

# Heckington Fen Solar Park

EN010123

## Appendix 8.13 – Biodiversity Net Gain Assessment Report

Applicant: Ecotricity (Heck Fen Solar) Limited

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## BIODIVERSITY NET GAIN ASSESSMENT – REPORT

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## **1. INTRODUCTION**

### **1.1 Introduction**

- 1.1.1 This Biodiversity Net Gain (BNG) assessment has been prepared by Ecotricity (hereafter referred to as the 'Applicant'). The assessment has been undertaken upon land to the north of East Heckington where the Energy Park will be developed, inclusive of the ground mounted solar photovoltaic (PV) electricity generation and energy storage facility, (hereafter referred to as the 'Site'). The assessment has been conducted to inform the development of Heckington Fen Energy Park at the Site (hereafter referred to as the 'Proposed Development').
- 1.1.2 BNG is an approach that seeks to deliver measurable net gains in biodiversity through the planning process. BNG is measured using a Biodiversity Metric published by DEFRA<sup>1</sup>. The metric calculations compare the sites baseline biodiversity unit value with that following the construction of the Proposed Development. These calculations consider the level of proposed habitat loss, retention, enhancement and/or creation occurring across three distinct habitat groups; area-based habitats, hedgerows and watercourses.
- 1.1.3 The successful delivery of BNG relies upon the correct application of the 'mitigation hierarchy'. This approach prioritizes preventative actions, including the avoidance and minimization of developmental impacts, over remediative actions, such as the compensation or offsetting of habitat loss. BNG strategies for proposed developments also need to satisfy the metrics habitat trading rules and be seen to meet peer accepted best practice principles<sup>2</sup>.

### **1.2 Site Description**

- 1.2.1 The Energy Park Site is bounded by a drainage ditch which lies directly to the south of the Head Dike, which runs along the northern boundary, Holland Dike to the east, the A17 Sleaford to Holbeach road to the south and B1395 Sidebar Lane and agricultural land to the west, extending to approximately 524ha. The Energy Park Site lies wholly within North Kesteven District, abutting Boston Borough boundary along the eastern edge.
- 1.2.2 Land within the Energy Park Site is in arable use and is subdivided into rectilinear parcels by long linear drainage ditches that lie principally north-south, connected east-west by shorter ditches including Labour in Vain Drain. The ditches have an engineered profile, colonised in part by emerging aquatic plant species.
- 1.2.3 The Energy Park Site is very flat and low-lying at between 2m and 3m above Ordnance Datum (AOD) and is predominantly within Flood Zones 2 and 3, with a narrow ribbon of Flood Zone 1 occurring along the southern edge and south-western corner of the Energy Park Site.
- 1.2.4 Six Hundreds Farm lies in the eastern third of the Energy Park Site, with access gained from Six Hundreds Drove via the A17. Two further access tracks lie off the A17 adjacent Rectory Farm in the centre of the Energy Park Site and at Elm Grange in the southwest corner, these in turn connect to Crab Lane toward the northeast corner of the Energy Park Site, and then to Sidebar Lane. The access tracks follow ditch alignments.

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<sup>1</sup> Natural England (2021) The Biodiversity Metric 4.0 (JP039)

<sup>2</sup> CIEEM, CIRIA, IEMA . (2016). Biodiversity net gain. Good practice principles for development

- 1.2.5 Land within Six Hundreds farms on the eastern side of the Energy Park Area has been brought into Mid-Tier Countryside Stewardship Scheme with the provision of 4-6m grass margins around the majority of field boundaries. There are also grass tracks around a number of the fields on Elm Grange on the western section of the Energy Park Area (see Appendix 8.4: Further Phase 1 Habitat Report (document ref: 6.3.8.4, APP-193)). Intermittent shrubs and gappy defunct hedgerows occur along six field margins of the Energy Park Site. There are four small plantation woodland blocks and a number of isolated trees in the field boundaries within the Energy Park.
- 1.2.6 The Cable Route Corridor for the proposed Off-Site Grid Connection will run south from the Energy Park Site, from the east of the Energy Park. This then crosses the A17, the South Forty Foot Drain and the railway. The underground cable will connect into the existing Bicker Fen Substation.

### **1.3 The Proposed Development**

- 1.3.1 Heckington Fen Solar Park Development Consent Order (DCO) allows for the construction, operation (including maintenance), and decommissioning of a ground mounted solar photovoltaic (PV) electricity generation and energy storage facility (hereafter referred to as "the Energy Park"), cable route to, and above and below ground works at, the National Grid Bicker Fen Substation (inclusive of Energy Park)) on land at Six Hundreds Farm, Six Hundreds Drove, East Heckington, Sleaford, Lincolnshire
- 1.3.2 The Proposed Development will be located within the Order limits (the land shown on the Works Plans (document reference 2.2, PINS APP-074)).

### **1.4 Legislation, Policy and Guidance**

#### **Our Green Future: A 25-year plan to improve the environment.**

- 1.4.1 In England DEFRA's 25-year environment plan<sup>3</sup> forms the key policy driver for both terrestrial and marine net gain. The plan includes a commitment to embed environmental net gain into policy and legislation.

#### **The Environment Act (2021)**

- 1.4.2 The Environment Act<sup>4</sup> (2021) includes provisions for the protection and improvement of the natural environment. The Act seeks to deliver this through development by making BNG a mandatory requirement within the planning system. It is intended that developments within the scope of the Town and Country Planning Act, with some exemptions, will need to demonstrate a minimum 10% net gain by early 2024, whilst developments that qualify as Nationally Significant Infrastructure Projects (NSIPs) under the Planning Act 2008 will need to demonstrate a minimum 10% net gain from 2025.
- 1.4.3 Under the Act, demonstrating a developments delivery of BNG is calculated by comparing the sites baseline biodiversity unit value with that following development using the Acts adopted DEFRA Metric.

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<sup>3</sup> DEFRA (2018) A Green Future: Our 25 Year Plan to Improve the Environment

<sup>4</sup> UK Parliament. (2021). Environment Act 2021. Retrieved from <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

### **National Planning Policy Framework (NPPF)**

1.4.4 The National Planning Policy Framework<sup>5</sup> (NPPF), makes general provisions for the delivery of BNG. The NPPF states that “planning policies and decisions should... identify and pursue opportunities for securing measurable net gains for biodiversity”.

