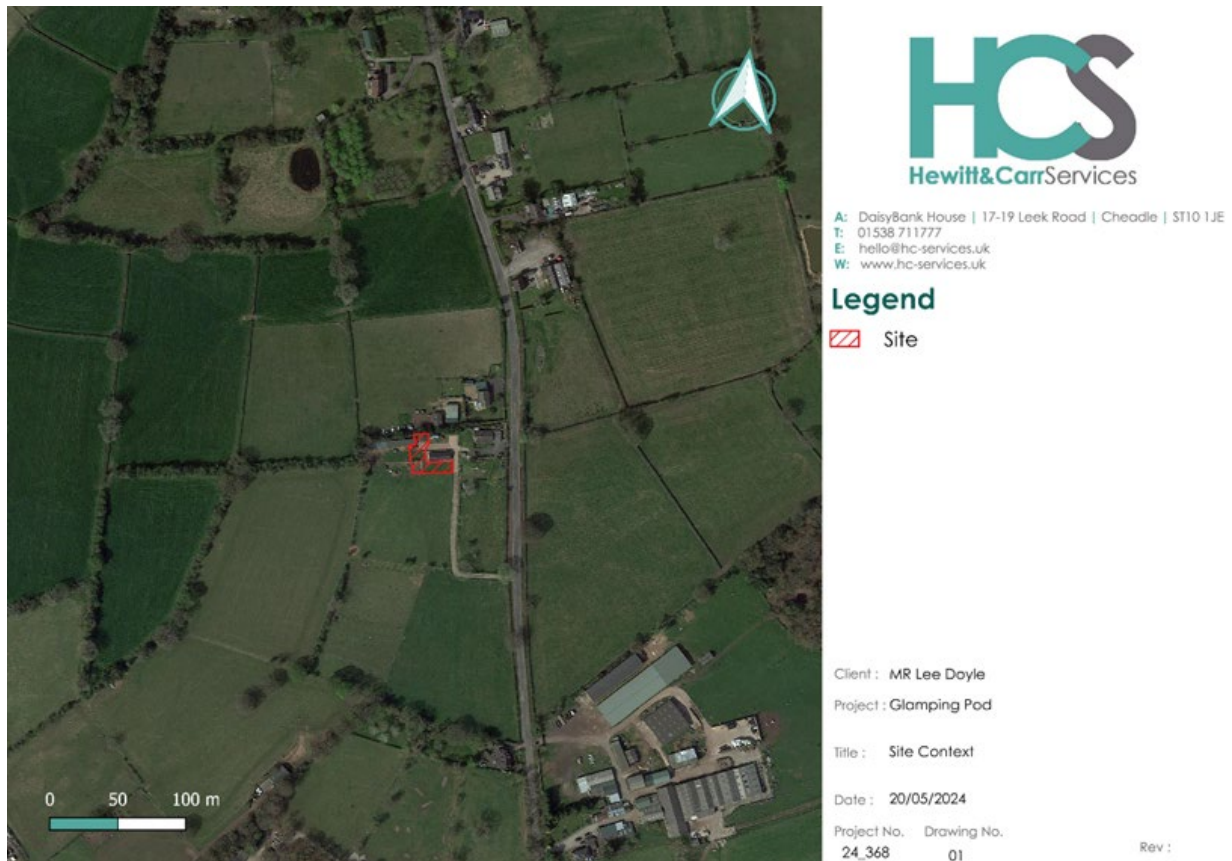
2.0 Introduction

2.1 Background

Hewitt&Carr Services (HCS) was commissioned by Mr Lee Doyle to produce a biodiversity assessment to assist in a development proposal for a glamping pod at The Dairy, Hollington Road, Cheadle (Grid reference: SK 02531 41053).

Figure 1.

Site plan in context to surrounding area.



2.2 Aim

This BNG Assessment aims to reference the type, distinctiveness, condition, connectivity, and strategic significance of habitats present on the site set out in the previous PEA. Following this, a plan will be created to achieve biodiversity net gain through habitat enhancement, creation, and succession both on and off-site.

2.1 Site Context

The site has an area of 475 m² and is located 2.5km southeast of Cheadle within the countryside. From the proposed plan, the site is to have a glamping pod built on the western elevation of the garden.

Figure 2.

Aerial view of site location (Red).



3.0 Methodology

3.1 Desk Study

The previous preliminary ecological appraisal (PEA) of the site will be referenced for ecological data on and around the site.

The desk study of the site was completed by Tom Egerton BSc (Ecologist) on 30th April 2024 and consisted of:

- A desktop ecological site study with a 2km radial boundary around the site was undertaken.
- The spatial ecological data was obtained via request to Staffordshire Ecological Records (SER). The records search consisted of records for protected species alongside statutory and non-statutory sites within the 2km search boundary of the site.
- The Multi-Agency Geographic Information for the Countryside (MAGIC) map was then utilised to assess habitat and species connectivity in relation to the site and surrounding ecologically significant areas to determine the wider environmental impact of the proposed development.
- Strategic significance was determined through a thorough desktop review of local planning policy and other relevant documentation. A search of existing information regarding designated sites was undertaken on MAGIC Map website. The desk-based assessment provides full details of local policy and legislation covering the site.

