

# Flaxlands Solar Farm

Biodiversity Net Gain Assessment

Ampyr Solar Europe

Project number: 60727989

June 2026

## Quality information

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|----------|---------------|---------------------------------------|------------|----------------|--------------------|
| 1        | 08/05/2025    | Draft for client comment              | TG         | Teresa Godfrey | Project Manager    |
| 1.1      | 13/05/2025    | Responding to client comments on V1.0 | TG         | Teresa Godfrey | Project Manager    |
| 2        | 23/04/2026    | Updated design layout                 | CH         | Chris Hill     | Technical Director |
| 2.1      | 08/06/2026    | Responding to LPA comments            | CH         | Chris Hill     | Technical Director |

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# 1. Introduction

AECOM was commissioned by Ampyr Solar Europe (the 'Applicant') to undertake a Biodiversity Net Gain (BNG) assessment in support of the planning application for Flaxlands Solar Farm. The Proposed Development comprises the installation of a 49.9 MW solar photovoltaic (PV) array and associated infrastructure, including a Battery Energy Storage System (BESS).

The Proposed Development is located approximately 1.7 km north of Royal Wootton Bassett and 3.2 km west of Swindon, Wiltshire, centred on Ordnance Survey National Grid Reference (NGR) SU 06910 85466. The area within the red line planning boundary is hereafter referred to as the 'Site', and is illustrated in Appendix A.

This BNG assessment quantifies the effects of the Proposed Development on biodiversity by comparing the baseline condition of habitats within the Site to the post-development scenario. The assessment considers habitat loss, retention, enhancement, and creation, and is undertaken using the Statutory Biodiversity Metric<sup>1</sup> (SBM), in accordance with the SBM User Guide<sup>2</sup> and BNG good practice principles<sup>3</sup>.

## 1.1 Site Description

The Site, indicated by the red line boundary on the 'Baseline Habitat Plan' (Appendix A), covers approximately 87 hectares and comprises two land parcels, connected by Flaxlands Lane which runs from south-west to north-east through the area. The Site supports the following broad habitat types:

- Grassland
- Heathland and shrub
- Lakes
- Woodland and forest
- Individual trees
- Hedgerows
- Ditches

The surrounding landscape is dominated by agricultural grassland. The M4 motorway lies approximately 150 m to the south, separating the Site from the built-up area of Royal Wootton Bassett.

The southern portion of the Site overlaps with Flaxlands Manor County Wildlife Site (CWS), while a second section of the CWS adjoins the northern Site boundary. The CWS is designated for its grassland habitats, including neutral pastures and hay meadows. However, National Vegetation Classification (NVC) surveys undertaken by AECOM<sup>4</sup> recorded modified grassland and other neutral grassland in the southern portion of the CWS.

## 1.2 Proposed Development

The Proposed Development involves the installation of a 49.9 MW solar array and associated BESS. Solar photovoltaic arrays will be situated in both land parcels, and the BESS located in the north of the Site. The lifetime of the Proposed Development is anticipated to be 40 years and is therefore considered permanent for the purposes of this BNG assessment. The Outline Landscape Masterplan<sup>5</sup> has been used to inform this assessment; the 'Post-Development Habitat Plan' visualises this and is provided in Appendix B.

It is understood that the Proposed Development will require clearance of vegetation, creation of access tracks for vehicles and machinery to access working areas and widening of gaps within hedgerows for access. Existing hedgerow gaps will be utilised for access as far as possible. The design describes access routes as 'access road' and 'perimeter track'. It is understood that the access roads will be constructed of an artificial unsealed surface (e.g. aggregate) and will be suitable for the use of heavy goods vehicles for the duration of the construction phase. They will remain in place for the lifetime of the Proposed Development and are considered a permanent feature. Perimeter tracks will be utilised by smaller vehicles, to transport items and workers throughout the Site. Perimeter tracks will be either compressed earth (seeded as grassland) or (if required, e.g. land is too soft / muddy for use

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<sup>1</sup> DEFRA (2023). [The Statutory Biodiversity Metric](#)

<sup>2</sup> DEFRA (2023). [The Statutory Biodiversity Metric User Guide](#)

<sup>3</sup> CIEEM, IEMA & ciria (2019). [Biodiversity Net Gain: Good Practice Principles for Development, A Practical Guide](#)

<sup>4</sup> AECOM (2024). Flaxlands Solar Farm – National Vegetation Classification Report.

<sup>5</sup> AECOM (2025). Flaxlands Solar Farm – Outline Landscape Masterplan.

by an offroad vehicle) constructed with a 'no dig method' through the placing of crushed stone and are therefore also considered permanent.

A construction compound will be located within the north of the Site, to enable transport throughout the Site. Vegetation within the footprint of the construction compound will be cleared, though this will not require the removal of any hedgerow or broadleaved trees. No artificial lighting will be required at the construction compound. This compound will be present for the duration of construction (six months).

## 1.3 Policy Context

### 1.3.1 National Legislation

It is Government policy that *"planning decisions should minimise impacts on and provide net gain for biodiversity"*<sup>6</sup>. As of 12 February 2024, BNG is mandatory under Schedule 7A of the Town and Country Planning Act 1990<sup>7</sup> (as inserted by Schedule 14 of the Environment Act 2021<sup>8</sup>). This requires all relevant developments (with a few exemptions<sup>9</sup>) to achieve a minimum 10% net gain in biodiversity units relative to the Site's baseline biodiversity value.