### **Local Planning Policy**

1.4.5 Table 8.5 of Chapter 8: Ecology and Ornithology sets out the relevant planning policy associated with the ecological aspects of the DCO, of particular relevance to the BNG assessment are the following local planning policies:

- Policy LP20: ‘Green Infrastructure Network’ of the 2017 Central Lincolnshire Local Plan;
- Policy LP21: ‘Biodiversity and Geodiversity’ of the 2017 Central Lincolnshire Local Plan;
- Policy S60 ‘Protecting Biodiversity and Geodiversity’ of the Central Lincolnshire Local Plan Review Proposed Submission;
- Policy S61: ‘Biodiversity Opportunity and Delivering Measurable Net Gains’ of the Central Lincolnshire Local Plan Review Proposed Submission, and
- Policy 28: ‘The Natural Environment’ of the South East Lincolnshire Local Plan 2011-36

### **BNG Guidance**

1.4.6 The following publications have also been used to inform the BNG assessment:

- BNG Metric 4.0 User Guide<sup>6</sup>;
- BNG Metric 4.0 Technical Supplement<sup>7</sup>;
- BNG Metric 4.0 Condition Assessment Sheets<sup>8</sup>;
- The Good Practice Principles for Development, A Practical Guide for the assessment and delivery of BNG;
- BS 8683:2021, the British Standard for Biodiversity Net Gain<sup>9</sup>, and
- CIEEM Biodiversity Net Gain Report & Audit Templates document<sup>10</sup>.

## **1.5 Biodiversity Net Gain Target**

1.5.1 The Proposed Development will aim to deliver a BNG uplift of 60% in habitat units. It is understood that appropriate mechanisms to ensure delivery will be secured through the DCO during the inspection process.

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<sup>5</sup> Ministry Housing, Community & Local Government. (2021, March 27). National Planning Policy Framework. Retrieved from Gov.UK: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>6</sup> DEFRA (2023) BNG Metric 4.0 User Guide Retrieved from Natural England: <https://publications.naturalengland.org.uk/file/6188841413902336>

<sup>7</sup> DEFRA (2023) BNG Metric 4.0 Technical Supplement. Retrieved from: <https://publications.naturalengland.org.uk/file/6653727197626368>

<sup>8</sup> DEFRA (2023) BNG Metric 4.0 Condition Assessment Sheets. Retrieved from: <https://publications.naturalengland.org.uk/file/4510441569779712>

<sup>9</sup> British Standards Institute. (2021). BS8683 - Process for designing and implementing biodiversity net gain.

<sup>10</sup> British Standards Institute. (2021). BS8683 - Process for designing and implementing biodiversity net gain.

## 1.6 Development Consent Order Consultation Process

- 1.6.1 This report forms part of the Deadline 2 submission for the Heckington Fen Solar Farm DCO and updates the original BNG Metric to a Revision 2 from the submitted version presented during pre-examination at Appendix 8.12 (document reference 6.3.8.12/APP-202).
- 1.6.2 Changes in the reported BNG totals have arisen from incorporating comments received from AECOM (on behalf of North Kesteven District Council (NKDC)) and updating the metric version from Metric v3.1 to Metric v4.0.
- 1.6.3 Comments received from NKDC’s ecological advisors in relation to BNG are summarised in Table 1:

**Table 1: Comments submitted by NKDC’s ecological advisors**

Comment	Response
<p>Landscaping strategy (Documents 6.2.6 and 7.8) cannot be agreed until a complete BNG assessment. This was requested at PEI stage and is otherwise a requirement of the good practice guidance accompanying Metric 3.1. Comparable local guidance has also been published with the Central Lincolnshire Local Plan. All good practice requirements need to be met, and any divergences or use of professional judgement fully explained.</p> <p>The level of detail is sufficient to understand what is being offered in broad terms, but it does not represent a full specification suitable to set terms of reference for agreement of the detailed plan later as a Requirement. The quantum of BNG that can be achieved (while likely to be over 10%) cannot be agreed until sufficient information has been provided to verify the applicant’s BNG calculations.</p>	<p>The submission of this BNG Assessment seeks to address these points.</p>
<p>Details are not provided on the proposed grassland seed mixtures, or how it is intended to create the habitat.</p> <p>It is not clear that this is enhancement rather than habitat creation for BNG assessment purposes.</p> <p>I do not agree that over-sowing of existing grassland headlands alone is likely to be sufficient to establish species rich grassland.</p>	<p>Table 3 in this report lists preferred seed mixes. Seed mixes will be tailored to the site following detailed soil sampling proposed to be undertaken in 2024 and an assessment of the availability of seed stock at the time of habitat creation.</p> <p>The updated metric calculation considers arable reversion to grassland to be ‘habitat creation’ in the metric. A change from the broad habitat type of ‘cropland’ to the broad habitat type of ‘grassland’.</p>

Comment	Response
	<p>Further details relating to habitat enhancement, creation and management are provided in the accompanying CEMP<sup>11</sup> and OLEMP<sup>12</sup>.</p> <p>Section 6.19 of the OLEMP, provides details relating to the grassland establishment phase including measures such as harrowing that will occur prior to the over-sowing of existing headlands.</p>
<p>The plan shows grassland provision where there are existing farm tracks e.g. at the southwest corner. Therefore the extent of grassland provision is likely over-stated.</p>	<p>Mapping has been assessed and all existing and proposed farm tracks are now accounted for within baseline and post development calculations.</p>
<p>The balance between new hedgerow creation and the gapping up of existing hedgerows (which is likely to be enhancement) is unclear. This could have relevance to the calculated BNG.</p>	<p>The balance between the sites baseline hedgerows and the proportions of those to be retained, enhanced or created is set out in this report and accompanying metric.</p> <p>All existing hedgerows (c.6km) will be retained and enhanced.</p> <p>An additional c.8.5km of new hedgerow will be created.</p>
<p>I would query whether more tree planting could be offered e.g. in hedgerows (over-shading considerations acknowledged)? The Arboricultural Report indicates decline in ash from dieback disease, so it would be beneficial to secure replacement trees of suitable species. I would query why the proposed hedgerow creation is specified in the BNG calculations as 'native hedgerow' rather than 'species-rich native hedgerow'?</p>	<p>Further tree planting has been incorporated into the landscape strategy. Particularly in the northern and northwestern boundaries. The level of tree planting proposed within the scheme is in keeping with</p>

<sup>11</sup> Document reference 7.7/PS-APP-238

<sup>12</sup> Document reference 7.8/PS-APP-239

Comment	Response
	<p>the wider landscape character of the area.</p> <p>Following a review of the original metric the use of 'species-rich native hedgerow' has now been adopted to reflect the proposed post development hedgerow type.</p>
<p>I welcome the inclusion of monitoring proposals however these are insufficient at present to permit evidence based conclusions on the success in delivering commitments, and the need for remedial work where targets are not being met. NVC survey is not a suitable method for monitoring, although quadrat sampling may be a suitable means to gather structured data on the establishment of seed mixtures. Data will need to be gathered to measure success in achieving BNG with reference to the published Site Condition Assessment criteria. In summary, more precise monitoring criteria and targets need to be defined.</p>	<p>Habitat management and monitoring updates have been provided within this assessment and the associated OLEMP.</p> <p>BNG habitat condition assessments will be undertaken in years 1, 3 and 5 and then once every 5 years across the lifetime of the proposed development.</p>
<p>River units – the conversion of ditch to culvert (whilst small scale) needs to be accounted for in the metric. At present, no net loss is concluded but this is not certain without accounting for culverts. BNG has not been demonstrated for river units.</p>	<p>River unit calculations are now included in this updated calculation.</p> <p>Para 2.5.6 of this report highlights the following:                      Approximately 60m of the c.38km of internal ditches within the solar park will be lost via culverting required to facilitate internal access. Impacts to the remaining c.37km of ditches will be avoided. Enhancements to approximately 29km of ditch will occur as part of the proposed site management.</p> <p>The remaining c.8.4km of retained ditch will remain under the management control of the Internal Drainage Board.</p>



