PENNINE ecological

BIODIVERSITY NET GAIN ASSESSMENT

PROPOSED CAR PARK EXTENSION
BAE SAMLESBURY AERODROME
LANCASHIRE

CIEEM Chartered Institute of Ecology and Environmental Management

25 YEARS

Arboricultural ASSOCIATION Professional Member

Biodiversity Net Gain Assessment

Proposed Car Park Extension
BAE Samlesbury Aerodrome
Lancashire

A report for

BAE Systems (Operations) Limited
Infrastructure & Facilities Services
Samlesbury Aerodrome (S609)
Balderstone
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1.0	Patrick Leatham	Stuart Macpherson	First draft	23/04/2025
1.1	Patrick Leatham	Stuart Macpherson	Revision following LPA comments	27/11/2025

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EXECUTIVE SUMMARY

PENNINE Ecological have been commissioned by BAE Systems (Operations) Limited to undertake an ecological assessment of Land adjacent to an existing car park within the BAE Systems aerodrome. The BNG has been undertaken to support proposals for a car park extension.

The assessment includes the use of Natural England's/Defra's Statutory Biodiversity Metric Calculation Tool (version 1.0.3 published in July 2024) to determine whether the proposals would result in a biodiversity net gain or loss. The assessment was completed using standard methodologies and there was no deviation from the recognised guidance.

The baseline habitats recorded on site are of medium to very low distinctiveness and have a baseline habitat value of 1.00. All habitats will be lost and therefore the total number of habitat units lost is 1.00.

The applicant proposes to deliver the net gains through a habitat bank. A site within the same National Character Area at Whalley has been identified. It is understood that the client has contacted Habitat Bank Option 1 and is in negotiations to purchase credits.

Proof of purchase of the credits will be supplied to the LPA in order to discharge any BNG planning conditions.

1. INTRODUCTION

1.1 BACKGROUND

PENNINE Ecological have been commissioned by BAE Systems (Operations) Limited to undertake an ecological assessment of Land adjacent to an existing car park within the BAE Systems aerodrome (hereafter referred to as 'the site'). Appenidx A, Figure 1 provides the site's red line application boundary and the results of the UKHabs survey.

To date, a Preliminary Ecological Appraisal (PEA) has been undertaken to support proposals for an extension to the existing car park located to the west of the site.

1.2 PURPOSE OF THIS REPORT AND BNG BACKGROUND

As of 12th February 2024 Biodiversity Net Gain (BNG) became mandatory (unless exempt) under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). Developers must deliver a BNG of 10% unless otherwise agreed with the relevant Local Authority.

The PEA identified the requirement for a BNG assessment at this site due to the anticipated loss of medium and low distinctiveness habitats. The BNG assessment has been undertaken to determine whether or not the proposal can achieve an overall net gain, in line with the current National Planning Policy Framework, 2021.

Through site selection and layout, applicants should avoid or reduce any negative impact on biodiversity. They must deliver at least 10% BNG (unless agreed otherwise with the Local Authority), as measured by the statutory biodiversity metric tool. There are three ways an applicant can achieve BNG.

1. They can create biodiversity on-site (within the red line boundary of a proposal site).

2. If the applicant cannot achieve all of their BNG on-site, they can deliver through a mixture of on-site and off-site. Applicants can either make off-site biodiversity gains on their own land ownership outside the proposal site, or buy off-site biodiversity units on the market.

3. If the applicant cannot achieve on or off-site BNG, they must buy statutory biodiversity credits from the government. This should be a last resort. The government will use the revenue to invest in habitat creation in England.

1.3 SITE LOCATION

The site is located on land south of the A59 at Samlesbury Aerodrome, Balderstone, Blackburn, Lancashire, BB2 7LF. The survey area central National Grid Reference is SD 62382 31521. An aerial image of the area subject to survey is shown below.

Figure 1.1: Aerial Image of 1 Shed Extension Survey Area, BAE Samlesbury

2. METHODOLOGY

2.1 UK HABITAT CLASSIFICATION BASELINE SURVEY

For a BNG assessment to be completed a UK Habitat Classification (UKHabs) Survey (UKHab Ltd, 2023) has to be undertaken of the site's baseline habitats. The UKHabs survey, and habitat condition assessments were undertaken by Patrick Leatham (refer to Section 2.3) in February 2025.