### 1.3.2 Local Planning Policy

The Wiltshire Core Strategy<sup>10</sup> includes Core Policy 50 – Biodiversity and geodiversity, which requires proposals to retain, buffer, and manage ecological features. Where this is not possible, development must minimise impacts and secure appropriate compensation to avoid a net loss of biodiversity. Major developments are expected to deliver biodiversity enhancements, contribute to ecological networks, and align with local Biodiversity Action Plans and River Basin Management Plans.

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<sup>6</sup> UK Government (2023). [National Planning Policy Framework](#)

<sup>7</sup> UK Government (2024). [Environment Act – Schedule 14](#).

<sup>8</sup> UK Government (2021). [Environment Act 2021](#)

<sup>9</sup> UK Government (2024). [Biodiversity Net Gain: Exempt Developments](#).

<sup>10</sup> Wiltshire Council (2015). [Wiltshire Core Strategy](#).

## 2. Methodology

### 2.1 Statutory Biodiversity Metric

A BNG assessment involves making a comparison between the biodiversity value of habitats present within the Site prior to development (i.e., the 'baseline') and the predicted biodiversity value of habitats following the completion of the development (i.e., 'post-development'). The comparison is made in terms of 'biodiversity units', with a 'biodiversity metric' providing the mechanism to allow biodiversity values to be calculated and compared.

The SBM calculates the overall loss or gain of biodiversity of development projects by assessing the distinctiveness (i.e., type of habitat and its value), condition, extent, and strategic significance of habitats on site pre- and post-development, including both permanent and temporary land-take areas. To achieve a BNG, the biodiversity unit score must have a post-development score higher than the baseline score.

When calculating the post-development biodiversity units, the SBM includes a series of standard 'risk multipliers' to account for the inherent risk of creating and restoring habitats, the time taken to establish habitats and the location of the mitigation in relation to the habitats lost on site. The risk multipliers have the effect of reducing the value of the proposed habitats, which means larger areas, habitats of higher distinctiveness, and/or conditions are required to mitigate losses and achieve net gain.

The SBM is guided by the following set of rules set out in Table 1. If these rules are not followed, BNG as defined by the Environment Act<sup>6</sup> cannot be justified.

**Table 1. SBM Rules**

| Rule                                                                                                         | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rule 1 – Trading rules                                                                                       | The trading rules are rules that try to prevent the 'trading down' of habitat distinctiveness. Under the trading rules, losses of habitat are to be compensated for on a "like for like" or "like for better" basis.                                                                                                                                                                                                                                                                                           |
| Rule 2 – The requirement to deliver at least a 10% net gain applies to each type of unit present on the Site | The SBM assesses and generates separate outputs for area habitats (measured in habitat units) and linear habitats, including hedgerows (measured in hedgerow units) and watercourses (measured in watercourse units). To claim a net gain in biodiversity, there must be an increase across all area, hedgerow and watercourse units, the units cannot be summed to give an overall biodiversity unit value, i.e. an increase in area and hedgerow units cannot be used to offset a loss in watercourse units. |
| Rule 3 – Use of SBM                                                                                          | Assessment must use the latest version of the SBM released by DEFRA.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Rule 4 – Exceptional circumstances required Local Planning Authority (LPA) engagement                        | In exceptional ecological circumstances, deviation from the SBM methodology may be permitted by the relevant planning authority.                                                                                                                                                                                                                                                                                                                                                                               |

The information required to undertake the BNG calculation is described below.

#### 2.1.1 Baseline Data

The following data have been utilised to determine the Site's baseline area, hedgerow and watercourse habitats, and is collectively hereafter referred to as the 'baseline' data:

- UKHab<sup>11</sup> data and condition assessment (as outlined in the SBM Condition Assessment Sheets<sup>12</sup>) collected by AECOM to inform the Preliminary Ecological Appraisal<sup>13</sup> (PEA) in May 2024. This data can be forwarded upon request;
- National Vegetation Classification (NVC) survey was undertaken within and adjacent to the Site in June 2024<sup>4</sup> to confirm the presence, extent and condition of priority grassland habitats within and adjacent to the Site boundary;
- A Modular River Survey (MoRPh) survey was carried out in October 2024 to identify the baseline watercourse habitats; and

<sup>11</sup> UKHab Ltd (2023). *UK Habitat Classification Version 2.0* online at [UK Habitat Classification](#).

<sup>12</sup> DEFRA (2024). [Statutory Biodiversity Metric Condition Assessments](#).

<sup>13</sup> AECOM (2024). Flaxlands Solar Farm – Preliminary Ecological Appraisal.

- An arboricultural assessment was undertaken by the AECOM arboricultural team in August-September 2024<sup>14</sup>, this has been consulted to confirm the number and location of veteran trees within the Site.

All data has been digitised in Geographic Information System (GIS) to provide area and length measurements of each habitat type. The data was aggregated and entered into the SBM to calculate the baseline biodiversity units.

## 2.1.2 Post-Development Data

The Outline Landscape Masterplan<sup>5</sup> has been used to determine the extent and type of habitats to be retained, created and enhanced post-development. Habitats described were converted to UKHab Classification categories<sup>11</sup>, see Appendix D. The classification of habitats as retained, enhanced or created has been undertaken in accordance with SBM definitions and reflects the scale of change in habitat type, condition and management.