Comment	Response
No information has been provided to substantiate the condition scores entered for the baseline and proposed habitats. This is a requirement of good practice.	Updated condition assessment data has been provided in Appendix C of this report.
In relation to the baseline habitat "arable field margins" - it needs to be confirmed that use of this habitat (which has no condition weighting) conforms with the standard UKHab definition. If not, it should be treated as grassland and a condition weighting should be applied. This will have an influence on the quantum of BNG concluded.	<p>The approach to arable field margins is set out in the assumptions section of this report.</p> <p>In total approximately 13.51ha of arable field margins are present within the energy park site.</p> <p>In order to reflect the variation in biodiversity value 13.28ha has been classified as 'Arable field margins tussocky' and 0.23ha has been classified as 'Other neutral grassland'.</p>
I am surprised by the number of woods reported as poor condition, in my experience most established woodlands score as moderate. Evidence is needed to clarify how the condition has been derived.	Woodland compartments have been resurveyed and condition reassessed. The condition value of 'poor' remains allocated to the woodland compartments recorded on-site.
Much of the proposed habitat enhancement would appear to represent habitat creation, given this involves changes in broad habitat type. Reference should be made to paragraph 4.64 of the Metric 3.1 User Guide, and further explanation or amendment provided as appropriate.	The approach to habitat retention, enhancement and creation has been reviewed and updated in the metric to reflect Section 6.1 in the Metric 4.0 User Guide.
The Strategic Significance weighting does not appear to have been applied to all relevant baseline and proposed habitats. The Local Plan identifies the following habitats of importance: all priority habitats (Policy S60 Part Two), woodlands, trees and hedgerows (S66). Reference should also be given to the Local Plan Interactive Policies Map which identifies a number of ditches and field boundaries as green infrastructure."	Strategic significance values have been updated to reflect the comments provided.
The tall herb habitat category has been used. This is incorrect as it only applies to upland ledge communities. Ruderal tall herbs should only be recorded as a discrete habitat where they occur as a pure habitat, rather than (as example) over grassland.	The use of the 'Tall herb' category has been reassessed. This habitat has been reclassified as 'Ruderal/Ephemeral' habitat.

Comment	Response
<p>I am not satisfied that a sufficiently precautionary delay has been applied to reflect when new habitats will be created. Clarification is needed that it is realistic to create new habitats in the same year as construction. Conversely and beneficially - potentially some habitats, e.g. hedgerows and the orchard, could be delivered in advance. Although this would rely on alignment with the relevant planting seasons so I accept that a precautionary approach may need to be taken.</p>	<p>Delay and advanced multipliers have been added to the metric.</p> <p>An advanced creation multiplier has been applied to all grassland creation under panel infrastructure to reflect recommendations provided by Natural England. All other habitat interventions are planned to occur during or post development.</p>

## **2. METHODOLOGY AND STRATEGIC APPROACH**

### **2.1 Biodiversity Metric 4.0**

- 2.1.1 The BNG calculation presented in this report has been undertaken using DEFRA's BNG Metric 4.0.
- 2.1.2 A full description of the metric methodology is provided in the BNG Metric 4.0 User Guide and associated technical supplements.
- 2.1.3 Metric 4.0 calculates separate outputs for the following unit types:
  - Habitat units, measured in hectares (ha);
  - Hedgerow units, measured in kilometres (km), and
  - Watercourse units, including ditches and canals, measured in kilometres (km).
- 2.1.4 Unit gains and losses are recorded and reported separately for each unit type.
- 2.1.5 The BNG Metric calculates baseline biodiversity unit value by assessing each habitats extent, distinctiveness, condition and strategic significance.
- 2.1.6 Post-development calculations identify levels of habitat loss, retention, enhancement and/or creation. Post-development scenarios can be calculated solely from within the site or through a combination of on-site and off-site locations.
- 2.1.7 When calculating post-development biodiversity unit values a suite of further 'risk multipliers' are applied. These consider the difficulty and time required to enhance or create habitats and any spatial and temporal variation in where or when the provision of habitat enhancement or creation is intended to occur.
- 2.1.8 The loss, enhancement and creation of habitats are also governed by a set of 'trading rules'. These rules ensure developments do not result in the 'trading down' of habitat distinctiveness and that losses of habitats are instead compensated for on a 'like for like' or 'like for better' basis.
- 2.1.9 The data required to undertake the calculation is described further in Sections 2.2 and 2.3.

## 2.2 Baseline Data

2.2.1 Phase 1 habitat data was collected during surveys presented in the following documents:

- Figure 8.4- Phase 1 Habitat (document reference 6.2.8 (Rev 2)/PS-155)
- Appendix 8.3- Phase 1 Habitat Survey Report - Energy Park (document reference 6.3.8.3/PS-APP-192)
- Appendix 8.4- Further Extended Phase 1 Habitat Survey Report - Energy Park (document reference 6.3.8.4/PS-APP-193)
- Appendix 8.5- Extended Phase 1 Survey Report – Cable Route Corridor (document reference 6.3.8.5/PS-APP-194)
- Appendix 8.6- Botany Report including Aquatic Plants and Rare Arable Plants – Energy Park and Cable Route Corridor (document reference 6.3.8.6/PS-APP-195)

2.2.2 For the purposes of the BNG calculation Phase 1 habitat data (document reference 6.2.8/PS-155) was first translated into UKHab habitat types, and their corresponding BNG Metric habitat types. These translations are presented in Table 2.

