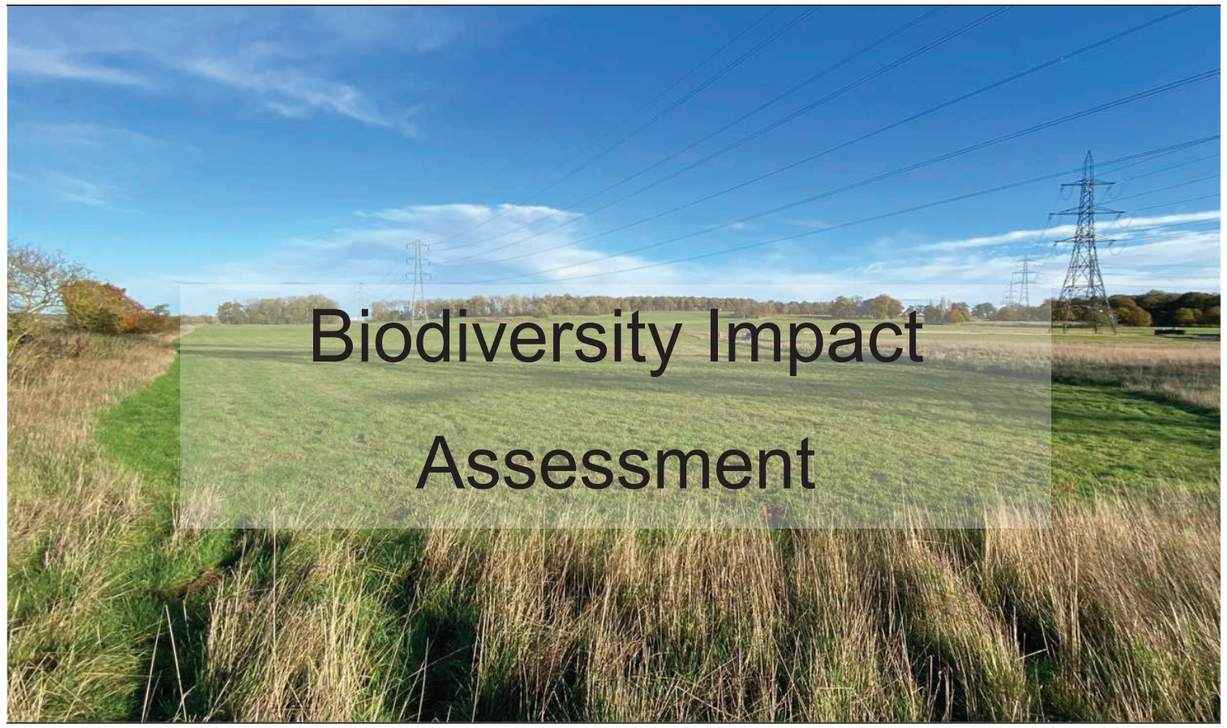
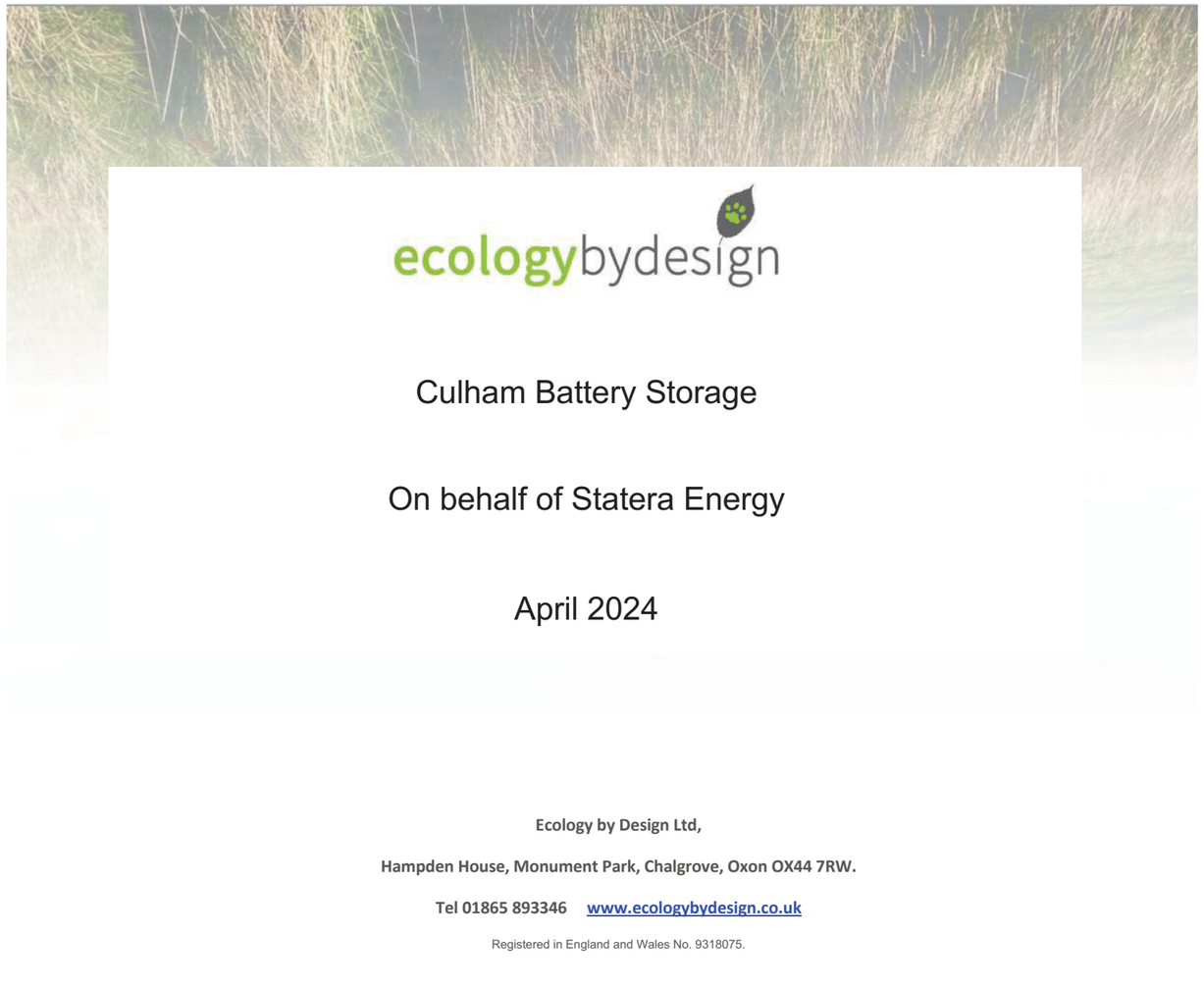
Appendix: Ecology and Biodiversity