This BNG assessment has also been undertaken by Patrick Leatham.

2.2 BIODIVERSITY METRIC CALCULATOR TOOL

All habitats recorded within the footprint of the site during the field survey were included in the Biodiversity Metric Calculation Tool (version 1.0.3 published in July 2024). The statutory biodiversity metric is a way of measuring biodiversity value for the purposes of BNG.

This metric calculation has been undertaken following the standard methodology (Natural England, 2024) and in accordance with CIEEM good practice guidelines (CIEEM, 2019).

2.3 SURVEYOR EXPERIENCE

The surveys and assessments have been undertaken by Patrick Leatham, who is a Full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and has over 13 years' experience in land management, ecological survey and evaluation.

Patrick's key skills relating to BNG include:

- Over 13 years completing Extended Phase 1 Habitat Survey / UKHabs Survey on both small planning applications and Nationally Significant Infrastructure Projects (NSIPs).

- Over three years' experience undertaking and reviewing BNG assessments for small and large planning applications.

Other ecological consultancy skills include:

- Experienced bat surveyor and accredited agent on Stuart Macpherson licence (2021-10079-CL18-BAT).

- Experienced bird scoping and breeding bird check. Good knowledge of common and widespread birds.

- Extensive experience in great crested newt (GCN) survey, evaluation, licensing, and mitigation. Natural England Class Licence WML-CL08 held. Part of the Pennine Ecological survey team that undertook Great Crested Newt Surveys of over 40 ponds/slacks at Ainsdale Sand Dunes NNR/Sefton Coast SAC/SSSI for the Dynamic Dunescapes (DuneLIFE) project / Natural England.

- Extensive experience undertaking terrestrial mammal surveys including badger (accredited agent on multiple badger sett closure licences).

- Riparian corridor and mammal surveys for numerous flood alleviation schemes across north west England.

- Ecological Evaluation and Impact Assessments in association with large scale infrastructure projects.

- Experienced Habitats Regulations Assessment (HRA). Undertaking over 20 HRA's to assess significant effects on internationally and nationally designated sites.

2.4 LIMITATIONS

The field survey was undertaken in February 2025. Whilst not within the optimal survey window for habitats, the habitats recorded on site were easily identifiable and appropriate condition assessments could be completed. The survey timings are not considered to be a significant constraint to this assessment.

In addition the area of *g3c5 Arrhenatherum neutral grassland*, the previous survey undertaken by Ian Ryding (Pennine Ecological) in July 2022 was referred to. The site conditions in 2025 were found to be consistent with those recorded in 2022. As such, the 2022 data was used to fulfil the species list and allow for an accurate condition assessment to be completed of this habitat.

Full access to the site and adjacent land was possible and all other surveys were undertaken without constraint.

3. BIODIVERSITY NET GAIN ASSESSMENT RESULTS

The following section details the baseline habitats, along with habitats to be created, enhanced and retained within the site (where applicable).

3.1 ON-SITE HABITAT RESULTS

3.1.1 On-site Baseline Results

The habitats recorded on site were of the following distinctiveness';

- Medium – Other neutral grassland, bramble scrub and urban tree.
- Low - Modified grassland and tall forbs.
- Very low – Developed land; sealed surface.

In total, the baseline habitats surveyed have a habitat value of 1.00 habitat units.

A summary of the baseline habitat information is shown in Table 3.1 below.

Table 3.1: Summary of the Baseline Habitats and Habitat Value

Broad Habitat	Habitat Type	Habitat Area (ha)	Distinctiveness	Condition	Total Habitat Units (Ecological Baseline)	Area Retained – ha / units	Area Enhanced – ha / units	Habitat Area (ha) Lost	Units Lost (before mitigation)
Grassland	Other neutral grassland	0.048	Medium	Poor	0.19	0.00	0.00	0.048	0.19
Sparsely vegetated land	Tall forbs	0.1443	Low	Moderate	0.58	0.00	0.00	0.1443	0.58
Grassland	Modified grassland	0.0421	Low	Poor	0.08	0.00	0.00	0.0421	0.08
Heathland and shrub	Bramble scrub	0.0202	Medium	Condition Assessment N/A	0.08	0.00	0.00	0.0202	0.08
Urban	Developed land; sealed surface	0.0011	V.Low	N/A - Other	0.00	0.00	0.00	0.0011	0.00
Individual trees	Urban tree	0.0081	Medium	Moderate	0.06	0.00	0.00	0.0081	0.06
TOTAL		**0.26***			**1.00**				**1.00**

**Excludes individual trees as this area is calculated by the canopy biomass and not footprint*.

3.1.2 On-Site Habitat Created Results

The habitats to be created on site (Table 3.2) are of the following distinctiveness':

- Very low; Developed land; sealed surface.