2.2.3 Information used to inform the translations included:

- JNCC (2008) Spreadsheet of Habitat Correspondences<sup>13</sup>;
- BNG Metric 4.0 Technical Data tab UKHab/Phase 1 translation<sup>14</sup>, and
- Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification Version 1.1 – Correspondences Spreadsheet<sup>15</sup>

**Table 2: Habitat translations to BNG metric habitat types**

Phase 1	BNG Metric Habitats
Arable	Cropland – cereal crops Cropland – Arable field margins tussocky Grassland- Other neutral grassland (arable margins of higher biodiversity value)
Broadleaved Plantation Woodland	Woodland and forest - Other Woodland; broadleaved Woodland and forest - Other Woodland; mixed
Hard standing/track	Urban – Developed land; sealed surface
Neutral Grassland – Semi-improved	Grassland - Other neutral grassland
Water	Lakes - Ponds (non-priority habitat)
Scattered Scrub	Heathland and scrub - Mixed scrub
Tall Ruderal	Sparsely vegetated land – Ruderal/Ephemeral
Bare Ground	Urban – Bare ground
Ditch	Ditches
Line of trees – broadleaved/coniferous	Line of trees
Species poor hedge – Intact/Defunct	Native hedgerow

<sup>13</sup> JNCC (2008) Spreadsheet of Habitat Correspondences 2008. Retrieved from: <https://hub.jncc.gov.uk/assets/9e70531b-5467-4136-88f6-3b3dd905b56d>

<sup>14</sup> Accessed as part of the BNG Metric 4.0

<sup>15</sup> UKHab (2020) UK Habitat Classification Documents. Retrieved from: <https://ukhab.org/ukhab-documentation/>

<b>Phase 1</b>	<b>BNG Metric Habitats</b>
Species rich hedge – intact/Defunct	Native hedgerow species rich
Species poor hedge with trees	Native hedgerow with trees

- 2.2.4 In addition to surveys listed in para 2.2.1 habitat translations were ground-truthed during site visits on 19/09/2023 and 26/10/2023.
- 2.2.5 Baseline habitat extents were digitised using GIS software to illustrate and measure the area or length of each habitat type.
- 2.2.6 Baseline habitat conditions were determined either during field surveys or retrospectively reviewing data gathered in the field. In all instances professional judgements have been made by suitably qualified ecologists with experience in detailed botanical surveys and familiar with the UK Habitat classification system and BNG metric calculations.

### **2.3 Post-development Data**

- 2.3.1 The Proposed Developments landscape strategy plan (document reference 6.2.6) has been compared to the baseline phase 1 habitat plan (document reference 6.2.8) to determine the degree of habitat retention, loss, enhancement and creation occurring because of the Proposed Development.
- 2.3.2 Each of the elements of the Proposed Developments landscape strategy plan were converted to BNG habitat types. These translations are presented in Table 3.

**Table 3: Landscape typology translation to BNG habitat types**

<b>Landscape Typology</b>	<b>BNG Metric Habitats</b>
Existing and proposed access tracks	Developed land sealed surface
Ditches and culverts	Ditch  Where ditches remain within the applicants control a 'moderate' condition has been applied.  Where ditches lie outside of the applicant's management control a precautionary 'poor' condition has been applied.
Grazing species-rich grass to panel compounds (max 3m height)	95% Modified grassland 5% Developed land; sealed surface  It is considered possible for the modified grassland under panels to achieve a 'moderate' condition using a species rich grazing mix such as Emorsgate EG27 'old fashioned grazing mix', or similar.
Grazing species-rich grass to panel compounds max 3.5m height)	95% Other neutral grassland 5% Developed land; sealed surface  It is considered possible for the other neutral grassland under panels to achieve a 'moderate' condition using a herbal ley seed mix such as

Landscape Typology	BNG Metric Habitats
	Boston Seeds CSS2 'Legume & Herb Rich Mixture GS4', or similar.
Grazing species-rich grass to panel compounds (grassland areas associated with margins and easements within compounds. Not over-shaded by panel arrays)	Other neutral grassland in 'moderate' condition.  It is considered possible for other neutral grassland in 'moderate' condition to develop between panels and at panel margins using a species rich grazing mix such as Emorsgate EG27 'old fashioned grazing mix, or similar.
Loose gravel/hard surfacing (BESS footprint)	Artificial unvegetated, unsealed surface.
Species rich grassland to field margins	Other neutral grassland <sup>16</sup> Mixed scrub <sup>17</sup>  It is considered possible to achieve a 'moderate' condition 'Other neutral grassland' using a Emorsgate EM34 Diverse Meadow Mixture, or similar.
Meadow grassland to orchard	The habitat Traditional orchard has been selected over lower distinctiveness orchard categories because it is understood that the orchard will be secured as a habitat feature beyond the 40-year operational life of the solar farm. As such, it is considered feasible to create a Traditional Orchard in 'moderate' condition.
Proposed hedgerows (3m, 3.5m and 5m in height)	Species-rich Native Hedgerow (moderate – good condition)
Proposed woodland tree planting	Other woodland; broadleaved (moderate condition)

## 2.4 Strategic Significance

- 2.4.1 Each habitat type has been assigned a strategic significance value. Assigning Strategic Significance utilises published Local Plan Policies and local strategies that identify priorities for targeting biodiversity and nature improvement, such as nature recovery strategies, local biodiversity plans, national character area objectives and green infrastructure strategies.
- 2.4.2 Local planning policy identifies the following habitats of importance: all priority habitats (Policy S60 Part Two), woodlands, trees and hedgerows (S66). Furthermore, the Local Plan interactive policies map identifies several ditches and field boundaries on-site as 'green infrastructure'.
- 2.4.3 The original metric identified the pond on site as a priority habitat pond. A reassessment against UKHab criteria has reassessed this pond as a non-priority habitat. However, due to the rarity of agricultural ponds within the landscape it has been assigned a 'medium' strategic significance value.

<sup>16</sup> A precautionary approach has been taken when setting the target habitat condition of the species rich grassland margins. It is considered likely that over 40 years of management a higher distinctiveness habitat could be achieved.

<sup>17</sup> A proportion of this area will be allowed to naturally regenerate into mixed scrub, creating a matrix of species rich grassland and scrub over the life-time of the proposed development.

2.4.4 Therefore, the following habitats have been assigned a High Strategic Significance:

- Other woodland; broadleaved
- Rural trees
- Hedgerows (all types)
- Line of Trees
- Ditches
- Arable Field Margins (inc. 'Arable field margins; tussocky' and 'Other neutral grassland')

## **2.5 BNG Strategy**

2.5.1 For the purposes of the BNG Strategy the baseline has been separated into three areas:

- The energy park
- The grid connection corridor, and
- An area outside of the Order Limits, but within the Applicant's and Landowner's control, which could be used for skylark enhancement to the south of the Energy Park

2.5.2 All three areas are currently composed of 'v.low' to 'medium' distinctiveness habitats. No 'high' to 'very high' distinctiveness habitats are present within the Order Limits and no irreplaceable habitats will be impacted. In terms of the overall baseline approximately 583.04ha is occupied by low distinctiveness arable land set within a matrix of grassland margins and a network of ditches where woodland, scrub, ruderal habitats and hedgerows are sparsely distributed.

### **Impacts Within the Grid Connection Corridor**

2.5.3 With the exception of 0.4ha of unavoidable loss of woodland within the grid connection corridor, all other impacts are considered temporary.

### **Impacts Within the Skylark Enhancement Area**

2.5.4 Within the skylark enhancement area 0.2ha of arable land will be converted into approximately 125 skylark plots measuring c.16 sqm each. All other habitats within this area will be retained and will remain within arable use.

### **Solar Park BNG strategy**

2.5.5 Within the solar park site the highest distinctiveness habitats will be retained or enhanced. All impacts upon arable margins, woodland compartments, ponds, lines of trees and hedgerows will be avoided with ongoing management enhancing these features where possible.