Annex 1: Ecological Impact Assessment

Annex 2: Biological Impact Assessment



Biodiversity Impact Assessment



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Culham Battery Storage

On behalf of Statera Energy

April 2024

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Project Code	Title	Date of Issue
EBD02513	Culham Battery Storage Biodiversity Impact Assessment	12 April 2024

	Name	Date
Prepared by	Anna Spence BSc (Hons), MSc, MCIEEM	23 January 2024
Checked by	Karen Lunan BSc (Hons), MSc, MCIEEM	26 January 2024
Updated by	Anna Spence BSc (Hons) MSc, MCIEEM	12 April 2024

Contents

1 Executive Summary

Report purpose	This report identifies the results of a quantitative Biodiversity Impact Assessment undertaken of proposals for a 500 megawatt battery storage facility, with 296 sound insulated lithium ion battery units housed within standard shipping containers and 37 larger noise insulated inverter houses to accommodate the inverters and transformers. The facility is proposed within c. 27ha of land north of the Culham Science Centre (approximate central grid reference: SU 52879 96551). A Biodiversity Impact Assessment (BIA) is mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021) and required in accordance with Policy ENV3 from the South Oxfordshire District Council Local Plan (adopted December 2020). This report functions to satisfy the requirements of the following part of that policy: *"All proposals should be supported by evidence to demonstrate a biodiversity net gain using a recognised biodiversity accounting metric".*
Date and methods of survey and assessment	Three baseline habitat condition assessments of the site was undertaken on 12 July 2022, 16 November 2022 and 11 January 2024 and the results used to populate the Statutory Biodiversity Metric based on planting plans provided by Stratera Energy (drawing reference Dwg No. SL254_L_X_GA_1). Ecological advice for maximising biodiversity gain potential within the layout was provided during the detailed design stage and incorporated within the plans. The mitigation hierarchy and all other best practice principles for biodiversity net gain were followed during the design process.
Key findings	The site has a baseline biodiversity value of 64.75 habitat units. There are no hedgerows or rivers on site. The Biodiversity Metric Calculator identifies a net gain of +44.36 habitat units, equivalent to a change of 68.51% will be achieved, alongside a net gain of +5.10 hedgerow units. As there are no existing hedgerows on site it is not possible to calculate a percentage net gain in hedgerow units. Condition assessments were made on a precautionary basis for robustness. The actual biodiversity net gain potentially achievable at the site may exceed the values above. Assumptions on composition and condition of proposed habitats are explained; broad creation/management specifications, timeframes and monitoring requirements are provided by this report that would be required to meet these assumptions. The metric also indicates that rules relating to 'trading down' have been satisfied. Features such as bird boxes, bat boxes and insect boxes are not considered within the biodiversity metric calculation but will be incorporated within the site which will further enhance the site for wildlife, as detailed within the Ecological Impact Assessment (Ecology by Design, 2024). This assessment has robustly demonstrated that the proposals will result in a biodiversity net gain, satisfying the mandatory 10% net gain requirement under the Environment Act 2021 and Policy ENV3 from the South Oxfordshire District Council Local Plan and ensuring a biodiversity gain will be achieved as part of the proposals. Post-consent, this report should be used to inform a detailed Biodiversity Net Gain Management and Monitoring Plan (BMMP). A BMMP will be required to ensure the long-term delivery of the habitats contributing to the quantitative net gain calculated by this report.

2 Introduction

2.1 Background

2.1.1 Ecology by Design were commissioned by Stratera Energy to undertake a Biodiversity Impact Assessment (BIA) of proposals for a battery storage facility north of Culham Science Centre, Thames Lane, Culham, OX14 3ES at approximate central grid reference SU 52879 96551.

2.1.2 Ecology by Design have undertaken various surveys at the site between July 2022 and January 2024 including:

- An extended UKHab Habitat Survey;
- Daytime tree assessments for bats; and
- Monitoring of potential badger setts.

2.1.3 The results of the above are set out within the Ecological Impact Assessment report (Ecology by Design, 2024).

2.2 Site Description

2.2.1 The site is approximately 27ha in extent and comprises four large fields along with a portion of a fifth field used for non-cereal crops (permanent modified grasslands harvested for hay and silage) and two areas of other neutral grassland. The fields had been mown when the survey was conducted in January 2023, with small strips on the field margins remaining unmown. There are occasional scattered trees and scrub within the site.