3.2 Phase 1 Habitat Field Survey

The results gathered from the PEA via a phase 1 habitat survey will also be referenced in this report. This phase 1 survey was undertaken by Tom Egerton BSc (Ecologist) on 30th April 2024 and followed the following methods:

- The JNCC's 2010 'Handbook for Phase 1 habitat survey' is used to describe habitats and ecological features on the study site with habitat classification via colours and codes alongside the presence or potential of protected species on site.
- From this, remedial action, or a phase 2 presence/absence surveys can be developed.
- Following guidelines, habitat surveys can be performed at any time of year. However, the optimal surveying period is from April to September for the most reliable representation of onsite conditions.

3.3 UK Habitat Classification Conversion

JNCC's 2010 'Handbook for Phase 1 habitat survey' Phase 1 habitat codes were converted to UK Habitat classification codes with reference to the UK Hab conversions provided within the Biodiversity Metric 3.1 'Phase 1 Translation Tool, page.

3.4 Habitat Condition Assessment

The assessment of habitat condition existing on site was evaluated on 30/04/24 using DEFRA's Biodiversity metric 3.0 habitat condition assessment sheets.

3.5 BNG Assessment

Both sites have been assessed using DEFRA's Biodiversity Metric 3.1 following the Biodiversity Net Gain Good Practice Guidelines and technical supplement provided for best practice. This metric functions as an input interface based within an excel worksheet whereby baseline data gathered from an on-site survey is inputted and formulated against the ecological condition post development to calculate whether biodiversity net gain has been achieved through a series of trading rules.

4.0 Ecological Record

4.1 Designated sites record data

Figure 3.

Staffordshire Ecological Record statutory site source map.

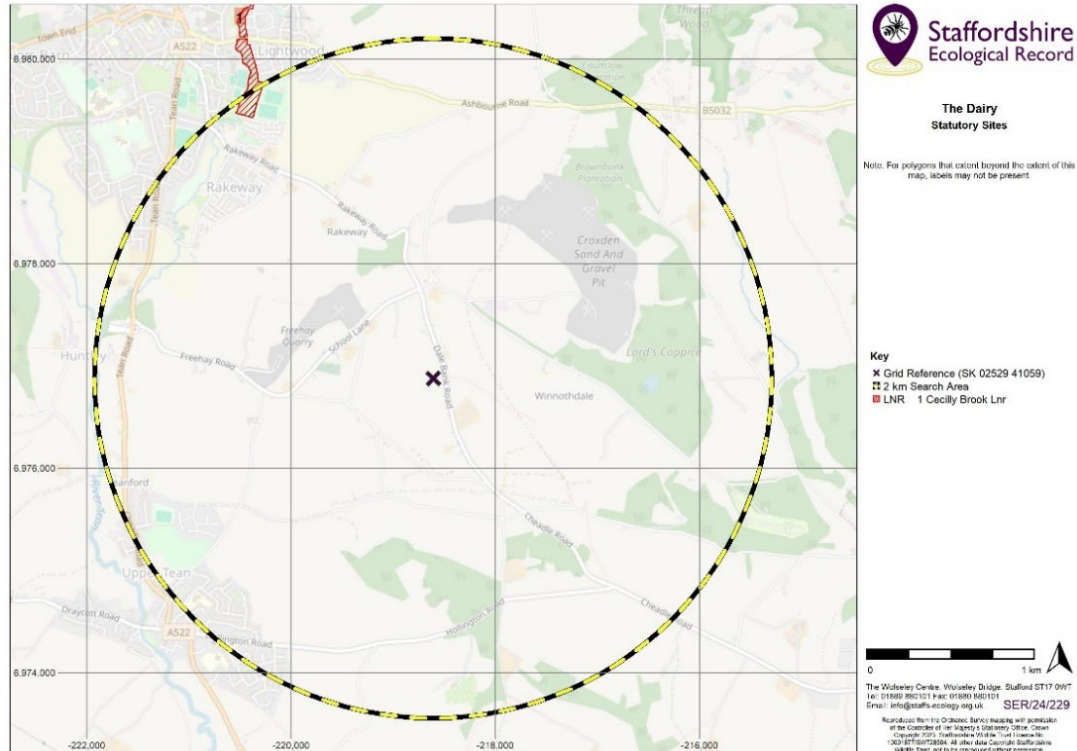


Figure 4.

Staffordshire Ecological Record non-statutory site source map.