These plans were then digitised into GIS to produce the 'Post-Development Habitat Plan' (Appendix B). Target condition scores for the proposed habitats were selected in accordance with the SBM User Guide<sup>2</sup>, and SBM Condition Assessment Sheets using professional judgement to ensure the condition scores selected were realistic. The rationale behind target conditions assigned is provided in Appendix C. This data was utilised to predict the post-development biodiversity units.

## 2.1.3 Habitat Distinctiveness

Habitat distinctiveness is a measure based on the type of habitat and its distinguishing features. Habitats of higher distinctiveness are typically rarer, more valuable, harder to recreate if impacted and are typically considered priority habitats. Habitats of lower distinctiveness are more common and are easier to recreate if impacted. Habitat distinctiveness ranges from 'Very High', 'High', 'Medium', 'Low' and 'Very Low'.

### 2.1.3.1 Trading Rules

DEFRA define the trading rules as: *"minimum habitat creation and enhancement requirements to compensate for specific habitat losses, up to the point of no net loss. They are based on the habitat type and distinctiveness of the lost habitat"*<sup>12</sup>. Trading rules apply to all habitat modules, with the offsetting requirements differing for each. See Table 2 for a summary of these requirements.

**Table 2. Trading Rules Summary**

| Habitat Distinctiveness | Area Habitats                                                                                                                                                                 | Hedgerow Habitats                                                                        | Watercourse Habitats                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Very High               | Priority should be given to replacing losses with area habitat units of the same habitat type                                                                                 | Losses must be replaced with hedgerow units of the same habitat type.                    | Priority should be given to replacing losses with watercourse units of the same habitat type |
| High                    | Losses must be replaced with area habitat units of the same habitat type                                                                                                      | Losses must be replaced with hedgerow units of the same habitat type or of a higher band | Losses must be replaced with watercourse units of the same habitat type                      |
| Medium                  | Losses must be replaced by area habitat units of either:<br>'Medium' distinctiveness habitat within the same broad habitat type or,<br>any habitat of higher distinctiveness. | Losses must be replaced with hedgerow units of the same or of a higher band              | Losses must be replaced with watercourse units of the same habitat type                      |
| Low                     | Losses must be replaced with area habitat units of the same or higher band                                                                                                    | Losses must be replaced with hedgerow units of the same or of a higher band              | Losses must be replaced with watercourse units of a higher band                              |
| Very Low                | Not applicable                                                                                                                                                                | Losses must be replaced with hedgerow units of the same or of a higher band              | Not applicable                                                                               |

## 2.1.4 Strategic Significance

The SBM requires that the strategic significance (hereafter referred to as 'SS') of all baseline and post-development habitats be analysed, defined, and justified. SS is the local significance of a habitat based on its location.

The Wiltshire and Swindon Local Nature Recovery Strategy<sup>15</sup> (LNRS) is currently under review and set to be published later in 2025, the mapping associated with this is not yet available. Because of this, SS has been

<sup>14</sup> AECOM (2024). Flaxlands Solar Farm – Tree Constraints Plan.

<sup>15</sup> UK Government (2023). [Local nature recovery strategies: responsible authorities.](#)

assigned to habitats using the alternative methodology, in line with guidance set out in the SBM User Guide<sup>2</sup>, taking into consideration the LNRS draft measures<sup>16</sup>, though these may be subject to change. The process of how the SS of a habitat is assessed is shown in Table 3.

**Table 3. Strategic Significance Guidance (no LNRS)**

| SS Category   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>High</b>   | Where there is no published LNRS, assign 'High' SS if: <ul style="list-style-type: none"> <li>The habitat type is mapped and described as locally ecologically important within a specific location within documents specified by the relevant planning authority.</li> <li>If the Proposed Development is proposed to contribute towards priorities or measures set out in the LNRS (or alternative strategy), assign 'Low' SS to the baseline habitat and 'High' SS to the proposed habitat.</li> </ul> |
| <b>Medium</b> | Where no suitable document has been produced for assessing SS, 'Medium' SS should be assigned if: <ul style="list-style-type: none"> <li>It can be explained how the habitat type is ecologically important within a specific location.</li> <li>It can be demonstrated the importance of that habitat in providing ecological linkage to other significant locations.</li> </ul> Medium SS may also be assigned utilising professional judgement where deemed appropriate.                               |
| <b>Low</b>    | Where the definitions for 'High' SS is not met.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

As part of this assessment, the following relevant documents were reviewed to determine the SS of the habitats on the Site:

- AECOM – Preliminary Ecological Appraisal<sup>13</sup>
- Wiltshire Council – Local Nature Recovery Strategy Measures<sup>16</sup>
- AECOM – Ecological Impact Assessment<sup>17</sup>
- Wiltshire Wildlife Trust – Wiltshire Biodiversity Action Plan (BAP)<sup>18</sup>

Justification of how SS has been assigned to baseline and post-development habitats has been provided in the Results section.

## 2.1.5 BNG Good Practice Principles for Development

The BNG Good Practice Principles for Development are a set of ten principles which “*set out good practice for achieving Biodiversity Net Gain and must be applied all together, as one approach*”<sup>3</sup>. These principles are as follows:

- 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 contribution
- 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

This assessment has adhered to this step-by-step process to ensure that best practices are followed. This is evidenced in Section 3.3 initially, with a more comprehensive breakdown provided in Appendix E.

<sup>16</sup> Wiltshire Council (2024) [Local Nature Recovery Strategy Measures](#)

<sup>17</sup> AECOM (2024). Flaxlands Solar Farm - Ecological Impact Assessment.