2.2.2 In the wider landscape, there is mixed woodland immediately north of the site, the River Thames runs from east to west 130m north of the site, there are additional non-cereal fields to the north and south-west and Culham Science Centre to the south-east.

2.2.3 Soilscapes (https://www.landis.org.uk/soilscapes/) indicates the soils of the site comprise slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils.

2.3 Proposals

2.3.1 The proposals are for the development of a battery energy storage system (BESS) connected directly to the National Grid, with BESS compound area, National Grid cable sealing end compound, substation upgrade works and associated infrastructure works including access, drainage and landscaping.

2.4 Relevant Policy and Legislation

2.4.1 Policy ENV3 from South Oxfordshire District Council Local Plan (adopted 2020) states: *"Development that will conserve, restore and enhance biodiversity in the district will be supported. All development should provide a net gain in biodiversity where possible. As a minimum, there should be no net loss of biodiversity. All proposals should be supported by evidence to demonstrate a biodiversity net gain using a recognised biodiversity accounting metric..."*

2.4.2 The Environment Act 2021 stipulates a 10% Biodiversity Net Gain above baseline conditions is required for all developments in England and is mandatory from 12th February 2024.

2.4.3 The National Planning Policy Framework (NPPF) (DLUHC, 2023) states that development proposals should seek opportunities for securing measurable net gains for biodiversity. It also outlines that development proposals should follow a 'mitigation hierarchy' by which loss of biodiversity should preferably be avoided as a first course of action, mitigated as a second, or compensated for as a last resort.

2.5 Aims of Report

2.5.1 This report is a Biodiversity Impact Assessment (BIA) of the proposals at the site. It has been produced following a site visit to evaluate the baseline habitats present and a review of the proposed habitats in accordance with the guidance provided alongside the Statutory Biodiversity metric (DEFRA, 2023b) and industry standard guidance (CIEEM *et al.*, 2019; BSI, 2021).

2.5.2 This report is intended to satisfy the requirements of ensuring a net gain in biodiversity within Policy ENV3 and the Environment Act 2021 read in conjunction with the detailed landscape proposals (Stratera Energy drawing reference: Dwg No. SL254_L_X_GA_1).

2.5.3 This report will be submitted to South Oxfordshire District Council alongside a completed copy of the Biodiversity Metric Statutory Calculation Tool (DEFRA, 2023a) to inform the planning application. GIS shapefiles will be available on request.

2.5.4 This report addresses a quantitative biodiversity net gain assessment only, it should be read in conjunction with the Ecological Impact Assessment (Ecology by Design, 2024) which addresses all other ecological considerations such as designated sites and protected species.

2.6 Personnel

2.6.1 The site visit, mapping and completion of the Statutory Metric (DEFRA, 2023a) was undertaken by Ecology by Design Senior Ecologist Anna Spence BSc (Hons), MSc, MCIEEM who has seven

years' experience carrying out habitat surveys. The report, metric and associated figures were reviewed by Principal Ecologist Karen Lunan BSc (Hons), MSc, MCIEEM who has 18 years' experience as an ecologist.

2.6.2 Anna and Karen have both received specific training in the use of the DEFRA Statutory metric and are suitably qualified and accomplished in habitat evaluation and use of GIS to complete a biodiversity impact assessment metric on a site of this nature.

3 Methods

3.1 Desk Study

3.1.1 The Ecological Impact Assessment (Ecology by Design, 2024) includes a detailed desk study to inform the application which is not discussed further within this report.

3.2 Biodiversity Impact Assessment

Compliance with Best Practice

3.2.1 A biodiversity impact assessment was undertaken using the statutory biodiversity metric (DEFRA, 2023a) in accordance with all relevant best practice guidelines (CIEEM *et al*., 2019; BSI, 2021). The 10 'Principles of Biodiversity Net Gain (CIEEM, *et al*., 2019) were followed:

- Principle 1 – Apply the mitigation hierarchy
- Principle 2 – Avoid losing biodiversity that cannot be offset by gains elsewhere
- Principle 3 – Be inclusive and equitable
- Principle 4 – Address risks
- Principle 5 – Make a measurable net gain
- Principle 6 – Achieve the best outcomes for biodiversity
- Principle 7 – Be additional
- Principle 8 – Create a net gain legacy
- Principle 9 – Optimise sustainability
- Principle 10 – Be transparent

Methodology

3.2.2 To calculate the net impact on biodiversity as a result of the proposals, the Statutory Biodiversity Metric (DEFRA, 2023a) was completed in accordance with the accompanying user guide and technical supplements (DEFRA, 2023b). The Metric calculation was completed with baseline data from a site visit and proposals data from the proposed landscape scheme.

3.2.3 A site visit was undertaken to collect baseline data on the existing habitats and their condition within the site. In accordance with the Statutory Biodiversity Metric user guide (DEFRA, 2023b) no specific minimum mappable unit was used; baseline data was collected on site on 12 July 2022, 16 November 2022 and 11 January 2024 and digitised using Ordnance Survey mapping and google satellite imagery during January 2024 at a scale of 1:250 using professional judgement, site notes and experience in cases where feature boundaries were not readily apparent.

3.2.4 Proposed habitats were manually digitised using an image file of Dwg No. SL254_L_X_GA_1 (Appendix 1) georeferenced using QGIS version 3.28.5 'Georeferencer' plugin; the georeferenced raster file is available on request in various formats. Full details of the habitat classifications are outlined within the biodiversity metrics submitted alongside this report and accompanying GIS shapefiles available on request in various formats.