2.5.6 Approximately 60m of the c.38km of internal ditches within the solar park will be lost via culverting required to facilitate internal access. Impacts to the remaining c.37km of ditches will be avoided. Enhancements to approximately 29km of ditch will occur as part of the proposed sites management. Approximately 8.4km of ditch will remain under the management control of the Internal Drainage Board.

- 2.5.7 The remaining area, approximately 483ha of arable land currently under cultivation, will undergo arable reversion to grassland. The grassland created will support the solar arrays and be managed through rotational grazing by sheep maintained at 'conservation grazing' stocking levels. Where solar arrays have been mounted higher due to flood risk the grassland will be sown with herbal leys. In addition to the benefits that herbal leys bring to soil structure, carbon storage and soil health the grazing schedule within these areas will allow for the site to offer approximately 192ha of enhanced pollinator resource at key periods within the summer months.
- 2.5.8 It is also intended for both the ditch network and the gas pipeline present within the solar park site to be buffered by approximately 66ha of species rich grassland, incorporating existing arable margins and additional arable land. This area will be mown twice a year, once in early March and again in August. With grazing (at conservation stocking levels) occurring between January and February and September and December, depending upon appropriate ground conditions. Approximately 3ha of this area will be allowed to naturally regenerate and succeed to 'mixed scrub'.
- 2.5.9 Finally the retained woodland and hedgerow network will be complimented through the planting of an additional 0.42ha of broadleaved woodland, a 2.15ha community orchard and approximately 8.5km of native species rich hedgerow.

## **2.6 Assumptions**

- 2.6.1 The following assumptions have been made during the BNG Metric calculation:

### **Habitat Management and Monitoring**

- 2.6.2 All habitats retained, enhanced or created as part of the Proposed Development will be subject to ongoing management and monitoring in order to ensure each habitat meets its target condition as set out in the metric.
- 2.6.3 Should monitoring indicate that a habitat is failing, or is likely to fail, its target condition remedial action will be undertaken to ensure target conditions are met within the specified timeframes as set out in the metric.

### **Under Panel Grassland**

- 2.6.4 Guidance published by BRE<sup>18</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". To reflect this 95% of the solar array footprint within the proposed solar compartments have been categorised as the UKHab habitat 'modified grassland' or 'other neutral grassland' with the remaining 5% allocated within the metric as 'Developed land; sealed surface' to account for array infrastructure and drainage.
- 2.6.5 Areas of modified grassland under panels with a maximum height of 3m have been assigned a post development target condition of 'moderate'. Areas of other neutral grassland under panels with a maximum height of 3.5m have been assigned a post development target condition of 'moderate'. This is to acknowledge the variation in the levels of shading these areas will receive over the lifetime of the Proposed

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<sup>18</sup> BRE (2014) Biodiversity Guidance for Solar Developments

Development and also the different seed mixes and management prescriptions specified in the OLEMP (document reference 7.8) for these areas.

### **Individual Trees**

- 2.6.6 Where individual trees, mapped as part of the baseline Phase 1 survey, also correspond with mapped hedgerows, these have been amalgamated into the associated 'hedgerow with tree' category, rather than duplicated in the metric as an individual 'rural tree'.
- 2.6.7 Similarly, for the purposes of the post development 'calculation where additional tree planting is specified as part of the landscape strategy plan these have been considered part of hedgerow enhancement/creation rather than the planting of individual 'Rural trees'.
- 2.6.8 There is a potential veteran tree located within the grid connection corridor. should it be determined to be of veteran status, the BNG calculation will be updated to reflect this.

### **Arable Margins**

- 2.6.9 Arable margins have been assessed in Appendix 8.6 "Botany Report including Aquatic Plants and Rare Arable Plants – Energy Park and Cable Route Corridor". These surveys have separated arable margins into two UKHab/BNG Categories:
- 'Cropland - Arable field margins tussocky', condition assessment N/A, and
  - 'Other neutral grassland' in moderate condition.
- This approach has been undertaken to reflect the variation in floristic diversity present within the arable field margins. This is in keeping with guidance set out in the Metric 4.0 User Guide.

### **Habitat Condition and Advanced/Delayed Creation**

- 2.6.10 Due to the findings from the ecology surveys identifying relative uniformity within habitat types across the Order Limits, baseline habitats of the same type and condition have been aggregated in the metric.
- 2.6.11 Advanced and delayed habitat multipliers have been applied to reflect pre-construction grassland creation, scheduled to occur in Sept 2024 and delayed habitat creation scheduled to occur after the installation of the solar arrays and associated infrastructure.

### **Watercourses**

- 2.6.12 All watercourses, except for the South Forty Foot Drain, within or immediately adjacent to the Order Limits meet the metric definition of 'Ditches' and as such no River Morph survey has been undertaken. It is understood that direct impacts to the South Forty Foot Drain will be avoided as works will follow HDD methodologies with directional drilling.

### **Mitigation and Additionality**

- 2.6.13 To ensure transparency regarding the additionality delivered by the BNG strategy the scheme has sought to ensure that at least 10% of the BNG is delivered through habitat retention, enhancement or creation activities that are not required to



mitigate or compensate for any protected species impacts. DEFRA, when summarising their feedback to the recent BNG consultation, have provided the following example: "If a development has a baseline score of 10 biodiversity units and needs to achieve a score of 11 units, at least 1 unit should come from separate, non-species mitigation, activities". The approach adopted at Heckington Fen ensures this guidance has been followed.

### **On-site and Off-site Habitat Allocation**

2.6.14 Both the Energy Park and Grid Connection Corridor are included within the DCO Order Limits. However, for the purposes of this metric assessment the Energy Park and Grid Connection Corridor have been split in the metric with the Grid Connection Corridor and Skylark Enhancement areas treated as off-site areas within the calculation. This approach has been taken to reflect the level of management control the Applicant will have over the land post construction.

2.6.15 It is intended that, for the purpose of the metric calculation, any loss of biodiversity units arising from impacts within the Grid Connection Corridor will be 'offset' within the Energy Park.

### **Temporary Impacts within the Grid Connection Corridor**

2.6.16 A 0.4ha loss of Other woodland; broadleaved will occur within the Grid Connection Corridor. In terms of the BNG Assessment it is assumed that all other works within the Grid Connection Corridor will be temporary in nature.

### **Culverts, Footpaths, Bridges, Soil Storage Bunds and Compounds**

2.6.17 The following assumptions have been made:

- All calculations of loss and replacement of culverts have been based on a minimum 12m culvert section;
- It is assumed that no additional culverts or vegetation loss will be required to facilitate temporary access within the grid connection corridor;
- No hardcore or tarmac is proposed to be used to create the proposed permissive footpaths;
- The extent and degree of ditch encroachment resulting from the repair or replacement of existing bridges have been excluded from the calculation due to the small areas of impact involved;
- Alterations in the sites overall surface area arising from the creation of soil storage bunds or drainage swales have been excluded from the metric calculation. Both features are intended to be contiguous with the adjacent habitat, and
- A combination of temporary and operational compounds are intended to be located on-site. Impacts are considered as either temporary or as the creation of 'Artificial unvegetated, unsealed surface' where compounds will potentially be retained.