<sup>18</sup> Wiltshire Wildlife Trust (2008). [The Wiltshire Biodiversity Action Plan 2008](#).

## 2.2 Assumptions and Limitations

In undertaking the calculation, the following assumptions have been made:

- All habitat areas and lengths have been measured manually using ArcGIS, based on the UKHab data collected during the Preliminary Ecological Appraisal<sup>13</sup> and presented in the Outline Landscape Masterplan<sup>5</sup>. These measurements are approximate, and the associated habitat units presented in this report provide an indicative representation of both baseline and post-development habitat values.
- Guidance published by Building Research Establishment<sup>19</sup> recognises that on average 95% of a site used for solar farm development is *“still accessible for plant growth and potentially for wildlife enhancements and complementary agricultural activities such as conservation grazing”*. An approach has been adopted whereby 95% of the Solar PV panel footprint is classified as ‘Grassland – Modified grassland’, with the remaining 5% classified as ‘Urban – Developed land; sealed surface’ to account for panels and supporting infrastructure. This approach has been assumed for this assessment and is understood to be supported by the Royal Society for the Protection of Birds<sup>20</sup>.

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<sup>19</sup> BRE (2014). [Biodiversity Guidance for Solar Developments](#).

<sup>20</sup> RSPB (2017). RSPB Policy Briefing, May 2017.

## 3. Results

### 3.1 Baseline Habitats

The Site covers a total of 87.09 ha and supports a range of habitats varying in ecological distinctiveness from 'Very Low' to 'Very High'. The most widespread habitat is Modified Grassland, with substantial areas of Other Neutral Grassland also present. In addition, the Site supports approximately 9.95 km of hedgerow habitat and 0.09 km of ditch habitat.

The Baseline Habitat Plan is provided in Appendix A, and detailed habitat descriptions are available in the Preliminary Ecological Appraisal<sup>13</sup>.

#### 3.1.1 Habitat Degradation

Under Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021<sup>8</sup>), LPAs may consider any habitat degradation or deliberate destruction since 30 January 2020 when determining the baseline for BNG.

No evidence of intentional habitat degradation or biodiversity value loss was observed on Site since the specified date.

#### 3.1.2 Irreplaceable Habitat

Five veteran trees were recorded on Site, ranging in size from 'Medium' to 'Very Large':

T117 – Large

T153 – Medium

T249 – Large

T294 – Very Large

T295 – Very Large

T366, T379, T386 and T416 were also identified as veteran trees located in close proximity to the Site but fall outside the BNG assessment boundary. These trees are considered irreplaceable habitats and will be retained in full. Further details are provided in the Arboricultural Impact Assessment<sup>21</sup>.

#### 3.1.3 Baseline Habitats – SS

As per Section 2.1.3, SS has been assigned to all baseline habitats as follows:

- **'High' SS:**
  - All grassland habitats within the Flaxlands Manor CWS, in line with the site's designation for grassland value.
  - Woodland, trees (including veteran trees), hedgerows, and ponds identified in the draft LNRS within the CWS.
- **'Medium' SS:**
  - The above habitat types, where located outside the CWS, recognising their role in supporting ecological connectivity and protected species.
  - Mixed scrub habitat, though not specifically listed in the BAP or LNRS, has been assigned Medium SS due to its potential to support priority species such as the Duke of Burgundy butterfly *Hamearis lucina*, which is associated with neutral grassland, woodland, and mosaic habitats.
- **'Low' SS:**
  - Assigned to Modified Grassland outside the CWS, Hardstanding, and Buildings, given their low ecological value, limited connectivity, and absence from local priority habitat lists.

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<sup>21</sup> AECOM (2024). Flaxlands Solar Farm – Arboricultural Impact Assessment.

### 3.1.4 Baseline Habitats – Units

Baseline biodiversity values are calculated as follows:

- Area habitats: 429.32 units
- Hedgerow habitats: 80.80 units
- Watercourse habitats: 0.41 units

Refer to Appendix F for detailed metric outputs.

## 3.2 Post-Development Habitats

The Outline Landscape Masterplan<sup>5</sup> proposes the retention of 3.58 ha of existing habitat and the enhancement of 15.10 ha of existing habitat, as well as the creation of 68.42 ha of new area habitat to compensate for losses resulting from the Proposed Development. All target habitat conditions have been selected to be realistic and achievable over the management period, taking into account site constraints and the proposed management regime.

Grassland creation, enhancement and retention form a key part of the BNG strategy for the Proposed Development. This is explained in detail below.

### 3.2.1 Grassland Strategy

#### 3.2.1.1 Flaxlands Manor County Wildlife Site

To adopt a precautionary approach, in cases where baseline grasslands are materially different from the target habitat in terms of composition, structure and botanical diversity, the proposed interventions have been classified as habitat creation rather than enhancement. This reflects the scale of change required to achieve the target condition, as set out in the oLEMP, which includes measures such as nutrient reduction, soil preparation, introduction of species-rich seed mixes, and, where practicable, the use of green hay from donor sites to establish a diverse sward.

For example, within Flaxlands Manor CWS, areas of baseline modified grassland proposed to be converted to lowland meadow have been assessed as created habitat. In these locations, the baseline sward is of low botanical diversity and does not exhibit the characteristics of semi-natural grassland; therefore, the proposed interventions represent a fundamental change in habitat type rather than an uplift in condition.

