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MILFORD ROAD WASTEWATER TREATMENT WORKS BIODIVERSITY NET GAIN ASSESSMENT REPORT

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MILFORD ROAD WASTEWATER TREATMENT WORKS

BIODIVERSITY NET GAIN ASSESSMENT REPORT

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Ramboll UK Limited
Registered in England and Wales
Company No: 0365990
Registered Office:
240 Blackfriars Road
London
SE1 8NW
www.ramboll.co.uk

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APPENDICES

EXECUTIVE SUMMARY

Ramboll UK Limited ('Ramboll') was commissioned by Downing Renewable Developments LLP (the 'client') to undertake a Biodiversity Net Gain (BNG) Assessment of land off Milford Road, Lymington (the "Site") using the Statutory Biodiversity Metric of February 2024. This assessment is required to required to support a planning application for a proposed solar PV array (the "Proposed Development"). The Site is located at Ordnance Survey (OS) grid reference SZ210933, approximately 2.3 km to the southwest of Lymington.

Biodiversity Net Gain is a process whereby development leaves biodiversity in a measurably better state than before and it is a planning policy requirement in England under the National Planning Policy Framework (2023).

The aim of this report is to provide the results of the Biodiversity Net Gain assessment in relation to the site, including the associated construction works and landscape plans for the proposed development. This has been achieved through calculating the biodiversity change as a result of the proposed development in terms of net loss, no net loss or a net gain and including recommendations to assist the proposed development to minimise biodiversity impacts and maximise biodiversity outputs.

This report has been informed by a desk study undertaken in October 2023 and an extended UKHab survey (with Habitat Condition Assessment) conducted in September 2023.

Based on the current landscape designs and future aspirations of the Site with recommendations from a suitably qualified ecologist, it would be possible to achieve 12.79% net gain (1.35 Biodiversity Units) for area-based habitats. There are zero baseline units for hedgerows so the percentage net gain cannot be calculated however, there is an increase in hedgerow units of 1.15 within the Site.

1. INTRODUCTION

1.1 Background

Ramboll UK Limited ('Ramboll') was commissioned by Downing Renewable Developments LLP (the 'client') to undertake a Biodiversity Net Gain (BNG) Assessment of land off Milford Road, Lymington (the "Site") using the Natural England Statutory Biodiversity Metric[1]. This assessment is required to required to support a planning application for a proposed solar PV array (the "Proposed Development"). The Site is located at Ordnance Survey (OS) grid reference SZ309933, approximately 2.3 km to the southwest of Lymington.

1.2 Biodiversity Net Gain

BNG is a process whereby development leaves biodiversity in a measurably better state than before. The BNG process is governed by a set of UK good practice principles (2016)[2] along with industry guidance, which outlines the practical implementation of the principles (2019)[3]. The key principle is the application of a mitigation hierarchy, which sets out that development should first avoid biodiverse habitats, then mitigate/minimise impacts upon habitats, then restore/reinstate habitats. As a last resort, once the mitigation hierarchy has been maximised on-site, the project may use biodiversity offsetting to compensate for any residual biodiversity impacts due to the project.

The principles require use of a metric (e.g. the Statutory Biodiversity Metric), to assess and quantify net biodiversity change. Applying this process enables transparent reporting on biodiversity outputs to demonstrate delivery against the current policy requirement for BNG.

Ramboll has in-house biodiversity specialists who have worked at the forefront of BNG across the UK since 2017. Our specialists have in-depth experience of applying BNG assessments to residential, road, rail and energy infrastructure developments, using the Defra metric, Natural England Biodiversity Metric v2.0, 3.0, 3.1, 4.0 and specific client-adapted metrics.

1.3 Objectives

The aim of this report is to provide the results of the BNG in relation to the Site and the associated construction works and landscape plans for the Proposed Development. The structure and content of the report is based on current BNG good practice and reports on the following:

- The biodiversity baseline of the Site;
- The predicted post-development biodiversity of the Site; and
- The calculation of overall biodiversity change.

The objectives of this report are to:

- Calculate the biodiversity change as a result of the Proposed Development in terms of net loss, no net loss or a net gain; and
- Include recommendations to assist the Proposed Development to minimise biodiversity impacts and maximise biodiversity outputs.