3.2.5 In order to avoid rounding errors, area and length values were entered into the statutory metric to the level of accuracy calculated by the QGIS 3.28.5 function $area/$length as a decimal ('real') number attribute.

3.2.6 Existing and proposed habitats were categorised based on the UK Habitats Classification Scheme (UKHab Ltd, 2023) and conditions were assessed in accordance with the accompanying guidelines for the DEFRA statutory metric (Annex 1 to Natural England, 2023b).

3.2.7 The personnel were suitably qualified to conduct the assessment, as detailed in Section 2.6.

3.3 Limitations and Constraints

3.3.1 Industry standard principles were employed for the biodiversity impact assessment where appropriate to the current project. Any deviation from best practice was circumstantial and minor and did not have a significant impact on the conclusions made which are considered valid and robust. A full break down of the industry standard principles involved and any justifiable deviation is available on request if required.

3.3.2 The habitat assessment was conducted in July and November 2022 and January 2024. Whilst November and January are outside the optimal period given many species are not in flower, species composition was readily identified given the common and widespread habitats present within the site, therefore, this is not considered to have constrained the identification of habitat types, habitat condition or assessment of potential impacts.

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4 Results and Interpretation

4.1.1 Baseline and proposed habitat condition assessments are recorded within the DEFRA Statutory Metric submitted alongside this report and accompanying GIS shapefiles (available on request in various formats).

4.1 Habitats Baseline

4.1.1 The baseline habitats and their retention category (lost/retained/enhanced) are illustrated on Figures EBD_2513_DR001 - EBD_2513_DR002 at Appendix 2 and detailed within Table 4.1 below. Detailed condition assessment results are presented alongside justification in Appendix 4.

Table 4.1: *Habitat types identified during the baseline condition assessment*

Habitat type	Description
Modified grassland	The vast majority of the site comprises modified grassland which is either mown for hay or used for sheep grazing. The modified grassland exhibits poor species-diversity and a uniform sward height. Species present include perennial ryegrass (*Lolium perenne*), cock's-foot (*Dactylis glomerata*), sterile brome (*Bromus sterilis*), Yorkshire fog (*Holcus mollis*), timothy (*Phleum pratense*), false oatgrass (*Arrhenatherum elatius*), soft brome (*Bromus hordeaceus*), red fescue (*Festuca rubra*), wall barley (*Hordeum murinum*) annual meadowgrass (*Poa annua*). Forbs were rarely offering within the field and included field pansy (*Viola arvensis*), common poppy (*Papaver rhoeas*) and scentless mayweed (*Tripleurospermum inodorum*).
Other neutral grassland	The margins of the modified grassland fields were typically 1-2m wide with a uniform grass-dominated sward height of 1m height, with frequent false oatgrass, Yorkshire fog, cock's-foot, perennial ryegrass and yarrow (*Achillea millefolium*), occasional agrimony (*Agrimonia eupatoria*) and wild parsnip (*Pastinaca sativa*), rarely occurring nettle (*Urtica dioica*), hogweed (*Heracleum sphondylium*), curled dock (*Rumex crispus*), wild carrot (*Daucus carota*), field bindweed (*Convolvulus arvensis*), creeping cinquefoil (*Potentilla reptans*) and bramble (*Rubus fruticosus* agg.). Along the central access road white stonecrop (*Sedum album*) was also present.
Mixed scrub	In the east of the site is 0.33ha of mixed scrub which appears to have been planted in c. 2010 and is typically 3m height with some already existing pedunculate oak (*Quercus robur*) or faster growing trees cherry (*Prunus* sp.) and douglas fir (*Pseudotsuga menziesii*) being up to 7m height. The scrub is species-rich, containing frequent hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*) and dogwood (*Cornus sanguinea*), occasional hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), wayfaring tree (*Viburnum lantana*), and European larch (*Larix decidua*) and rarely occurring walnut (*Juglans regia*), cherry, sycamore (*Acer pseudoplatanus*) and Scots pine (*Pinus sylvestris*). The understorey is typical of the field margins.
Bramble scrub	In the south-east of the site is 0.52ha of scrub dominated by bramble c. 1m height including rarely occurring scattered elder (*Sambucus nigra*), hawthorn and rose (*Rosa* sp.).

Blackthorn scrub	Approximately 0.1357ha of blackthorn scrub is present at the northern site boundary
Scattered trees	There are infrequent scattered trees within the site including turkey oak (*Quercus cerris*), ash, plum (*Prunus* sp.), large-leaved lime (*Tilia platyphyllos*), apple (*Malus* sp.) and pedunculate oak (*Quercus robur*).
Developed land, sealed surface	Hardstanding roads bisect the site, and a small substation building is present towards the south.

4.1.2 Overall, the site has a baseline habitat value of:

- 64.75 habitat units;

4.1.3 No hedgerow or river habitats are within or adjacent to the site so the metric does not include an assessment of these units.

4.2 Retained/Enhanced/Lost Habitats

4.2.1 The retention category of baseline habitats (retained/enhanced/lost) is illustrated on Drawing EBD_2513_DR002 at Appendix 2. The proposals include the retention of existing scattered trees, small areas of other neutral grassland and the access tracks (developed land). The remainder of the habitats will be lost. The habitats at the south-east adjacent to Thame Lane will be re-instated post development and have therefore been categorised as 'lost' and 'created' under the metric.