In contrast, areas of baseline other neutral grassland already exhibiting semi-improved characteristics (e.g. moderate species diversity and appropriate sward structure) are proposed to be enhanced to lowland meadow through diversification and changes in management. In these cases, the underlying habitat type is retained, and the interventions represent an improvement in condition, and have therefore been captured as habitat enhancement within the assessment.

#### 3.2.1.2 Solar Panel Area Approach

In areas proposed to have solar panels, to adopt a precautionary approach, habitat proposed in these areas comprises the creation of modified grassland in moderate condition. In some cases, the baseline habitat in these areas is modified grassland; however, these areas have not been treated as retained due to the fundamental change in circumstances associated with the installation of panels, including increased shading and potential disturbance during construction.

That said, a target condition of moderate has been selected on the basis of the management and establishment measures set out within the oLEMP, including nutrient reduction, appropriate ground preparation, and the introduction of a more diverse sward through seeding and/or natural regeneration. While recognising that localised variation in sward composition may occur beneath panels, the proposed low-intensity management regime and diversification measures are expected to facilitate an overall improvement in habitat quality across these areas, such that moderate condition is considered a realistic and achievable target.

This approach is considered precautionary and ensures that the post-development scenario does not rely on the retention of baseline habitat condition where environmental conditions will change.

#### 3.2.1.3 Other Neutral Grassland Strategy

In areas where other neutral grassland is present within the baseline, this habitat has been retained where practicable in accordance with the mitigation hierarchy. Where baseline other neutral grassland is in good condition, it has been assessed as retained.

Where areas of baseline other neutral grassland were identified as being in poor condition, these have been targeted for enhancement to good condition. This uplift is supported by the measures set out within the oLEMP, including changes to management (e.g. reduced cutting frequency and removal of arisings), alongside diversification through appropriate seeding and/or natural regeneration. These interventions are expected to improve sward composition, structure and botanical diversity, such that good condition is considered a realistic and achievable target.

In areas where other neutral grassland is proposed in new locations, this has been assessed as habitat creation, with a target condition of good. This reflects the application of similar establishment and management measures, including appropriate ground preparation, seeding, and long-term low-intensity management. On this basis, the delivery of good condition other neutral grassland is considered achievable over the management period.

### 3.2.2 Hedgerows, Watercourses and Supporting Habitats

Additional proposals include new hedgerow planting and 'gapping up', both of which are treated as habitat creation for BNG purposes. Areas allocated to access tracks and solar infrastructure are also included in the habitat creation total.

Approximately 0.08 km of hedgerow will be lost due to access widening. To mitigate this, 2.23 km of hedgerow is proposed for enhancement and 0.91 km for creation. No ditch habitats will be lost or crossed by infrastructure. Fencing will ensure exclusion from the ditch corridor, and the existing 0.09 km of ditch will be enhanced to support delivery of a minimum 10% BNG.

The Post-Development Habitat Plan is provided in Appendix B. SS assignments for post-development habitats follow the same principles as those used for baseline habitats.

### 3.2.3 Retained, Enhanced and Created Habitat Units

A breakdown of biodiversity units to be retained, enhanced, and created is provided below and detailed further in Appendix F:

- **Retained Units:**
  - Area habitats: 43.96 units
  - Hedgerow habitats: 57.74 units
  - Watercourse habitats: 0.00 units
- **Enhanced Units:**
  - Area habitats: 149.98 → 207.98 units (uplift of 58.00 units)
  - Hedgerow habitats: 22.35 → 32.22 units (uplift of 9.87 units)
  - Watercourse habitats: 0.41 → 0.76 units (uplift of 0.35 units)
- **Created Units:**
  - Area habitats: 253.05 units
  - Hedgerow habitats: 7.83 units
  - Watercourse habitats: 0.00 units

## 3.3 Application of the Mitigation Hierarchy

To minimise biodiversity loss and align with the mitigation hierarchy, avoidance and minimisation have been prioritised wherever possible. Compensation has been considered only where necessary.

### 3.3.1 Avoidance

Buffers have been incorporated around key ecological features to prevent direct impacts, as summarised in Table 4. Notably, a hedgerow with potential to support hazel dormouse in the northern extent of the Site was removed from the development boundary to avoid harm to this feature.

A similar approach has been taken for areas of lowland meadow, which have been avoided within the Site layout where practicable.

In addition, the grassland strategy has been informed by the avoidance principle. Areas of higher value grassland, including good condition other neutral grassland, have been retained in situ where practicable, with the layout of solar infrastructure designed to avoid these areas. This has reduced the extent of direct habitat loss and enabled these habitats to be maintained and, where appropriate, enhanced.

**Table 4. Avoidance Buffers Applied to Ecological Features**

| Ecological Feature                       | Agreed Buffer Zone                                                                                                                            |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Watercourses (rivers and ditches)        | No works within 10 m                                                                                                                          |
| Waterbodies (ponds)                      | No works within 10 m                                                                                                                          |
| Ancient woodland designations            | No works within 30 m (except for existing road access); mitigation as per Arboricultural Impact Assessment (AIA).                             |
| Woodland and individual trees            | No works within 15 m; mitigation as per AIA                                                                                                   |
| Trees with suitability for roosting bats | No works within 15 m (except for access); mitigation as per AIA<br>No solar PV panels within 20 m<br>No buildings or hardstanding within 30 m |
| Hedgerows                                | No works within 10 m (except for access)<br>No solar PV panels within 10 m                                                                    |

### 3.3.2 Minimise

Vegetation clearance has been minimised to the extent necessary to facilitate the Proposed Development. Where hedgerow access is necessary, existing gaps will be prioritised, and pruning will be used instead of full removal wherever feasible.