The report is supported by the following appendices:

- Appendix 1: Figures
  - Figure 1.1 Site Location Plan

1 Natural England 2023. The Statutory Biodiversity Metric. Accessed from: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

2 CIEEM, CIRIA, IEMA, 2016. Biodiversity Net Gain: Good practice principles for development. Accessed from: https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf

3 CIEEM, CIRIA, IEMA, 2019. Biodiversity Net Gain: Good practice principles for development. A practical guide. Accessed from: https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf

  - Figure 1.2 Baseline UKHab Habitat Map;
  - Figure 1.3 Completed Development Plan;
- Appendix 2: Baseline Habitat Descriptions
- Appendix 3: Baseline Biodiversity Score
  - Figure 3.1 Baseline Biodiversity Score – Area Habitats
- Appendix 4: Post Development Biodiversity Score
  - Figure 4.1 Post Development Biodiversity Score – Area Habitats;
  - Figure 4.2 Post Development Biodiversity Score – Hedgerows; and
- Appendix 5: Biodiversity Net Gain Principles
- Appendix 6: Habitat Condition Assessment

1.4 Proposed Development

The Proposed Development comprises installing a private wire solar array on land adjacent to the existing Milford Road Wastewater Treatment Works, operated by Southern Water. The detailed design of the proposed solar PV array is ongoing however would likely comprise several rows of east-west facing panels across the Site. Each panel would be inclined between 20 and 30 degrees with the lower part approximately 60-80 cm from ground level, and the highest part up to 3 m from ground level. The panels would be mounted on aluminium frames supported by upright poles, driven into the ground. No concrete foundations are required and therefore little excavation is necessary. The distance between each row of panels would be a minimum of 4 m to avoid the potential for overshadowing.

A 2.4 m high-security fence would be erected around the Site. CCTV cameras would be positioned at regular intervals along the Site boundaries on 4 m high poles, typically every 100 m, overlooking the panels only.

1.5 Local Planning Policy

New Forest District Council Local Plan 2016-2036

The following policies outlined within the New Forest District Council Local Plan 2016-2036 are relevant to biodiversity:

ENV1 Mitigating the impacts of development on International Nature Conservation Sites:

Where harmful impacts are identified to be likely, development can only take place where that harm is avoided, or fully mitigated if it cannot be avoided. Avoidance of harm is best achieved by not locating high impact activities in sensitive locations, but within the Plan Area this cannot be wholly avoided. Where harmful effects cannot be ruled out, the requirements of the Conservation of Habitats and Species Regulations 2017 can best be met by applying the Precautionary Principle to avoid or mitigate possible harm. Mitigation measures will be applied until such time as it can be demonstrated (based on monitoring and review of the impact of mitigation measures through the Local Plan review process) that it can reasonably be concluded that development is unlikely to have a harmful effect on International Nature Conservation sites.

Saved Policy DM2 Nature conservation, biodiversity, and geodiversity:

Development proposals which would be likely to adversely affect the integrity of a designated or candidate Special Area of Conservation (SAC), classified or potential Special Protection Area (SPA), or listed Ramsar site will not be permitted unless there is no alternative solution and there are imperative reasons of overriding public interest which would justify the development.

Development proposals within or outside a Site of Special Scientific Interest (SSSI) which would be likely to adversely affect the site will not be permitted unless the benefits of the development

outweigh both the adverse impacts on the site and any adverse impacts on the wider network of SSSIs.

Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance (including Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), Regionally Important Geological/Geomorphological Sites (RIGGS), and habitats of species of principal importance for biodiversity) will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity.

Development proposals will be expected to incorporate features to encourage biodiversity and retain and, where possible, enhance existing features of nature conservation value within the Site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity.

Where development is permitted, the local planning authority will use conditions and/or planning obligations to minimise the damage, provide mitigation and Site management measures and, where appropriate, compensatory and enhancement measures.

Development will not be permitted which would adversely affect species of fauna or flora that are protected under national or international law, or their habitats, unless their protection can be adequately secured through conditions and/or planning obligations.

Saved Policy DM9 Green Infrastructure Links:

Development proposals should maintain, and where possible enhance, the integrity of the network of green infrastructure within settlements.

In designing new development, even where the loss of some trees and hedgerows or other existing green infrastructure is unavoidable, developers should seek to:

- Retain identified 'Landscape features';
- Minimise the loss of existing 'green' features on a site;
- Maximise the potential to create links with adjoining green infrastructure;
- Provide natural green spaces within a development; and
- Maintain or create wildlife corridors through a site.