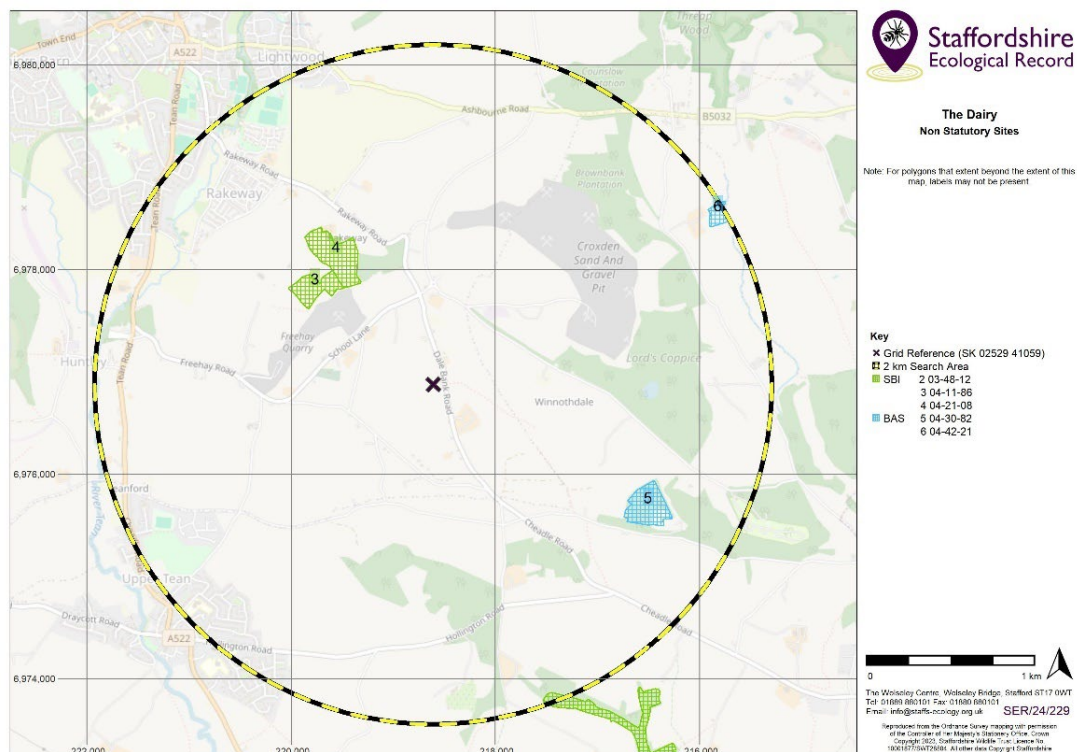


Figure 5.

Staffordshire Ecological Record Ancient Woodland Inventory Sites source map

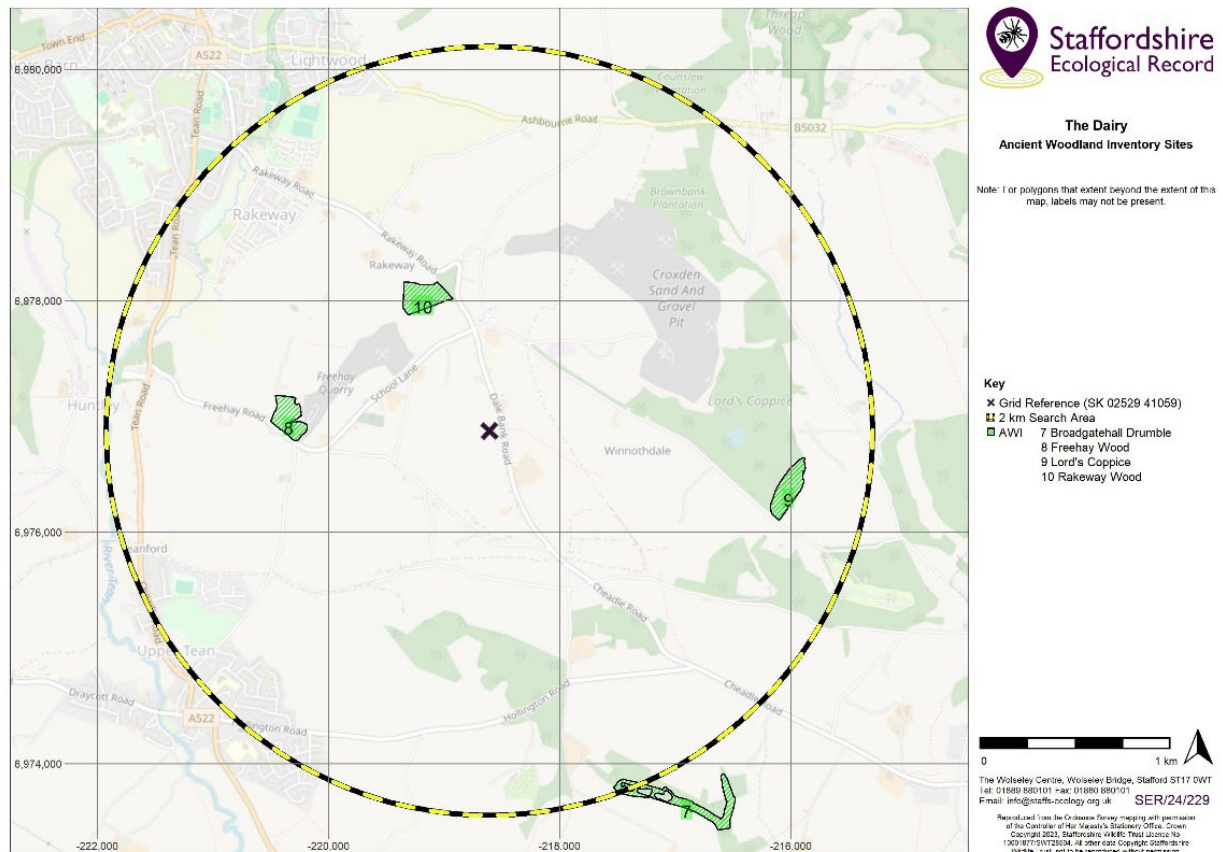


Figure 6.