The design of the Proposed Development has also sought to minimise impacts on grassland habitats. Within solar panel areas, existing grassland is largely retained in situ, with only limited and temporary disturbance anticipated during construction. A precautionary approach has been adopted within the BNG assessment to account for this disturbance; however, the implementation of appropriate soil handling, ground preparation and reinstatement measures will minimise long-term impacts on habitat condition.

Where baseline grassland is of lower ecological value (e.g. modified grassland or poor condition other neutral grassland), impacts have been minimised by integrating enhancement measures into the design, including diversification through seeding and the adoption of low-intensity management regimes. This approach reduces the overall magnitude of biodiversity loss and supports recovery and improvement in habitat condition over time.

## 3.4 Summary of Results

All baseline, retained, enhanced, and created habitats are included in the accompanying SBM assessment (Appendix F). Table 5 summarises the unit change and net gain across habitat types.

**Table 5. Summary of Results**

| Habitat Type      | Baseline | Post-Development | Total Net Unit Change | Total Net % Change |
|-------------------|----------|------------------|-----------------------|--------------------|
| Area Units        | 429.32   | 504.98           | 75.67                 | 17.63%             |
| Hedgerow Units    | 80.80    | 97.80            | 17.00                 | 21.04%             |
| Watercourse Units | 0.41     | 0.76             | 0.34                  | 82.98%             |

### 3.4.1 Trading Rules

#### 3.4.1.1 Area Habitats

The SBM trading rules are met for each distinctiveness level. Losses of Medium and Low distinctiveness habitats are offset by gains in Very High distinctiveness Lowland Meadow habitats. A breakdown of changes is provided in Table 6.

**Table 6. Trading Rules – Area Habitats**

| Broad Habitat | Habitat Type | Distinctiveness Group | Trading Rule | Unit Change per habitat | Trading Satisfied? |
|---------------|--------------|-----------------------|--------------|-------------------------|--------------------|
|---------------|--------------|-----------------------|--------------|-------------------------|--------------------|

|                  |                         |         |                                                                 |              |      |
|------------------|-------------------------|---------|-----------------------------------------------------------------|--------------|------|
| Grassland        | Lowland Meadows         | V. High | Bespoke compensation likely to be required                      | 212.13       | Yes  |
| Grassland        | Other neutral grassland | Medium  | Same broad habitat or a higher distinctiveness habitat required | -202.25      | Yes* |
| Individual trees | Rural tree              |         |                                                                 | -2.29        |      |
| Grassland        | Modified Grassland      | Low     | Same distinctiveness or better habitat required                 | 68.08        | Yes  |
| <b>Total</b>     |                         |         |                                                                 | <b>75.86</b> |      |

\*Satisfied due to cumulative surplus of units available

### 3.4.1.2 Hedgerow Habitats

Trading rules are also satisfied for all hedgerow habitats. Losses of lower distinctiveness hedgerows are more than compensated for by gains in Medium and High distinctiveness types, see Table 7.

**Table 7. Trading Rules – Hedgerow Habitats**

| Habitat Group                           | Distinctiveness Group | Trading Rule                                    | Unit Change per habitat | Trading Satisfied? |
|-----------------------------------------|-----------------------|-------------------------------------------------|-------------------------|--------------------|
| Species-rich native hedgerow with trees | High                  | Like for like or better                         | 6.74                    | Yes                |
| Species-rich native hedgerow            | Medium                | Same distinctiveness or better habitat required | 9.10                    | Yes                |
| Native hedgerow with trees              |                       |                                                 | 0.00                    |                    |
| Native hedgerow                         | Low / V. Low          | Same distinctiveness or better habitat required | 1.16                    | Yes                |
| <b>Total</b>                            |                       |                                                 |                         | <b>17.00</b>       |

### 3.4.1.3 Watercourse Habitats

No loss of ditch habitat is proposed, and only enhancement is planned. The trading rules are therefore met for this habitat type.

## 4. Conclusion

The Proposed Development is predicted to achieve the following net gains:

- Area habitats: +17.63%
- Hedgerow habitats: +21.04%
- Watercourse habitats: +82.98%