The following green infrastructure linkage features, which have an important role in providing connectivity between other green infrastructure and open spaces, will be identified in the Green Infrastructure Strategy Supplementary Planning Document:

i. 'Green links' between green spaces within the settlements and between the built-up area and the countryside;
ii. 'Green buffers' between development and major transport routes;
iii. Tree-lined streets and streets with spacious verges; and
iv. Watercourses and their banks.

The presence of these features should be taken into account and influence the design of development proposals.

2. METHODOLOGY

2.1 Guidance

The methodology used for this assessment follows the published UK BNG guidance and Biodiversity Metric guidance:

- CIEEM, CIRIA, IEMA, 2016. Biodiversity Net Gain: Good practice principles for development[4];
- CIEEM, CIRIA, IEMA, 2019. Biodiversity Net Gain: Good practice principles for development. A practical guide[5];
- Natural England, 2023. The Statutory Biodiversity Metric: User Guide (draft)[6];
- Natural England, 2023. Statutory Biodiversity Metric: Calculation Tool (spreadsheet)[7]; and
- Natural England, 2023. Biodiversity Metric 4.0: Technical Annex 1 – Condition Assessment Sheets[8].

2.2 Desk Study

A desk study was conducted as part of the October 2023 Preliminary Ecological Appraisal (PEA)[9] to inform the further surveys and assessments required to support the planning application for the Proposed Development and has been reappraised in the context of this BNG assessment.

Hampshire Biodiversity Information Centre (HBIC) was contacted to provide details of designated sites and protected species within 2 km of the Site. Due to data ownership restrictions in the reproduction of the HBIC report[10], it is not appended to this BNG, but the information provided is summarised in the relevant sections.

In addition, the Multi Agency Geographic Information for the Countryside (MAGIC)[11] was searched for information on statutory sites. Supplementary information on the Site and its surroundings were obtained from aerial images available from Google™ Earth Pro. The purpose of the desk study was to identify designated sites and irreplaceable habitats within the Site boundary and to identify other natural features which may have importance for biodiversity. The following ZOI has been considered:

- Designated sites within and up to 2 km from the Site, including Special Areas of Conservation (SACs), Special Protection Areas (SPAs), and Sites of Special Scientific Interest (SSSIs); Other sites of importance for biodiversity, including National Nature Reserves (NNRs), Local Nature Reserves (LNR) and Local Wildlife Sites (LWSs) within and up to 2 km from the Site.
- Irreplaceable habitats including ancient woodland and ancient/veteran trees within the Site.
- Habitats of Principal Importance (HPI) (in accordance with Natural Environment and Rural Communities Act (NERC) 2006 Section 41 (S41)[12]).

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[4] CIEEM, CIRIA, IEMA, 2016. Biodiversity Net Gain: Good practice principles for development. Accessed from: https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf

[5] Baker, J., Hoskin, R. & Butterworth, T., 2019. Biodiversity Net Gain: Good practice principles for development. Part A: A practical guide. CIRIA, London.

[6] Natural England 2023. The Statutory Biodiversity Metric: Draft User Guide. Accessed from: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

[7] Natural England 2023. Statutory Biodiversity Metric: Calculation tool. Accessed from: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

[8] Natural England 2023. Biodiversity Metric 4.0: Habitat Condition Sheets. Accessed from: http://nepubprod.appspot.com/publication/6049804846366720 It should be noted that these Habitat Condition Sheets formed part of the relevant guidance at the time of the site visit. These have since been superseded by: DEFRA 2023. Statutory Biodiversity Metric Condition Assessments. Access from: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

[9] Ramboll 2023. Milford Road: Solar PPA Project. Preliminary Ecological Appraisal. REH2023N0001-RAM-RP-00006

[10] Report Ref 11938 (October 2023)

[11] Magic Map. Accessed from: https://magic.defra.gov.uk/magicmap.aspx

[12] The Stationary Office (2006). Natural Environment and Rural Communities Act 2006.