### **Habitat Retention, Enhancement and Loss**

2.6.18 Table 4 sets out the assumed ratios of habitat retention, enhancement and loss arising from the proposed development.

**Table 4 Areas of habitat retention, enhancement, and loss**

<b>Baseline Habitats</b>	<b>Area</b>	<b>Retained</b>	<b>Enhanced</b>	<b>Lost</b>
<b>On-site</b>				
Cereal crops	483.38	0.00	0.00	483.38
Arable field margins tussocky	13.28	13.28	0.00	0.00
Other neutral grassland	0.23	0.00	0.23	0.00
Other neutral grassland	10.80	0.00	0.00	10.80
Other woodland; broadleaved	1.48	0.00	1.48	0.00
Other woodland; mixed	0.11	0.00	0.11	0.00
Ponds (non-priority habitat)	0.01	0.00	0.01	0.00
Mixed scrub	1.80	0.00	0.00	1.80
Ruderal/Ephemeral	0.65	0.00	0.00	0.65
Developed land; sealed surface	5.67	3.91	0.00	1.76
Watercourse footprint	7.39	7.39	0.00	0.00
Rural tree	1.17	1.17	0.00	0.00
Bare ground	0.10	0.00	0.00	0.10
<b>Total*</b>	<b>524.90</b>	<b>24.58</b>	<b>1.83</b>	<b>498.49</b>
*Excluding Rural Trees				
<b>Off-site Grid Connection Corridor</b>				
Cereal crops	99.66	99.66	0.00	0.00
Other neutral grassland	2.7	2.70	0.00	0.00
Ruderal/Ephemeral	2.88	2.65	0.00	0.23
Bare ground	0.60	0.60	0.00	0.00
Developed land; sealed surface	8.06	8.06	0.00	0.00
Watercourse footprint	5.92	5.92	0.00	0.00
Other woodland; broadleaved	0.47	0.07	0.00	0.40
Rural tree	0.33	0.33	0.00	0.00
<b>Total*</b>	<b>120.29</b>	<b>119.66</b>	<b>0.00</b>	<b>0.63</b>
*Excluding Rural Trees				
<b>Off-Site Skylark Enhancement Area</b>				
Cereal crops	62	61.80	0.00	0.20
<b>Total</b>	<b>62</b>	<b>61.8</b>	<b>0.00</b>	<b>0.20</b>

**Linear Based Habitat Loss (hedgerows and ditches)**

2.6.19 It is assumed that all hedgerows and lines of trees present off-site will be retained. All hedgerows on-site will be enhanced. All lines of trees on-site will be retained.

2.6.20 All ditches present off-site, within the grid connection corridor, will be retained. Approximately 60m of ditch will be lost on-site as part of the repair and construction of new culverts. It is assumed that approximately 29.54km of the ditches on-site will be enhanced and approximately 8.4km of the ditches on-site will be retained.

**2.7 Constraints or Limitations**

2.7.1 All baseline and post-development features have been measured in GIS/CAD using the Phase 1 habitat plan and landscape strategy plan to determine habitat extents and lengths before and after development. Therefore, measurements should be regarded as approximations only.

## 3 RESULTS

### 3.1 Baseline Habitats

3.1.1 The baseline unit values of the habitats present within the Order Limits have been calculated with BNG Metric 4.0 as having a baseline value of:

Solar Park Site (on-site)

- 1107.23 Habitat units;
- 28.64 Hedgerow units, and
- 311.92 Watercourse units

Grid Connection Corridor and Skylark Enhancement Area (off-site)

- 359.24 Habitat units;
- 1.75 Hedgerow units, and
- 26.27 Watercourse units

3.1.2 Summary tables of the baseline habitat metric calculation are presented in Appendix A.

3.1.3 A map of the baseline habitats is provided in Appendix B.

3.1.4 Summary baseline BNG Habitat Condition Assessments are provided in Appendix C.

### 3.2 Post-development Habitats

3.2.1 The post-development habitats have been calculated as having a value of:

Solar Park Site (on-site)

- 2333.61 Habitat units;
- 126.89 Hedgerow units, and
- 387.67 Watercourse units

Grid Connection Corridor and Skylark Enhancement Area (off-site)

- 355.42 (a loss of -1.06%);
- 1.75 Hedgerow units, and
- 26.27 Watercourse units

3.2.2 Summary tables of the post development habitat metric calculations are presented in Appendix D.

3.2.3 A map of the post development habitats is provided in Appendix E.

3.2.4 The full biodiversity metric associated with this report is available in **Appendix 8.12 – Biodiversity Net Gain** (document reference 6.3.8.12).

### 3.3 Trading Rules

3.3.1 All metric trading rules have been satisfied.

## **4. CONCLUSION**

- 4.1.1 Based on the current plans for the site, the Proposed Development will result in an overall percentage change of:
- 110.42% net gain in Habitat units;
  - 343.11% net gain in Hedgerow units, and
  - 24.28% net gain in Watercourse units

## **5. BNG IMPLEMENTATION**

- 5.1.1 Requirement 8 of Schedule 2 of the DCO sets out the applicants' obligations in relation to the delivery of BNG. Mechanisms ensuring delivery include:
- Landscape strategy plan<sup>19</sup>;
  - A Construction Environmental Management Plan<sup>20</sup>, and
  - An Outline Landscape and Ecological Management Plan<sup>21</sup>

## **6. HABITAT MANAGEMENT AND MONITORING**

- 6.1.1 The OCEMP (document reference 7.7) and OLEMP (document reference 7.8) outline how the Biodiversity Net Gain set out in this Report and associated metric will be implemented, managed and monitored for the lifetime of the development.
- 6.1.2 The OLEMP (document reference 7.8) includes management and maintenance prescriptions and a commitment to undertake BNG habitat condition assessments and a review of management during years 1, 3 and 5 and then every 5 years for the remainder of the Proposed Developments operational life. Whilst BNG requires a commitment of 30 years management and monitoring this will occur across the lifetime of the solar park (40 years).
- 6.1.3 At each monitoring interval a monitoring report will be produced and shared with the relevant stakeholders including the LPA.
- 6.1.4 It is also proposed that an Ecology Advisory Group is established comprising local stakeholders and facilitated by the Applicant. The Group would form a long-term partnership that would steer the ongoing management at the Energy Park, ensuring the net gain strategy for the proposed development is delivered.