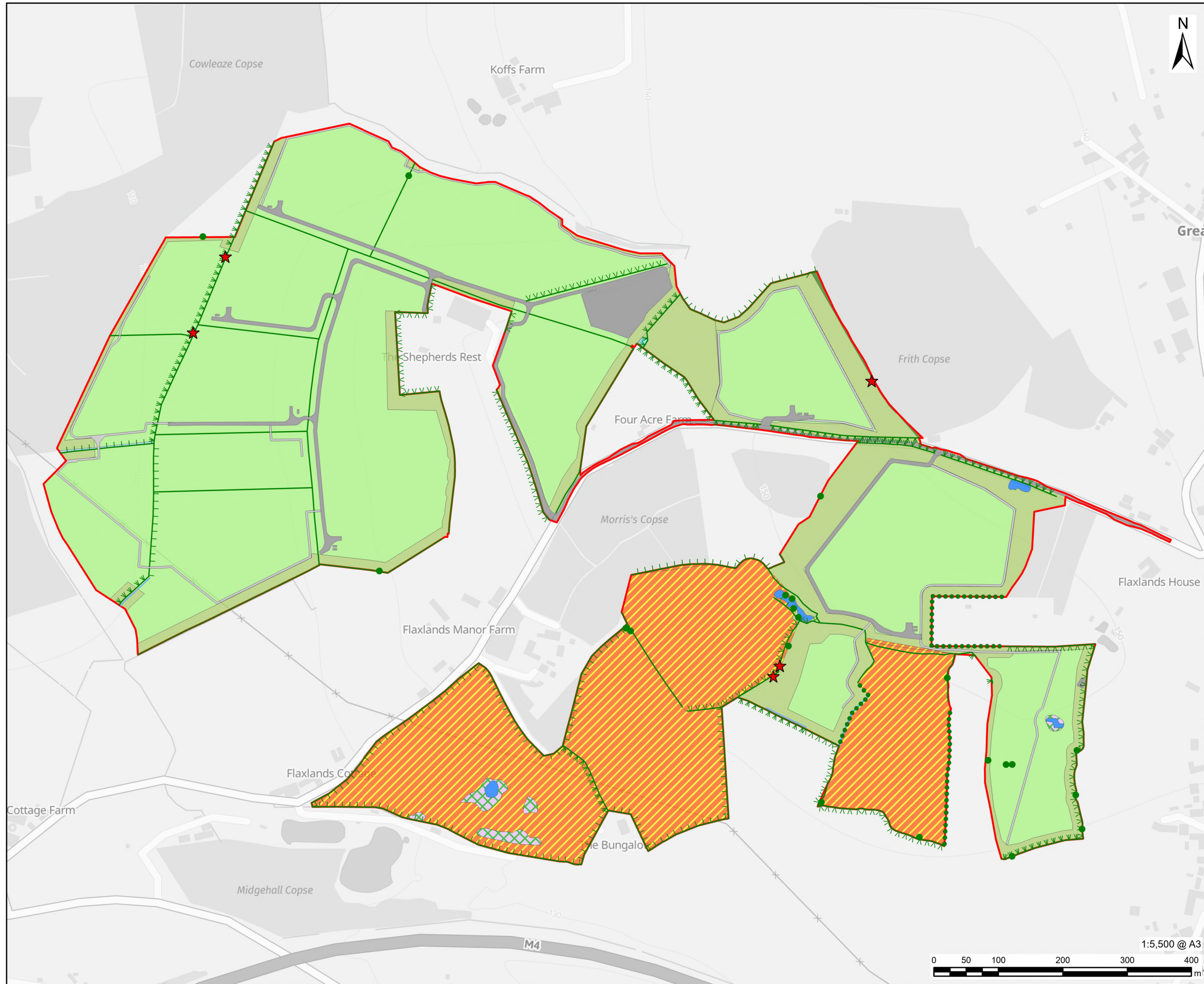
This exceeds the statutory minimum of 10% net gain for each habitat type.

The achievement of these gains depends on the successful establishment and management of all retained, enhanced, and created habitats to their target conditions, in accordance with the criteria set out in the SBM User Guide. Ongoing monitoring and adaptive management will be essential to ensure delivery of these outcomes. Remedial actions may be required where habitats fail to progress toward their intended condition.

## Appendix A Baseline Habitat Plan



## Appendix B Post-Development Habitat Plan



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## Appendix C Post-Development Target Conditions

| Broad Habitat | Habitat Type                 | Condition Sheet | Condition Sheet Criteria |     |     |     |     |     |     |     |     |     |   |   |   | Score | Condition | Notes                                                                                                                                                                                                         |
|---------------|------------------------------|-----------------|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|---|-------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                              |                 | A /                      | B / | C / | D / | E / | F / | G / | H / | I / | J / | K | L | M |       |           |                                                                                                                                                                                                               |
|               |                              |                 | A1                       | A2  | B1  | B2  | C1  | C2  | D1  | D2  | E1  | E2  |   |   |   |       |           |                                                                                                                                                                                                               |
| Grassland     | Modified grassland           | 6               | Y                        | Y   | Y   | N   | Y   | Y   | Y   |     |     |     |   |   |   | 5     | Moderate  | Moderate condition will be targeted through achieving criteria A, B, C, E, F and G, with adaptive management to support structural diversity and species richness.                                            |
| Grassland     | Other neutral grassland      | 6               | Y                        | Y   | Y   | N   | Y   | Y   | -   | -   | -   | -   | - | - | - | 5     | Good      | Good condition will be targeted through meeting all relevant criteria, with particular emphasis on achieving species richness and appropriate sward structure through cut-and-collect and/or grazing regimes. |
| Grassland     | Lowland meadows              | 6               | Y                        | Y   | Y   | Y   | N   | Y   | -   | -   | -   | -   | - | - | - | 5     | Good      | Areas subject to enhancement will target Good condition where baseline characteristics allow. Areas of habitat creation will target Good condition.                                                           |
|               | Species-rich native hedgerow | 8               | Y                        | Y   | Y   | Y   | Y   | Y   | Y   | Y   | -   | -   | - | - | - | 8     | Good      | All criteria will be targeted for hedgerows.                                                                                                                                                                  |