4.3 Proposed Habitats

4.3.1 Site layout proposals used to inform the proposals are provided at Appendix 1; our interpretation of these habitats for input into the metric is illustrated on drawing EBD_2513_DR003 at Appendix 2. Detailed condition assessments for the proposed habitats are provided at Appendix 5 alongside justification.

4.3.2 To achieve the condition assessments and habitat classifications detailed below, implications to the necessary management regime have been agreed with Stratera Energy. These implications are included, where relevant, within the recommendations in Section 5; these recommendations will need to inform the detailed Biodiversity Net Gain Management and Monitoring Plan (BMMP) for the site.

4.3.3 The habitats proposed within the site are detailed below.

Developed Land

4.3.4 A portion of the site will comprise developed land, sealed surface covering approximately 6.5253ha for which no condition assessment is required.

Modified grassland

4.3.5 Strips of grassland are proposed adjacent to the proposed developed land totalling approximately 0.3627ha. These areas will be regularly mown to a short height, likely with arisings left *in-situ*. As such, they have been categorised as modified grassland.

SuDS

4.3.6 An attenuation basin covering approximately 0.2351ha will be created towards the west of the site. the basin will be sown with a grassland seed mix tolerant of seasonal inundation with as Emorsgate Seeds EM8 meadow mixture for wetlands or similar.

Wildlife pond

4.3.7 A wildlife pond measuring 0.0668ha will be created in the north of the site. The pond will have good water quality, have semi-natural habitat for at least 10m from the pond edge, will not be connected to other waterbodies and will have water levels which fluctuate naturally. The pond is therefore likely to achieve moderate condition.

Other neutral grassland

4.3.8 10.7127ha of other neutral grassland will be created and managed to achieve moderate condition by passing the following criteria; (i) the vegetation closely matching characteristics of other neutral grassland with indicator species throughout the sward, (ii) no bracken and cover of scrub less than 5%, and (iii) absence of invasive species. It may fail the following criteria (i) cover of bare ground being 1-5% and (ii) sward height being varied and (iii) there being greater than 9 species per meter square.

4.3.9 Roughly 50% of the existing grassland will be power harrowed in strips, seeded with a species-rich seed mix and then managed as a traditional hay meadow with an annual cut in the summer, removing risings. The remaining 50% of the grassland would be bare ground following harrowing to allow natural seeding to occur.

4.3.10 A suitable seed mix would comprise the Emorsgate basic general purpose meadow mixture or similar. The grassland will be mown annually within late-July or August and all arisings will be removed. This will serve to remove nutrients and minimise scrub encroachment.

4.3.11 Any invasive species will be identified and removed.

Other broadleaved woodland

4.3.12 2.1781ha of other broadleaved woodland will be created, targeting moderate condition. The woodland will be comprised of at least five native species and managed to prevent the

establishment of invasive species and allow a varied structure with a mixture of different aged trees to develop.

Mixed scrub

4.3.13 Areas of mixed scrub totalling approximately 1.6165ha will be created within the open space at the north and west of the site. The scrub will include at least three woody native species with no single species comprising more than 75% of the habitat and will be managed to ensure invasive non-native plants do not become established. The scrub will also be allowed to develop edge habitat with scattered scrub and tall forbs/grassland between it and the adjacent other neutral grassland. As such, it is anticipated the mixed scrub will reach moderate condition under the metric.

Hedge Planting

4.3.14 The proposals include the planting of approximately 0.48km of native hedgerow, 0.52km of native hedgerow with trees and 0.08km of native tree line. Subject to the implementation of an appropriate management scheme, the hedgerows are anticipated to meet the criteria for moderate condition whilst the native tree line will be of good condition.

Further Enhancements

4.3.15 Enhancement features such as bird boxes, bat boxes and insect boxes are not considered within the biodiversity metric calculation but will be incorporated within the site which will further enhance the site for wildlife, as detailed within Section 5 of the Ecological Impact Assessment (Ecology by Design, 2024).

4.4 Metric Calculation Result

Completion of DEFRA's Statutory Biodiversity Metric Calculation tool provides a baseline biodiversity value of 64.75 habitat units and a post development value of 109.11 habitat units indicating an increase of + 44.36 habitat units, or the equivalent to + 68.51% (see Figure 1). There are no existing hedgerows on site however the proposals will deliver 5.10% hedgerow units. There are no river units within or adjacent to the site. The metric also indicates that rules relating to 'trading down' have been satisfied.

Figure 1: *Biodiversity Metric Headline Calculator Summary*

Culham Battery Storage Facility — Return to results menu

Headline Results

Scroll down for final results ⊠

On-site baseline	*Habitat units*	64.75		
	Hedgerow units	0.00		
	Watercourse units	0.00		
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	109.11		
	Hedgerow units	5.10		
	Watercourse units	0.00		
On-site net change (units & percentage)	*Habitat units*	44.36	68.51%	
	Hedgerow units	5.10	N/A	Zero baseline units - % cannot be calculated
	Watercourse units	0.00	0.00%	
Off-site baseline	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site net change (units & percentage)	*Habitat units*	0.00	0.00%	
	Hedgerow units	0.00	0.00%	
	Watercourse units	0.00	0.00%	
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	44.36		
	Hedgerow units	5.10		
	Watercourse units	0.00		
Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	44.36	
	Hedgerow units	5.10	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	68.51%	
	Hedgerow units	N/A	0 baseline units - % cannot be calculated
	Watercourse units	0.00%	
Trading rules satisfied?	Yes ✓		

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	64.75	71.22	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

5 Recommendations

5.1 Biodiversity Net Gain Management and Monitoring Plan (BMMP)

5.1.1 In order for the anticipated net gain in biodiversity to be realised, a Biodiversity Net Gain Management and Monitoring Plan (BMMP) must be created and adopted prior to works commencing. A BMMP could be secured as a suitably worded pre-commencement condition and would need to be referenced by a legal agreement (S106, conservation covenant or similar) to secure the habitat creation/enhancement needed to achieve the net gain in biodiversity.