Table of designated sites within 2km search radius

Site Name	Designation
Cecilly Brook	Local Nature Reserve
Broadgatehall Drumble	Local Wildlife Site
Freehay	Local Wildlife Site
Rakeway House Farm (south of)	Local Wildlife Site
Ferneyhill	Retained BAS
Brownbank Wood	Retained BAS
Broadgatehall Drumble	Ancient Woodland
Freehay Wood	Ancient Woodland
Lord's Coppice	Ancient Woodland
Rakeway Wood	Ancient Woodland

4.1 Protected Species Site Data

Figure 7

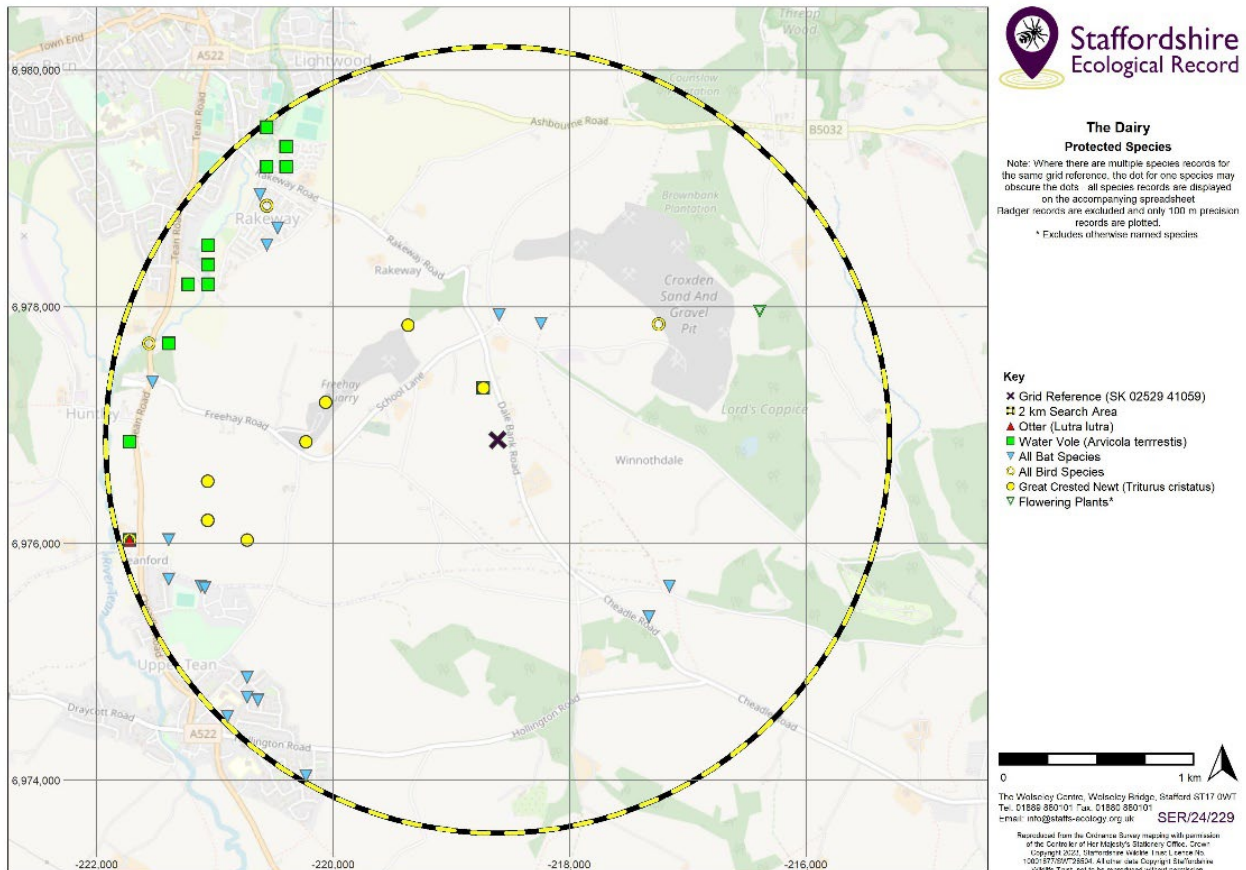


Figure 8

List of 10 most frequently reported protected species within 500m of the site.