## Appendix D Post-Development Habitat Classification Conversions

| Outline Landscape Masterplan Classification                                      | UKHab Classification                             |
|----------------------------------------------------------------------------------|--------------------------------------------------|
| Existing Tree to be Retained                                                     | Retained Baseline                                |
| Existing Hedgerow with Trees to be Strengthened                                  | Baseline Enhanced                                |
| Existing Hedgerow with Trees to be Retained                                      | Retained Baseline                                |
| Existing Hedgerow to be Retained                                                 | Retained Baseline                                |
| Existing Woodland Fringe to be Retained                                          | Retained Baseline                                |
| Proposed New Native Hedgerow                                                     | Species-rich native hedgerow                     |
| Proposed Modified Grassland (Under Solar Panels)                                 | Grassland – Modified grassland                   |
| Proposed / Retained Semi-Improved (Neutral) Grassland                            | Grassland – Other neutral grassland              |
| Proposed Lowland Meadow (Neutral) Grassland (formed by creation and enhancement) | Grassland – Lowland meadows                      |
| Proposed Location of Substation                                                  | Urban – Developed land; sealed surface           |
| Proposed BESS Units                                                              | Urban – Developed land; sealed surface           |
| Proposed BESS Management Unit                                                    | Urban – Developed land; sealed surface           |
| Access Track                                                                     | Urban – Artificial unvegetated, unsealed surface |

## Appendix E BNG Good Practice Principles for Development

| Principle                                                                              | How has this been applied in the assessment                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Principle 1: Apply the Mitigation Hierarchy</b>                                     | The mitigation hierarchy has been followed by minimising vegetation clearance, particularly of hedgerows. Existing gaps in hedgerows are utilised for access wherever possible. The Site boundary was refined during project development to avoid high-value grassland. Buffers have been incorporated around high ecological value features, including hedgerows, trees, ancient woodland, ponds, and watercourses, to avoid impacts. |
| <b>Principle 2: Avoid losing biodiversity that cannot be offset by gains elsewhere</b> | No works are proposed within irreplaceable habitats, such as veteran trees. A buffer has been applied around ancient woodland along the Site boundary to avoid adverse effects.                                                                                                                                                                                                                                                        |
| <b>Principle 3: Be inclusive and equitable</b>                                         | Although the Site requires fencing for security, existing Public Rights of Way (PRoWs) will be retained and diverted within the same fields to allow continued access during operation. The landscape design considers PRoW routes to ensure usability and integration.                                                                                                                                                                |
| <b>Principle 4: Address risks</b>                                                      | Risks such as delays in habitat establishment have been accounted for. As construction is expected to last six months, habitat reinstatement is planned to occur within one year of commencement, reducing temporal gaps in biodiversity delivery.                                                                                                                                                                                     |
| <b>Principle 5: Make a measurable Net Gain contribution</b>                            | The Proposed Development achieves measurable biodiversity gains, exceeding the statutory 10% requirement through targeted on-site habitat creation and enhancement.                                                                                                                                                                                                                                                                    |
| <b>Principle 6: Achieve the best outcomes for biodiversity</b>                         | Optimal outcomes have been pursued by prioritising avoidance of impacts to valuable habitats. Where impacts are unavoidable, mitigation has focused on delivering priority habitats, including lowland meadow.                                                                                                                                                                                                                         |
| <b>Principle 7: Be additional</b>                                                      | Biodiversity enhancements proposed are above and beyond existing legal or policy obligations and would not occur without the Proposed Development, and are therefore considered additional.                                                                                                                                                                                                                                            |
| <b>Principle 8: Create a net gain legacy</b>                                           | A long-term management and monitoring regime will be implemented, particularly in areas supporting species-rich grassland or lowland meadow, to secure the biodiversity gains over the lifetime of the development.                                                                                                                                                                                                                    |
| <b>Principle 9: Optimise sustainability</b>                                            | The development delivers renewable energy through solar PV while embedding biodiversity enhancements, contributing to climate and ecological objectives in tandem.                                                                                                                                                                                                                                                                     |
| <b>Principle 10: Be transparent</b>                                                    | All assumptions, data sources, and methods used in the BNG assessment are clearly presented in this report and its associated appendices.                                                                                                                                                                                                                                                                                              |

# Appendix F SBM Calculation

SBM to be included as an attachment.

| FINAL RESULTS                                                                                                                |                   |                |                |                                                            |
|------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|----------------|------------------------------------------------------------|
| Total net unit change<br><small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small> | Habitat units     | 75.67          |                |                                                            |
|                                                                                                                              | Hedgerow units    | 17.00          |                |                                                            |
|                                                                                                                              | Watercourse units | 0.34           |                |                                                            |
| Total net % change<br><small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>    | Habitat units     | 17.63%         |                |                                                            |
|                                                                                                                              | Hedgerow units    | 21.04%         |                |                                                            |
|                                                                                                                              | Watercourse units | 82.98%         |                |                                                            |
| Trading rules satisfied?                                                                                                     | Yes ✓             |                |                |                                                            |
|                                                                                                                              |                   |                |                |                                                            |
| Unit Type                                                                                                                    | Target            | Baseline Units | Units Required | Unit Deficit                                               |
| Habitat units                                                                                                                | 10.00%            | 429.32         | 472.25         | 0.00                                                       |
| Hedgerow units                                                                                                               | 10.00%            | 80.80          | 88.88          | 0.00                                                       |
| Watercourse units                                                                                                            | 10.00%            | 0.41           | 0.46           | 0.00                                                       |
|                                                                                                                              |                   |                |                | No additional area habitat units required to meet target ✓ |
|                                                                                                                              |                   |                |                | No additional hedgerow units required to meet target ✓     |
|                                                                                                                              |                   |                |                | No additional watercourse units required to meet target ✓  |

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