5.1.2 The BMMP must include the details outlined below:

Habitat Creation and Management

5.1.3 The BMMP must include details of individually referenceable parcels/habitats that are to be created and managed to contribute towards the net gain in biodiversity. The BMMP may make reference to a LEMP (or similar) or include detailed habitat creation and management prescriptions within its contents.

Timeframe

5.1.4 The BMMP must cover a period of at least 30 years.

5.1.5 The 'times to target condition' must accord with the details outlined in Appendix 5.

Scope

5.1.6 The BMMP will cover creation and management of any habitats contributing towards the biodiversity net gain result described above with the exception of the following habitat types which are better addressed within a separate Landscape and Ecology Management Plan (LEMP) or similar:

- Buildings and hardstanding.

5.1.7 Where habitat parcels are described within both a LEMP and a BMMP, the creation/management prescriptions must align precisely.

Responsible Bodies

5.1.8 The BMMP must outline necessary qualifications/experience for ecologists undertaking monitoring surveys, and must also name responsible bodies for:

- Creation and management of the habitats; and
- Review of monitoring reports.

Monitoring

5.1.9 The BMMP must include provision for independent ecological monitoring and progress reporting over the lifetime of the management period, with provision for rectification works if required. Ecological monitoring must take place yearly as a minimum for five years, with monitoring reports produced to document:

- Commissioned client, site name and purpose of report;
- Background and timeline for project;
- Project description, as built;
- Aims/objectives/scope of monitoring survey;
- Reference to original aims described within this report;
- Survey methods;
- Evidence of technical competence and experience;
- Limitations;
- Clear statements on whether biodiversity unit targets are being met; and
- Details of any rectification works and implications necessary.

5.1.10 The frequency of monitoring will likely be decreased (e.g. to years 5, 10, 15, 25, 30) after five years at the monitoring ecologists' discretion if targets are being consistently met and risk of deviation is considered low.

Condition

5.1.11 The BMMP must make clear which condition criteria (e.g. DEFRA statutory metric) are targeted for each individual habitat so that ecological monitoring reports have a benchmark against which to measure. It may be appropriate to update condition criteria assessment as new versions of the metric are made available; any deviation from the version used within this report should be highlighted and justified.

5.2 Broad Management Prescriptions

5.2.1 The BMMP should be based on the below broad management prescriptions which have been agreed with Stratera Energy during the design stage. Parcel references within the below refer to those on drawing EBD_2513_DR003 (proposed habitats) at Appendix 2.

Newly created other neutral grassland (moderate condition)

5.2.2 The other neutral grassland within the application site must be managed around a traditional 'hay-cut' regime with the exception of informal footpaths which are to be mown regularly to a short height:

- mowing as required to <10mm height between March and mid-April inclusive;
- leaving grassland unmanaged during mid-April to late-July;
- taking a single summer hay cut in early August and remove arisings; and
- mowing monthly to <10mm August-October, removing arisings each mow.

Newly created mixed scrub

5.2.3 The newly planted mixed scrub within the application site will require no specific management beyond periodic brush-cutting and replacement of dead/damaged areas to maintain their current extent.

Newly planted scattered trees and tree line

5.2.4 The proposed trees must be watered as required during the first year, and then will require minimal ongoing management with the exception of inspections, restorative pruning, and replacement of damaged/failed individuals.

Newly created other broadleaved woodland

5.2.5 The newly planted woodland should initially be subject to weed control through the application f mulch or mulch mats around tree bases in early summer or the strimming of vegetation 1m around the base of each tree. Bio-degradable tree guards should be used to protect new trees from potential damage through grazing. New planting growth will be monitored every six months during the first year following planting an annually thereafter for five years, with watering, weed control, tree guard replacement and the replanting of failed specimens undertaken annually.

5.2.6 Once established, tree guards and stakes (if used) will be removed. A site visit will be carried out every five years (commencing year 5 post-construction) of the woodland to monitor the growth/condition and inform if/when any of the following are required:

- Thinning of close-set trees and non-native trees within the canopy;
- Replanting of varied native canopy and understorey species;
- Rotational coppicing of understoreys;
- Continued control of deer populations and piling of brash screening around newly planted/coppiced areas to manage over-grazing; and
- Creation of standing and fallen deadwood features.

5.2.7 Substantial works (other than minor trimming) will take place outside 1st March to 31st August inclusive to avoid impacting nesting birds.

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Newly created SuDS and wildlife pond.

5.2.8 The newly created SuDS and wildlife pond will be subject to ongoing management carried out in response to the conditions at the time. This will generally include the removal of litter and larger items of debris, containment and investigation of any pollutions, selective pruning of surrounding vegetation and marginal vegetation, monitoring water conditions (i.e. algal blooms) and monitoring levels of human disturbance and taking remedial action if required.

6 References

BSI (2021). *BS 8683:2021 Process for designing and implementing Biodiversity Net Gain – Specification*. The British Standards Institution Ltd., London.