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<sup>19</sup> Document reference 6.2.6/PS-APP-135

<sup>20</sup> Document reference 7.7/PS-APP-238

<sup>21</sup> Document reference 7.8/PS-APP-239



## APPENDIX A: BASELINE HABITATS

Table A1: On-site area based habitats

Habitat	Area (Ha)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Cereal crops	483.38	Low	N/A	Low	966.76
Arable field margins tussocky	13.28	Medium	N/A	High	61.09
Other neutral grassland	0.23	Medium	Moderate	High	2.12
Other neutral grassland	10.8	Medium	Poor	Low	43.20
Other woodland; broadleaved	1.48	Medium	Poor	High	6.81
Other woodland; mixed	0.11	Medium	Poor	High	0.51
Ponds (non-priority habitat)	0.01	Medium	Moderate	Medium	0.09
Mixed scrub	1.8	Medium	Moderate	Low	14.40
Ruderal/Ephemeral	0.65	Low	Poor	Low	1.30
Developed land; sealed surface	5.67	V.Low	N/A	Low	0.00
Watercourse footprint	7.39	V.low	N/A	Low	0.00
Rural tree	1.17	Medium	Moderate	High	10.76
Bare ground	0.1	Low	Poor	Low	0.20
<b>Sub Total</b>	<b>524.90</b>	-	-	-	
<b>Total (inc. Rural tree)</b>	<b>526.07</b>	-	-	-	<b>1107.23</b>

Table A2: On-site hedgerow habitats

Habitats	Length (Km)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Line of trees	2.49	Low	Poor	High	5.73
Native hedgerow	2.68	Low	Poor	High	6.16
Native hedgerow with trees	0.26	Medium	Poor	High	1.20
Species-rich native hedgerow	3.38	Medium	Poor	High	15.55
<b>Total</b>	<b>8.81</b>	-	-	-	<b>28.64</b>

Table A3: On-site watercourse habitats

Habitat	Length (Km)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Culvert	0.48	Low	Poor	Low	0.96
Ditches	29.6	Medium	Moderate	High	272.32
Ditches	8.4	Medium	Poor	High	38.64
<b>Total</b>	<b>38.48</b>	-	-	-	<b>311.92</b>

Table A4: Off-site area based habitats (grid connection corridor)

Habitats	Area (ha)	Distinctiveness	Condition	Strategic significance	Biodiversity Units
Cereal crops	99.66	Low	N/A	Low	199.32
Other neutral grassland	2.7	Medium	Moderate	Low	21.60
Ruderal/Ephemeral	2.88	Low	Poor	Low	5.76
Bare ground	0.6	Low	Poor	Low	1.20
Developed land; sealed surface	8.06	V.Low	N/A	Low	0
Watercourse footprint	5.92	V.low	N/A	Low	0
Other woodland; broadleaved	0.47	Medium	Moderate	High	4.32
Rural tree	0.33	Medium	Moderate	High	3.04
<b>Sub Total</b>	<b>120.29</b>	-	-	-	
<b>Total (inc. Rural Tree)</b>	<b>120.62</b>	-	--	-	<b>235.24</b>

Table A5: Off-site hedgerow units (grid connection corridor)

Habitats	Length (Km)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Line of trees	0.34	Low	Moderate	High	1.56
Native hedgerow	0.08	Low	Poor	High	0.18
<b>Total</b>	<b>0.42</b>	-	-	-	<b>1.75</b>

Table A6: Off-site watercourse units (grid connection corridor)

Habitat	Length (Km)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Ditches	1.55	Medium	Poor	High	7.13
Ditches	2.08	Medium	Moderate	High	19.14
<b>Total</b>	<b>3.63</b>	-	-	-	<b>26.27</b>

Table A7: Off-site area-based habitats (skylark enhancement area)

Habitats	Area (ha)	Distinctiveness	Condition	Strategic significance	Biodiversity Units
Cereal crops	62	Low	N/A	Low	124
<b>Total</b>	<b>62</b>	-	-	-	<b>124</b>



## **APPENDIX B BASELINE HABITAT MAP**

(document reference 6.2.8/PS-155)

## APPENDIX C: BNG METRIC 4.0 BASELINE CONDITION ASSESSMENTS

Condition assessments have been undertaken using Biodiversity Metric 4.0 – Technical Annex 1: Condition Assessment Sheets and Methodology.

Table C1: On-site habitat condition assessments

Habitat Type	Habitat condition sheet used	Survey Data Reference	Condition Assessment	Assigned Condition
Cereal crops	N/A	N/A	N/A	N/A
Arable field margins tussocky	N/A	N/A	N/A	N/A
Developed land; sealed surface	N/A	N/A	N/A	N/A
Watercourse footprint	N/A	N/A	N/A	N/A
Other neutral grassland	6A: Grassland Med, High, V. High	Para 2.1.8 lists baseline data sources	Passes A, C, D and E Fails B and F Passes 3 of 6 criteria = Moderate	Moderate
Ponds (non-priority habitat)	18A: Pond	Para 2.1.8 lists baseline data sources	Passes C, D, E, F, G and I Fails A, B and H Passes 6 of 9 criteria = Moderate	Moderate
Mixed scrub	20A: Scrub	Para 2.1.8 lists baseline data sources	Passes A, C and D Fails B and E Passes 4 of 5 = Moderate	Moderate
Rural tree	9A: Individual Tree	Para 2.1.8 lists baseline data sources	Passes A, B, C and F Fails D and E Passes 4 of 6 criteria = Moderate	Moderate
Other neutral grassland	6A: Grassland Med, High, V. High	Para 2.1.8 lists baseline data sources	Passes C and D Fails A, B, E and F Passes 2 of 6 criteria = Poor	Poor
Other woodland; broadleaved	24A: Woodland	Para 2.1.8 lists baseline data sources	Age class - Poor Herbivore damage - Poor Invasive species - Good Native diversity - Poor Canopy Nativity - Good Open space - Poor Woodland regeneration – Poor Tree health - Moderate Vegetation and ground flora - Poor Vertical structure – Moderate Veteran trees - Poor Deadwood - Poor	Poor
Other woodland; mixed				

			Disturbance - Moderate Scores 20 = Poor	
Ruderal/Ephemeral	22A: Urban	Para 2.1.8 lists baseline data sources	Fails A and B – poor structural and species diversity. Passes C no invasives Passes 1 of 3 core criteria = Poor	Poor
Bare ground	22A: Urban	Para 2.1.8 lists baseline data sources	Fails A and B – poor structural and species diversity. Passes C no invasives Passes 1 of 3 core criteria = Poor	Poor
Line of trees	16A: Line of trees	Para 2.1.8 lists baseline data sources	Fails a total of 3 attributes No veteran trees, high disturbance/impacts	Poor
Native hedgerow with trees	8A: Hedgerow	Para 2.1.8 lists baseline data sources	Fails more than 4 attributes	Poor
Native hedgerow	8A: Hedgerow	Para 2.1.8 lists baseline data sources	Fails more than 4 attributes	Poor
Species-rich native hedgerow	8A: Hedgerow	Para 2.1.8 lists baseline data sources	Fails more than 4 attributes	Poor
Ditches	4A: Ditch	Para 2.1.8 lists baseline data sources	Fails H Passes A to G Passes 7 of 8 criteria	Moderate
Ditches	4A: Ditch	Para 2.1.8 lists baseline data sources	Fails B, D and H Passes A, C, E, F and G Passes 5 of 8 criteria	Poor