2.3 Baseline Biodiversity Assessment

2.3.1 Habitat Survey, Irreplaceable Habitats and Condition

An extended UKHab survey of the Site was undertaken by Ellie Frew MCIEEM and Danielle Esterhuizen BSc on the 11th September 2023. Ellie Frew has a BSc in Zoology, an MSc in Conservation and Ecology, is a Full Member of CIEEM and has been working as a consultant ecologist since 2013. Danielle is a graduate consultant with a BSc in Zoology.

The main habitats present were recorded using standard UKHab survey methodology as described in the UKHab classification User Manual Version 2[13]. In addition to general habitat classification, a list was compiled of observed plant species (using the nomenclature of Stace, 2010[14], with common and Latin names referred to in the first instance after which only the common names are used).

A HCA was undertaken, as described in the Natural England Biodiversity Metric 4.0 Habitat Condition Assessment sheet and is presented in Appendix 6.

2.3.2 Habitat Distinctiveness and Strategic Significance

Distinctiveness per habitat type was determined by the pre-set values within the Statutory Biodiversity Metric.

The strategic significance rating was assigned based upon the biodiversity value of the local surroundings, as determined by the desk study with checks of local biodiversity plans and sites (including Local Biodiversity Action Plans (BAPs), Nature Recovery Networks (NRNs), Biodiversity Opportunity Areas (BOAs), NNRs, LNRs, Local Wildlife Sites (LWSs), local planning policy maps) and checking if any of the habitats were strategically significant for rare species (e.g. critical for home range, functionally important for the species, etc). The following significance levels apply:

- Formally identified in local strategy = High strategic significance
- Location ecologically desirable but not in local strategy = Medium strategic significance
- Area/compensation not in local strategy/no local strategy = Low strategic significance

2.3.3 Baseline Biodiversity Calculation

The biodiversity unit (BU) score per area-based habitat was calculated via the Metric using the quality factors (distinctiveness, condition and strategic significance) and their assigned values. The sum of all the BUs provided the area-based habitat biodiversity baseline.

Linear features are calculated using the same quality factors and for hedgerows are recorded as hedgerow units (HU). Any individual trees found on-Site which did not form part of a habitat type were noted and entered into the 'Tree Helper' section of the Metric to determine the area of individual trees. This area was then added to the Metric as the area-based habitat 'Individual Trees'.

2.4 Post-development Biodiversity Assessment

2.4.1 Post-development Habitats and Target Condition

A post-development illustrative landscape mitigation plan (ILMP) has been produced and accompanies the planning application. This forms the basis of the BNG calculations for the Proposed Development.

Habitats have been translated from the ILMP into UKHab habitat types for the purpose of the BNG assessment. These translations are illustrated in Figure 1.3 (Appendix 1) and presented in Table 4.1 in Section 4 of the report, and have been assigned, along with the target habitat condition scores, based upon the expert judgement of the ecologist and the future management aspirations of the Site. Any individual trees which do not form part of a distinct habitat have been entered into the 'Tree

[13] UKHab Ltd (2023) UK Habitat Classification Version 2.0.
[14] Stace C. (2010) New Flora of the British Isles 3rd Edition. Cambridge University Press.

Helper' section of the Metric to calculate a total area (ha) and input into the Metric as 'Individual Trees'. In this study, all individual trees most closely matched the classification of 'Individual trees – Urban Tree' and a target condition of moderate was applied in line with Natural England guidance.

2.4.2 Habitat Distinctiveness and Strategic Significance

Habitat distinctiveness was assigned by the Natural England Biodiversity Metric, and based upon the habitat, hedgerow or watercourse types entered in the post-development sections of the Metric. Strategic significance values were assigned following the methodology described in Section 2.2.

2.4.3 Temporal and Difficulty Risk Factors

The relevant risk factors for the 'time to target condition' and the 'difficulty to create' were assigned by the Natural England Biodiversity Metric and are deemed appropriate for the Proposed Development.

2.4.4 Habitat Creation, Enhancement and Accelerated Succession

The BNG process includes a consideration of whether habitats and watercourses will be created, retained and enhanced or, in limited cases, will undergo accelerated succession. The following actions were considered for each habitat polygon on-Site and the action entered into the Metric:

- Habitat lost to permanent development;
- Habitat lost during construction and re-created post-development;
- Habitat retained (no improvement); and
- Habitat retained and enhanced.

2.5 Biodiversity Metric

The assessment was undertaken using the Statutory Biodiversity Metric.