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DLUHC (2023). *National Planning Policy Framework*. Department for Levelling Up, Housing & Communities

DEFRA (2023a). Statutory Biodiversity Metric calculation tool (spreadsheet). DEFRA

DEFRA (2023b). Statutory Biodiversity Metric User Guide (draft). Natural England Joint Publication JP039. DEFRA.

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

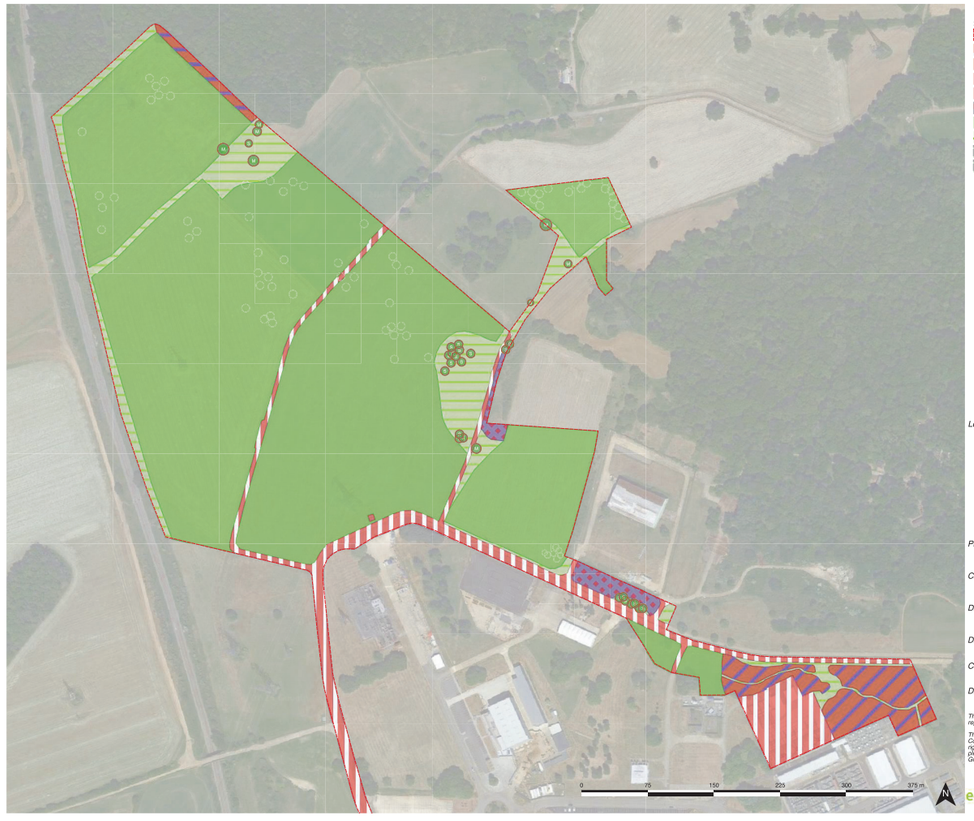
Appendix 1 - Site Proposals

Drawing ref. Stratera energy dwg No. SL254_L_X_GA_1 (overleaf)

Appendix 2 - Figures

- EBD_2513_DR001 – BIA Baseline Habitats
- EBD_2513_DR002 – BIA Impacts
- EBD_2513_DR003 – BIA Proposed Habitats

(overleaf)



LEGEND

Site Boundary

- Site Boundary (26.91 ha)
- Blackthorn scrub (0.1357 ha)
- Bramble scrub (1.0255 ha)
- Developed land; sealed surface (3.521 ha)
- Buildings (0.0045 ha)
- Mixed scrub (0.281 ha)
- Modified grassland (19.601 ha)
- Other neutral grassland (2.3436 ha)
- Rural tree, medium (103 trees)
- Rural tree, small (103 trees)

Location (1:75,000):

Project:

Culham Battery Storage

Client:

Stratera Energy

Drawing Title:

Baseline Habitats

Drawing No.: EBD_2513_DR001

Scale (@A3): 1:3,300

Central Eastings, Northings: 453133, 196452

Date Drawn: 05/04/2024

Drawn by: ASp

Approved by: BG

Hampden House, Monument Park, Chalgrove, Oxon, OX44 7RW

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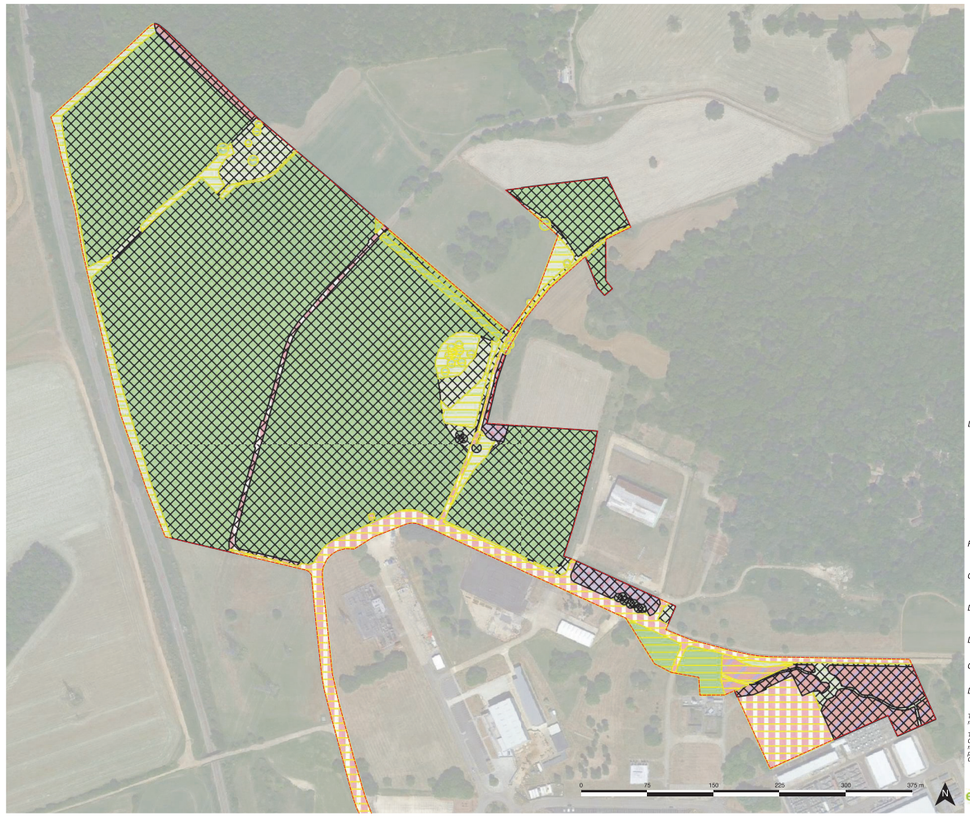