Table C2: Off-site habitat condition assessments

Habitat Type	Habitat condition sheet used	Survey Data Reference	Condition Assessment	Assigned Condition
Cereal crops	N/A	N/A	N/A	N/A
Developed land; sealed surface	N/A	N/A	N/A	N/A
Watercourse footprint	N/A	N/A	N/A	N/A
Other neutral grassland	6A: Grassland Med, High, V. High	Para 2.1.8 lists baseline data sources	Passes A, C, D and E Fails B and F Passes 3 of 6 criteria = Moderate	Moderate
Rural tree	9A: Rural Tree	Para 2.1.8 lists baseline data sources	Passes A, B, C and F Fails D and E Passes 4 of 6 criteria = Moderate	Moderate
Other woodland; broadleaved	24A: Woodland	Para 2.1.8 lists baseline data sources	Age class - Poor Herbivore damage - Moderate Invasive species - Good Native diversity - Good Canopy Nativity - Good Open space - Poor Woodland regeneration - Poor Tree health - Good Vegetation and ground flora - Moderate Vertical structure - Moderate Veteran tress - poor Deadwood - moderate Disturbance - moderate Scores 26 = Moderate	Moderate
Ruderal/Ephemeral	22A: Urban	Para 2.1.8 lists baseline data sources	Fails A and B - poor structural and species diversity. Passes C no invasives Passes 1 of 3 core criteria = Poor	Poor
Bare ground	22A: Urban	Para 2.1.8 lists baseline data sources	Fails A and B - poor structural and species diversity. Passes C no invasives Passes 1 of 3 core criteria = Poor	Poor
Line of trees	16A: Line of trees	Para 2.1.8 lists baseline data sources	Passes a total of 3 attributes No veteran trees, high disturbance/impacts	Moderate
Native hedgerow	8A: Hedgerow	Para 2.1.8 lists baseline data sources	Fails more than 4 attributes	Poor
Ditches	4A: Ditch	Para 2.1.8 lists baseline data sources	Fails H Passes A to G	Moderate

			Passes 7 of 8 criteria	
Ditches	4A: Ditch	Para 2.1.8 lists baseline data sources	Fails B, D and H Passes A, C, E, F and G Passes 5 of 8 criteria	Poor

## APPENDIX D: POST DEVELOPMENT HABITATS

Table D1: On-site enhanced habitats

Habitat	Area	Distinctiveness	Condition Change	Strategic Significance	Delay in enhancement (yrs)	Habitat Units Delivered
Other neutral grassland	0.23	Medium	Moderate - Good	Low	1	2.46
Other woodland; broadleaved	1.48	Medium	Poor - Moderate	High	1	11.41
Other woodland; mixed	0.11	Medium	Poor - Moderate	High	1	0.85
Ponds (non-priority habitat)	0.01	Medium	Moderate - Good	Medium	1	0.11
<b>Total</b>	<b>1.83</b>	-	-	-	-	<b>14.83</b>

Table D2: On-site created habitats

Habitat	Area	Distinctiveness	Condition	Strategic Significance	Advanced Creation (yrs)	Delayed creation (yrs)	Habitat Units
Developed land; sealed surface	9.47	V.Low	N/A - Other	Low	0	0	0.00
Artificial unvegetated, unsealed surface	8.45	V.Low	N/A - Other	Low	0	0	0.00
Modified grassland	186.34	Low	Poor	Low	1	0	372.68
Developed land; sealed surface	9.80	V.Low	N/A - Other	Low	0	0	0.00
Other neutral grassland	192.19	Medium	Moderate	Low	1	0	1333.31
Developed land; sealed surface	10.12	V.Low	N/A - Other	Low	0	0	0.00]
Other neutral grassland	26.34	Medium	Moderate	Low	1	0	182.73
Other neutral grassland	50.45	Medium	Moderate	Low	0	1	325.92
Traditional orchards	2.15	High	Moderate	Low	0	1	12.21
Other woodland; broadleaved	0.42	Medium	Moderate	High	0	1	2.19
Mixed scrub	2.77	Medium	Moderate	Low	0	1	17.90
<b>Total</b>	<b>498.50</b>	-	-	-	-	-	<b>2246.93</b>

Table D3: On-site enhanced hedgerow habitats

Habitat	Length (km)	Enhanced Habitat	Distinctiveness Change	Condition Change	Strategic Significance	Delay in enhancement	Hedgerow Units
Native hedgerow	2.68	Species-rich native hedgerow	Low - Medium	Lower Distinctiveness Habitat – Moderate	High	1	21.10
Native hedgerow with trees	0.26	Species-rich native hedgerow with trees	Medium - High	Lower Distinctiveness Habitat – Moderate	High	1	3.13
Species-rich native hedgerow	3.38	Species-rich native hedgerow	Medium - Medium	Poor – Moderate	High	1	29.03
<b>Total</b>	<b>6.32</b>	-	-	-	-	-	<b>53.26</b>

Table D4: On-site created hedgerow habitats

Habitat	Length (km)	Distinctiveness	Condition	Strategic Significance	Delay in creation (yrs)	Hedgerow Units
Species-rich native hedgerow	4.49	Medium	Moderate	High	1	33.36
Species-rich native hedgerow	0.43	Medium	Moderate	High	1	3.19
Species-rich native hedgerow	3.61	Medium	Good	High	1	31.35
<b>Total</b>	<b>8.53</b>	-	-	-	-	<b>67.90</b>

Table D5: On-site enhanced watercourse habitats

Habitat	Length (km)	Distinctiveness	Condition Change	Strategic Significance	Delay in enhancement (yrs)	Watercourse Units
Ditches	29.54	Medium	Moderate - Good	High	1	347.95
<b>Total</b>	<b>29.54</b>	-	-	-	-	<b>347.95</b>

Table D6: On-site created watercourse habitats

Habitat	Length (km)	Distinctiveness	Condition	Strategic Significance	Delay in creation (yrs)	Watercourse Units
Culvert	0.08	Low	Poor	Low	0	0.15
<b>Total</b>	<b>0.08</b>	-	-	-	-	<b>0.15</b>

Table D7: Off-site created habitats (skylark enhancement area)

Habitat	Area	Distinctiveness	Condition	Strategic Significance	Advanced Creation (yrs)	Delayed creation (yrs)	Habitat Units
Ruderal/Ephemeral	0.2	Low	Moderate	Low	0	0	0.72
<b>Total</b>	<b>0.2</b>	-	-	-	-	-	<b>0.72</b>

## **APPENDIX E: LANDSCAPE STRATEGY PLAN**

(document reference 6.2.6/PS-APP-135)