2.6 Assumptions and Limitations

It should be noted that availability and quality of the data obtained during desk studies is reliant on third party responses. This varies from region to region and for different species groups.

Furthermore, the comprehensiveness of data often depends on the level of coverage, the expertise and experience of the recorder and the submission of records to the local recorder. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

The UKHab survey provides a snapshot of ecological conditions and does not record plants or animals that may be present on-Site at different times of the year but were absent at the time of the survey. The absence of a particular species cannot definitely be confirmed by a lack of field signs and only concludes that an indication of its presence was not located during the survey effort.

All habitat polygon areas were input into the Metric in hectares (ha), rounded up to two decimal places, and the lengths of linear features input into the Metric in kilometres (km), rounded up to two decimal places. This can cause a slight variation to the sum of the individual numbers but is unlikely to substantially change the results. The habitats measurements have not been undertaken with calibrated instruments and are therefore not to a precise scale. The baseline habitat areas measured for the purposes of the Metric are based on areas measured at the time of the UKHab survey and may change due to changes in land use.

This report contains recommendations for how this project might deliver BNG. These recommendations do not constitute a confirmed design for BNG for area-based habitats or the linear habitats of hedgerows. In submitting these recommendations, Ramboll has no Design Liability associated with these recommendations for BNG.

3. BIODIVERSITY BASELINE WITHIN DEVELOPMENT SITE

3.1 Desk Study: Designated Sites

Statutory Sites

A total of eight statutory designated sites have been identified within 10 km of the Site, the details of which are provided in Table 3.1 below.

No SACs designated for bats are present within 10km of the Site.

Table 3.1: List of Statutory Designated Sites within 10 km

Name	Type	Location	Area (ha)	Reason for Designation
Solent & Isle of Wight Lagoons	SAC	1.9 km east	38.03	Salt marshes, pastures, steppes, tidal rivers, estuaries, mud and sand flats and lagoons support a diverse fauna including large populations of three notable species: the nationally rare foxtail stonewort *(Lamprothamnium papulosum),* lagoon sand shrimp (*Gammarus insensibilis)* and starlet sea anemone (*Nematostella vectensis).*
Solent & Southampton Water	SPA	225 m south-west	5304.63	The Solent and Southampton Water SPA consists of various habitats including estuaries, harbours, mudflats and saltmarshes, saline lagoons, shingle beaches, reedbeds, damp woodland and grazing marsh. These areas support breeding seabirds such as gulls and four species of tern in the summertime and a diverse range of waterbirds in the winter.
Solent & Southampton Water	Ramsar	225 m south-west	5304.63	Habitats include estuaries and adjacent coastal habitats including intertidal flats, saline lagoons, shingle beaches, reefs, saltmarsh, and reedbeds, damp woodland, and grazing marsh. These support internationally important numbers of wintering waterfowl including(*Charadrius hiaticula*), (*Anas crecca*) and (*Branta bernicla bernicla*) and an impressive assemblage of rare invertebrates and plants.
Solent and Dorset Coast	SPA	2km south	88981	During the breeding season the area regularly supports the sandwich tern (*Sterna sandvicensis*), common tern (*Sterna hirundo*) and the little tern (*Sterna albifrons*). The site also supports estuarine, intertidal sediments and subtidal sediments
Solent Maritime	SAC	1.5km south-east	11240.83	The Solent Maritime SAC hosts the following habitats: annual vegetation of drift lines, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), coastal lagoons, estuaries, mudflats and sandflats not covered by seawater at low tide, perennial vegetation of stony banks, *Salicornia spp.* and other annuals colonising mud and sand, sandbanks which are slightly covered by sea water all the time, shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") and Spartina swards (*Spartinion maritimae*). It is also designated for the species Desmoulin's whorl snail (*Vertigo moulinsiana).*

Name	Type	Location	Area (ha)	Reason for Designation
Hurst Castle and Lymington River Estuary	SSSI	232m south-west	1077.19	Important habitats include estuaries, intertidal muds, shingle beaches, marsh and lagoons. These support an assemblage of rare invertebrates and plants of international importance such as the vulnerable starlet sea anemome (*Nematostella vectensis)*. They also provide nesting sites for nationally important breeding populations of terns and black-headed gulls (*Larus ridibundus)*. The marshes are important feeding grounds for waders, ducks and dark-bellied Brent goose (*Branta bernicla)*.
Lymington -Keyhaven Marshes	Local Nature Reserve (LNR)	1.3km south-east	167.93	Habitats include shallow, brackish lagoons which when flooded in the winter support wildfowl species such as Mallard *(Anas platyrhynchos*, Shoveler *(Anas clypeata)* and Teal *(Anas crecca*). Spring and autumn bring migrant wading birds including Whimbrel (*Numenius phaeopus*), Curlew (*Numenius*) Sandpiper (*Actitis hypoleucos*) and Little Stint (*Calidris minuta*).