Species	Frequency
Peregrine	491
Little Ringed Plover	145
Greylag Goose	58
Ruddy Shelduck	38
Black-necked Grebe	20
Redwing	15
Woodlark	11
Barn Owl	8
Hobby	7
Red Kite	6

5.0 Baseline Habitat

5.1 Baseline Habitat

The following habitats were found on site during the habitat survey:

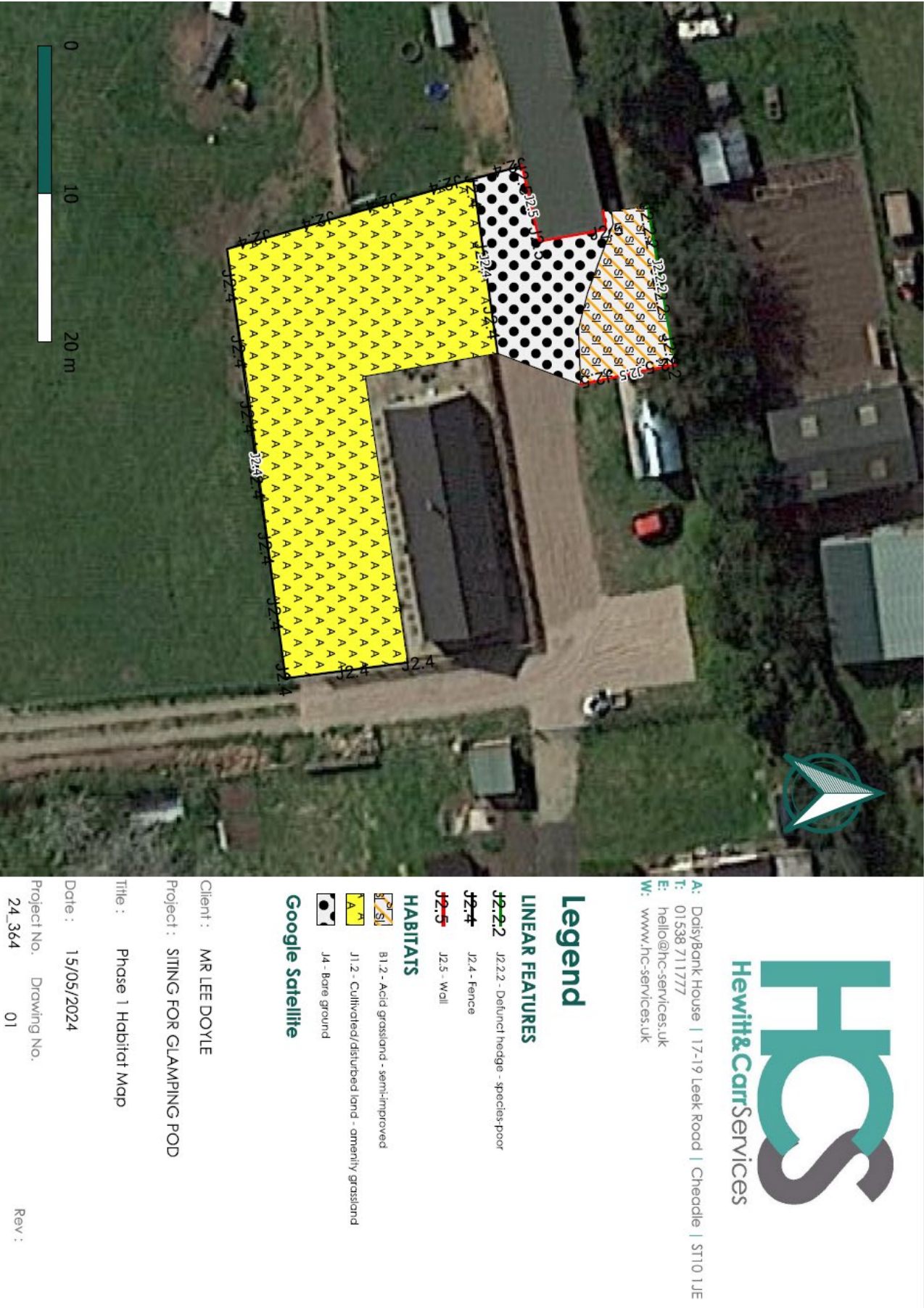
- B1.2 - Semi-improved Acid Grassland
- J1.2 - Amenity Grassland
- J4 - Bare Ground

Figure 9

Table of Phase 1 site survey images

Grid Reference	P1 Code	Description	Image
SK 02531 41052	J1.2	Amenity Grassland recently seeded with perennial rye grass	
SK 02531 41071	B1.2 J2	Semi-improved acid grassland with log and woodchip piles alongside gravel drive to the right	

Figure 10
Phase 1 baseline habitat map of site



5.2 Habitat Conversion

Figure 11

Table of baseline habitats converted into UKHAB for biodiversity metric

Phase 1		Metric	
Code	Description	Habitat	Distinctiveness
B1.2	Semi-improved acid grassland	Other lowland acid grassland	Medium
J4	Bare Ground	Artificial unvegetated, unsealed surface	Very Low
J1.2	Amenity Grassland	Modified Grassland	Low