LEGEND

Site Boundary

- Site Boundary (26.91 ha)

Retained Habitats

- Bramble scrub (0.1486 ha)
- Buildings (0.0045 ha)
- Developed land; sealed surface (3.2679 ha)
- Modified grassland (0.5199 ha)
- Other neutral grassland (1.2742 ha)

Lost Habitats

- Blackthorn scrub (0.1357 ha)
- Bramble scrub (0.8769 ha)
- Developed land; sealed surface (0.2531 ha)
- Mixed scrub (0.281 ha)
- Modified grassland (19.0811 ha)
- Other neutral grassland (1.0694 ha)

Retained Trees

- Rural Tree, small (14 trees)
- Rural Tree, medium (6 trees)

Lost Trees

- Rural Tree, small (10 trees)
- Rural Tree, medium (1 trees)

Location (1:75,000):

Project:

Culham Battery Storage

Client:

Stratera Energy

Drawing Title:

Impacts

Drawing No.: EBD_2513_DR002

Scale (@A3): 1:3,300

Central Eastings, Northings: 453133, 196452

Date Drawn: 05/04/2024

Drawn by: ASp

Approved by: BG

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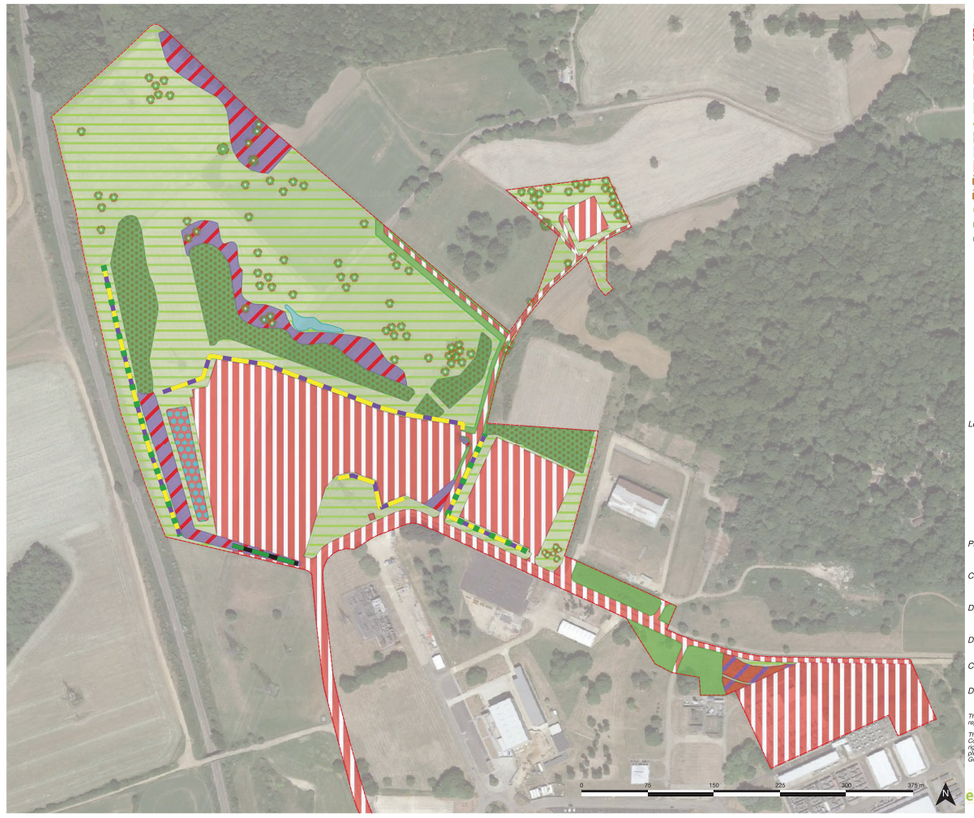

Appendix 3 - Photographs

Photograph 1: Modified grassland

Photograph 2: Other neutral grassland

Photograph 3: Mixed scrub

Photograph 4: Developed Land, sealed surface

Photograph 5: Scattered trees within other neutral grassland at the east of the site

Photograph 6: Bramble scrub in the south-east

Appendix 4 - Baseline Condition Assessment Tables

See accompanying excel spreadsheet

Appendix 5 - Proposed Condition Assessment Tables

See accompanying excel spreadsheet