The total number of habitat units delivered is 0.

The habitats and their respective areas, distinctiveness, condition etc. are included in Table 3.2 below.

Table 3.2: Summary of the On-Site Habitat Creation and Habitat Value

Broad Habitat	Habitat	Habitat Area (ha)	Distinctiveness	Condition	Habitat Units Delivered
Urban	Developed land; sealed surface	0.26	V.Low	N/A - Other	0.00
TOTAL		**0.26**			**0.00**

4. CONCLUSION

4.1 CONCLUSION AND BNG ASSESSMENT RESULTS

The following section summarises the Biodiversity Net Gain assessment results.

Baseline habitats of very low, low and medium distinctiveness were assessed as being present within the site in February 2025.

The proposed car parking area is between two existing tarmac car parks on an area of land which is largely unmanaged and unused. The location of the proposed car park is needed in this location as it is intended to supply the office blocks in proximity to the site. Alternative locations have been considered within BAE aerodrome, however the purpose of this proposal is to provide additional parking within short walking distances of the office buildings and all alternative locations are some distance away, defeating the objective of this proposal.

The proposals cannot avoid a biodiversity net loss on-site.

The proposal will result in a -100% / -1.00 unit loss on-site. The habitat trading rules have also not been satisfied (see Tables 4.1 and 4.2 below).

Table 4.1: Summary of the On-site Biodiversity Net Gain Results

	Habitat Units	Habitat Units % Change
On-site Baseline	1.00	-
On-site Post-intervention	0.00	-
On-site Net Change	-1.00	-100 %
Trading Rules Satisfied	No	

5. BNG PROPOSALS

In order for the proposal to achieve 10% net gain, 1.10 habitat units are required.

The on-site application boundary does not allow for habitats to be created to compensate for the loss. The proposal would become unviable.

The applicant proposes to deliver the remaining net gains through a habitat bank.

5.1 POTENTIAL HABITAT BANK LOCATIONS

A review of https://www.futurehomes.org.uk/biodiversityunitfindermap has been undertaken to identify potential nearby receptor sites.

Note – Future homes has not verified the accuracy of any of this information. The locations in the map are approximate only. Therefore, this information should be used as a guide only, to assist in finding a habitat bank.

Note - if the habitat bank is located outside of the Local Planning Authority (LPA) or National Character Area (NCA) of the site, then a spatial risk multiplier[1] is applied to the habitat unit deficit.

The following habitat banks have been identified:

(i) Habitat Bank Option 1 (Available)

Organisation: Carter Jonas.

Site ID: A378

Address: Portfield Rd, Whalley, Clitheroe BB7 9DL, UK

Local Planning Authority (LPA): Ribble Valley Borough Council

National Character Area (NCA): 36 – Lancashire Valleys

[1] Refer to Page 35 of the Statutory Metric User Guide for details on Spatial Risk Multipliers - https://assets.publishing.service.gov.uk/media/669e45fba3c2a28abb50d426/The_Statutory_Biodiversity_Metric_-_User_Guide__23.07.24_.pdf

This site is within the same LPA and same NCA.

It is understood that the client has contacted Habitat Bank Option 1 and is in negotiations to purchase credits. Proof of purchase of the credits will be supplied to the LPA in order to discharge any BNG planning conditions.

REFERENCES

CIEEM (2019). *Biodiversity net gain. Good practice principles for development; a practical guide*. CIRIA publications

CCNW (2025a). *Site 5 Buckshaw Village BNG Report*.

CCNW (2025b). *BNG v4. The Statutory Biodiversity Metric Calculation Tool*.