5.3 Condition Assessment

Figure 12

Table of baseline habitats ecological condition for biodiversity metric

Habitat	Passed Condition Criterion	Rating	Score
Modified Grassland	3,4,5,6,7	Moderate	2
Other Lowland Acid Grassland	1,2,4	Moderate	2

5.4 Biodiversity Units

Figure 13

Table of baseline habitats latent biodiversity units

Habitat	Biodiversity Units
Modified Grassland	0.16
Other Lowland Acid Grassland	0.04
Artificial unvegetated, unsealed surface	0

6.0 Post-development Habitats

6.1 Habitats

- J1.2 - Amenity Grassland
- B2.1 - Unimproved Neutral grassland
- B1.2 – Semi Improved Acid Grassland
- J1.4 – Introduced Shrub
- J4 – Bare Ground
- J5 – Other habitat (paved surface)

6.2 Created Habitats

Figure 14

Table of created habitats with targeted conditions and biodiversity value

Proposed Habitat	Area (m2)	Condition Target	Years until target condition	Biodiversity Units
Introduced shrub.	18	Condition Assessment N/A	1	0.0035
Artificial unsealed surface	30	N/A – Other	0	N/A
Other neutral grassland	87	Moderate	5	0.073
Sealed surface	31	N/A – Other	0	N/A

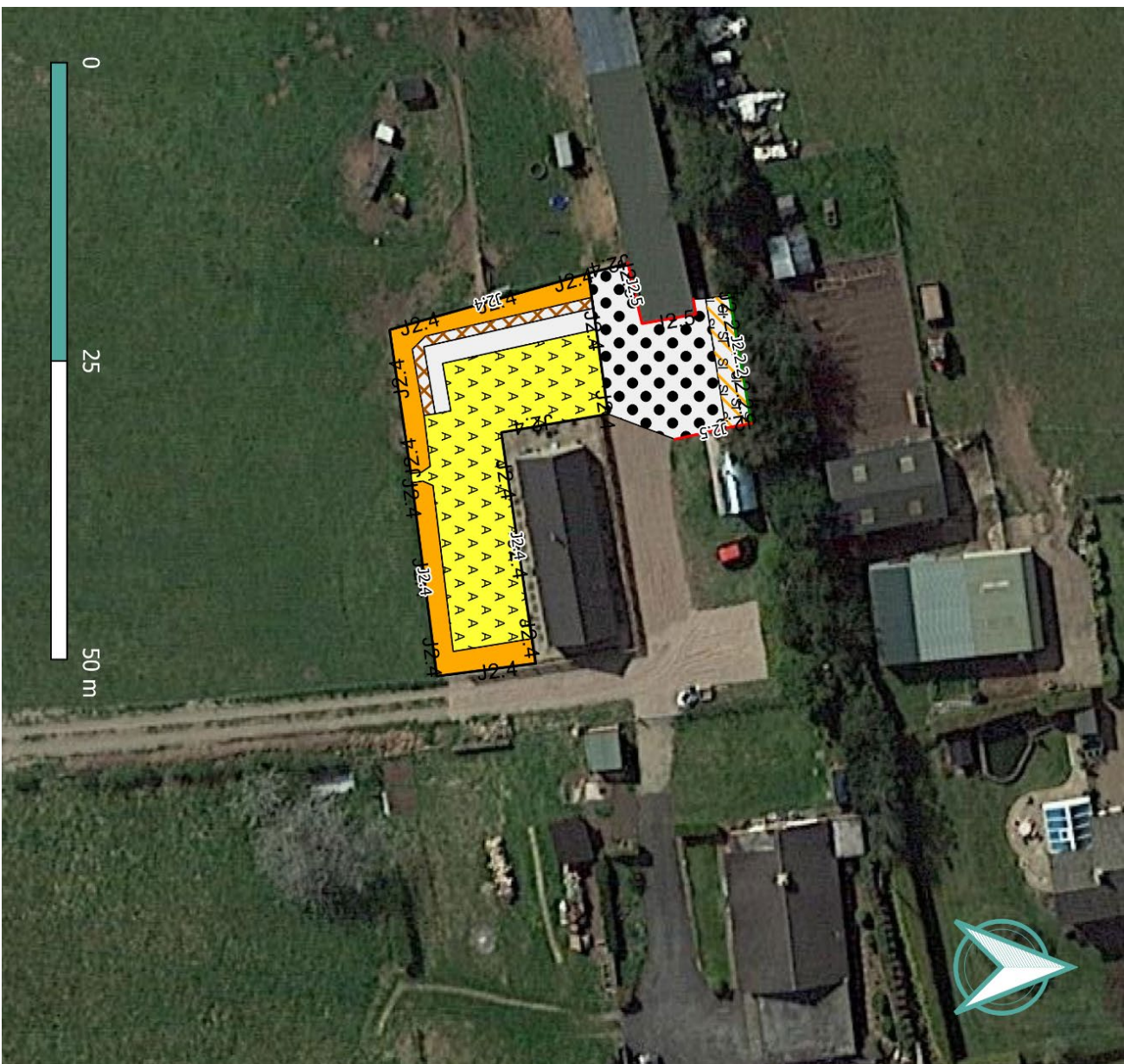
6.3 Enhanced Habitats

Figure 15

Table of enhanced habitats with targeted condition and biodiversity value

Proposed Habitat	Area (m2)	Condition Target	Years until target condition	Biodiversity Units
Other Neutral Grassland	209	Good	15	0.13

Figure 16
Biodiversity Design Plan.



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Legend

DESIGN

Linear

J2.2.2 J2.2.2 - Defunct hedge - species-poor

J2.4 J2.4 - Fence

J2.5 J2.5 - Wall

Habitat Design

B1.2 B1.2 - Acid grassland - semi-improved

B2.1 B2.1 - Neutral grassland - unimproved

J1.2 J1.2 - Cultivated/disturbed land - amenity grassland

J1.4 J1.4 - Introduced shrub

J4 J4 - Bare ground

J5 J5 - Other habitat

Google Satellite

Client : MR LEE DOYLE

Project : SITING FOR GLAMPING POD

Title : BIODIVERSITY DESIGN PLAN

Date : 15/05/2024

Project No. Drawing No.
 24_364 01

Rev :

6.4 Biodiversity Net Gain

Following the implementation of the proposed habitats seen in figure 16, **the site will produce a net gain of 11.78%**

Figure 17

Table of baseline habitat biodiversity units and design biodiversity units

Baseline	Design
0.2011	0.2248

(see attached biodiversity net gain metric spreadsheet for further information)

7.0 Creation/enhancement Methods

7.1 Amenity Grassland (Lawn)

The amenity grassland can be enhanced with the introduction of a mix of low-lying flowering species to support pollinators and provide greater diversity into the lawn. To create this, the ground can be raked to loosen the soil and a seed mix added such as found at <https://wildflowerlawnsandmeadows.com/product/wild-flower-lawn-seed-mix/>. This work can be undertaken any time of the year and maintained with mowing once a month.

7.2 Amenity Grassland (Lawn border)

The amenity grassland on the borders of the site can be converted into neutral grassland with abundant wildflower. This work should be started between September and October:

1. The site should be mowed as low as possible and grass cuttings should be removed to reduce soil fertility.
2. Yellow Rattle (*Rhinanthus minor*) seeds should then be overseeded onto the mowed grass at a rate of at least 1g per square meter.
3. The site should then be left to grow until next September.
4. In September, mowing and cutting removal is repeated and the ground requires scarification.
5. A native wildflower mix with annual and perennial species composition should be scattered at a rate of 1g per square meter over the scarified ground and rolled in to maximise germination rates.

Following this, the wildflowers can be maintained with mowing in early April and mid-September every year. Arisings from each mow should be left on the site for 3 days to allow seeds to drop from the cuttings before being gathered and removed from the site.

7.3 Introduced Shrub

Shrubs will be selected for the ecological services they provide through pollinating insects and edible seeds for overwintering birds. To sustain support for pollinating insects throughout the year, at least 1 species of plant should be selected for each season from Figure 18.

Figure 18*Table of recommended shrubs for pollinators*

	Scientific Name	Common Name
Winter	Lonicera × purpusii	Purpus honeysuckle
	Mahonia species	Oregon grape
	Salix aegyptiaca	musk willow
	Sarcococca hookeriana	sweet box
	Viburnum tinus	laurustinus
Spring	Ceanothus species	California lilac
	Erica × darleyensis	Darley Dale heath
	Hebe species	hebe
	Ribes nigrum	blackcurrant
	Skimmia japonica	skimmia
Summer	Calluna vulgaris	heather
	Caryopteris × clandonensis	caryopteris
	Rosmarinus officinalis	rosemary
	Escallonia species	escallonia
	Lavandula angustifolia	English lavender
Autumn	Arbutus unedo	strawberry tree
	Elaeagnus pungens	silverthorn
	Elaeagnus × submacrophylla	Ebbinge's silverberry
	Fatsia japonica	Japanese aralia
	Salvia species	sage (autumn-flowering types)

The ideal time to plant shrubs is in the autumn to allow root growth before the growing period begins in summer. However, they can be planted throughout the year provided adequate watering is given during dry summer periods. The shrubs will be kept in good condition with regular weeding.

8.0 References

- Joint Nature Conservation Committee (2001). Habitat management for bats A guide for land managers, landowners, and their advisors
- Department for Environment, Food & Rural Affairs (2007). Hedgerow Survey Handbook
- Natural England (2023) A brief introduction to Biodiversity Net Gain, Metric 4.0 and the Metric Checklist
- Department for Environment, Food & Rural Affairs (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services.
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- British Trust for Ornithology (2021) Birds of Conservation Concern 5
- Mathews F, and Harrower C. (2020). IUCN – compliant Red List for Britain's Terrestrial Mammals.
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- The Mammal Society (1989) Surveying Badgers.
- The Mammal Society (2014) Badger Field Sign Guide
- Northern Ireland Environment Agency (2015) Otters & Development
- Frog life (2001) Great Crested Newt Conservation Handbook
- National Planning Policy Framework (2018). The Conservation of Habitats and Species Regulations
- Natural Environment and Rural Communities (NERC) Act 2006.
- Bat Conservation Trust (2018) Bats and artificial lighting in the UK
- HMSO (1981) Wildlife and Countryside Act (and amendments)
- RHS Advice (2024) Plant a bare root mixed wildlife hedge
- Chartered Institute for Ecology and Environmental Management (2021). Swift Bricks: The 'Universal' Nest Brick – by Dick Newell
- Royal Horticultural Society (N.D) Plants for Pollinators