Natural England (2024). *The Statutory Biodiversity Metric - User Guide*. Last updated: July 2024

PENNINE ecological (2025). *Preliminary Ecological Appraisal – Proposed Car Park Extension, BAE Samlesbury Aerodrome, Lancashire*

UKHabs Ltd (2023). *UK Habitat Classification Version 2.0* (at https://www.ukhab.org)

Appendix A - Figures

Figure 1: Baseline Habitats Map (PEA, Appendix A)

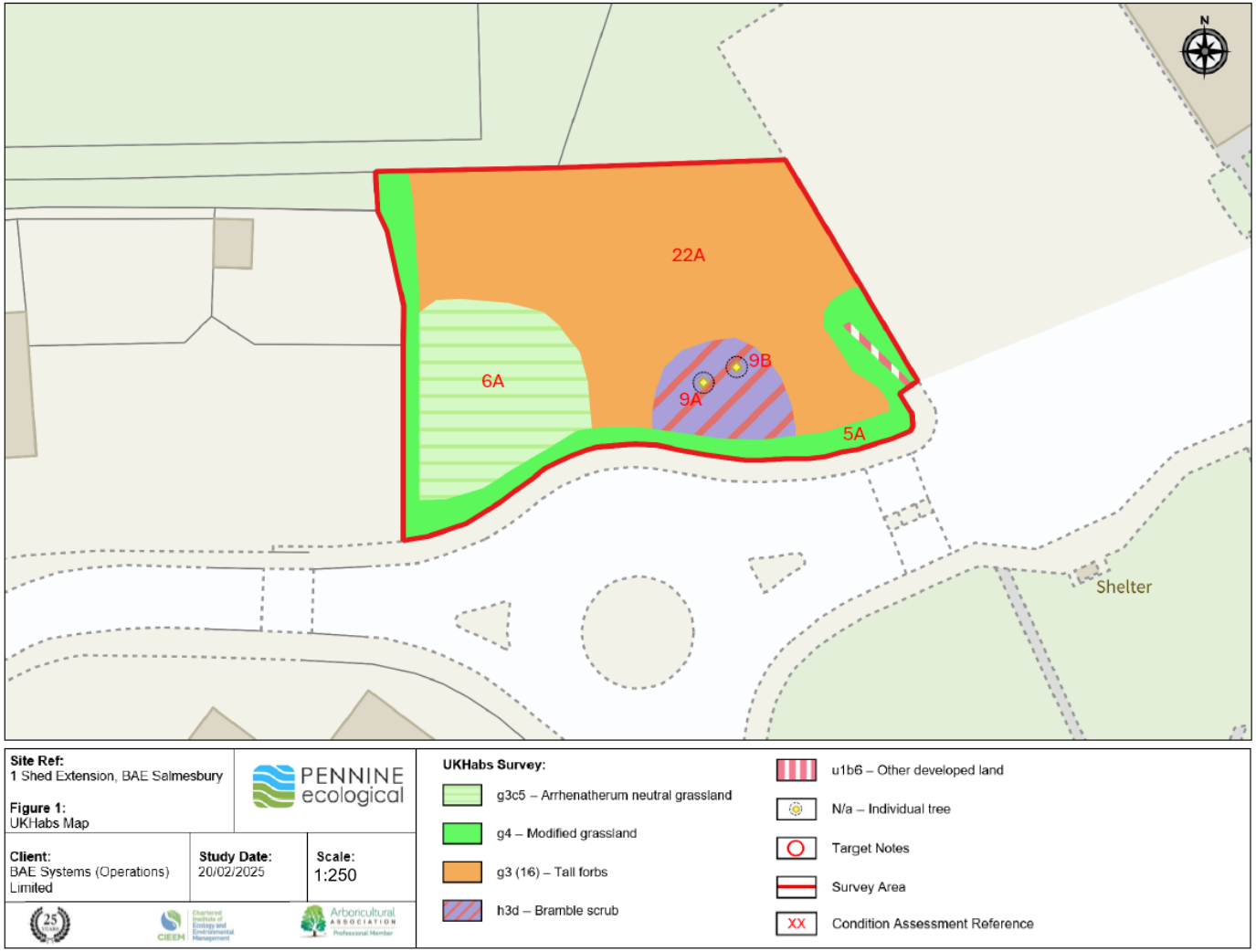

Figure 2: Site Proposals (drawing no: OSE-WMA-XX-XX-DR-A-00-014)