9.0 Relevant Species-specific Legislation

9.1 Great Crested Newts

Protection and Legislation:

- ☐ Bern Convention
- ☐ Conservation Regulations 1994 (as amended)
- ☐ Conservation of Habitats and Species Regulations 2017
- ☐ EU Habitats Directive
- ☐ Nature Conservation Act 2004
- ☐ NERC Act 2006
- ☐ Wildlife and Countryside Act 1981 (as amended)
- ☐ UK Biodiversity Action Plan (UKBAP)
 - Illegal to damage, destroy or obstruct any structure or place used for shelter, protection, or breeding.
 - Illegal to deliberately disturb, kill, injure, or capture.

9.2 Nesting Birds

Protection and Legislation:

Wildlife and Countryside Act WCA 1981 (as amended):

- Offence to deliberately disturb, kill, injure, or capture any wild bird.
- Offence to take, damage or destroy any wild bird nest in use of being built.

9.3 Reptiles

Protection and Legislation:

All reptile species:

Wildlife and Countryside Act 1981:

- protected from deliberate disturbance, killing, injury or capture.

Smooth snake and Sand Lizard:

Habitats Directive:

- Habitat where Smooth snakes and sand lizards live is fully protected against damage or destruction.
- Habitat disturbance requires a licence from the Department of the Environment, Food and Rural Affairs (DEFRA)

10.0 Relevant Environmental Policy

The Wildlife and Countryside Act (WCA) 1981 (As amended)

The WCA consolidates and amends national wildlife legislation to implement the Bern Convention and Birds Directive. It complements the Conservation Regulations 1994, offering protection to a wider range of species and establishing Sites of Special Scientific Interest. Schedules detail protected species and possible offenses.

Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 consolidate and update the previous regulations, primarily implementing the EEC Council Directive 92/43 into English and Welsh law. The regulations require the government to identify sites of importance to the habitats and species listed in Annexes I and II of the Habitats Directive, which are designated as Sites of Community Importance and Special Areas of Conservation (SAC) by EU member states. They also establish a register of European protected sites, known as Special Protection Areas (SPA), under the Birds Directive. The regulations introduce the precautionary principle for protected areas, requiring projects to have no adverse effect on the site's integrity. They also protect individual species of European conservation concern listed in Schedules 2 and 5, including otter and great crested newt, which are protected from unlawful destruction, uprooting, or trade.

UK Biodiversity Action Plan

The UK Biodiversity Action Plan (UKBAP), published in 1994 and updated in 2007, is a government initiative aimed at preserving and enhancing species and habitats in the UK. It includes a list of priority habitats and species, along with biodiversity initiatives. The UKBAP also mandates county-level conservation through the creation of Local Biodiversity Action Plans (BAPs), which target specific species of conservation concern. Local authorities and large organizations have also produced their own BAPs, with these targets being a crucial part of the planning process.

Planning Policy (England) and National Planning Policy Framework

The National Planning Policy Framework (NPPF) replaced previous guidance in 2012, with a presumption towards sustainable development. The latest update, updated in 2019, includes a section on conserving the natural environment. Section 15 outlines how the planning system should contribute to and enhance the natural and local environment by minimizing impacts on biodiversity and providing net gains. Opportunities to incorporate biodiversity gains should be encouraged, and planning permission should be refused if a proposed development would result in significant harm to the natural environment that cannot be avoided, mitigated, or compensated for.

Staffordshire Biodiversity Action Plan

The Staffordshire Biodiversity Action Plan (SBAP) was established in 1998 to coordinate conservation efforts and deliver UK BAP targets at a local level, focusing on specific habitats and species.

The Hedgerow Regulations 1997

The Hedgerow Regulations outline the restrictions on removing significant hedgerows that require permission from the Local Planning Authority.

The Countryside and Rights of Way (CROW) Act 2000

The CROW Act, introduced in 2000, strengthens wildlife legislation in England and Wales, requiring government departments and the National Assembly for Wales to prioritize biodiversity and increase protection powers for Sites of Special Scientific Interest (SSSIs). It also lists habitats and species for conservation measures.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act mandates local authorities and public bodies in England and Wales to enhance biodiversity in all their functions. It lists habitats and species of principal importance to biodiversity conservation, superseding Section 74 of the CROW Act 2000.

Biodiversity 2020

The government's Biodiversity 2020 policy aims to prevent biodiversity loss and promote healthy ecosystems by establishing ecological networks for wildlife and people, involving individuals, communities, local authorities, charities, businesses, and the government in their roles.