Non-Statutory Sites

There are 29 SINCs within 2km of the Site, comprising local wildlife sites designated for a range of criteria.

Table 3.2 presents the SINCs located within 2 km of the Site. No further designated sites are present within 2km of the Site.

Table 3.2: Sites of Importance for Nature Conservation within 2 km

Name	Type	Location	Area (ha)	Reason for Designation
Newlands Manor Wood	SINC	2 km west	7.59	Other woodland where there is a significant element of ancient semi-natural woodland surviving.
Newlands Dingle	SINC	2 km west	0.69	Ancient semi-natural woodlands.
Everton Copse	SINC	2 km north-west	14.33	Ancient semi-natural woodlands.
Lymore Meadow	SINC	1.2 km west	1.07	Semi-improved or impoverished grasslands which retain a significant element of unimproved grassland and support the Hampshire Notable Species slender spike rush (*Eleocharis uniglumis*).
Wainsford Bridge Marsh	SINC	1.9 km north-west	0.64	Semi-improved or impoverished grasslands which retain a significant element of unimproved grassland. Fens, flushes, seepages, springs, and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent)
Wainsford Copse (East)	SINC	1.8 km north-west	0.42	Other woodland where there is a significant element of ancient semi-natural woodland surviving.

Name	Type	Location	Area (ha)	Reason for Designation
				Sites which support one or more Hampshire Notable Species: *Pulmonaria longifolia*
Wainsford Copse Meadow	SINC	1.9 km north-west	0.58	Semi-improved or impoverished grasslands which retain a significant element of unimproved grassland. Fens, flushes, seepages, springs, and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent).
Efford Avon Meadows	SINC	1.9 km north-west	1.75	Semi-improved or impoverished grasslands which retain a significant element of unimproved grassland. Fens, flushes, seepages, springs, and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent). Grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery.
Efford Wood	SINC	1.5 km north-west	2.83	Ancient semi-natural woodlands supporting the Hampshire Notable Species lungwort (*Pulmonaria longifolia*) and greater butterfly orchid (*Platanthera chlorantha*).
Agarton Copse	SINC	836 m south-west	1.75	Other woodland where there is a significant element of ancient semi-natural woodland surviving.
Keyhaven Fields	SINC	1.5km south-west	161.81	Regularly supports a significant population of the Hampshire Notable Species dark bellied-brent geese, but only used seasonally or for only one part of a species life-cycle.
Wainsford Bridge Meadows	SINC	1.7km north-west	2.59	Grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery. Fens, flushes, seepages, springs, and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent)
Aubrey House Meadow	SINC	1.9 km south	0.76	Semi-improved or impoverished grasslands which retain a significant element of unimproved grassland. Regularly supports a significant population of the Hampshire Notable Species dark bellied-brent geese, but only used seasonally or for only one part of a species life-cycle.
Pond Copse Meadow	SINC	636 m south-west	1.10	Semi-improved or impoverished grasslands which retain a significant element of unimproved grassland.

Name	Type	Location	Area (ha)	Reason for Designation
				Fens, flushes, seepages, springs and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent)
Agarton Copse Meadow	SINC	664 m south-west	0.71	Semi-improved or impoverished grasslands which retain a significant element of unimproved grassland.
Pond Copse, Milford-on-Sea	SINC	699 m south-west	1.92	Other woodland where there is a significant element of ancient semi-natural woodland surviving. Areas of open freshwater (e.g. lakes, ponds, canals, rivers, streams and ditches).
Newlease Copse and Meadow, Lymington and Pennington	SINC	1.3 km north	5.00	Ancient semi-natural woodlands. Agriculturally unimproved grasslands, which are not of recent origin. Fens, flushes, seepages, springs, and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent). Supports the Hampshire Notable Species: purple small-reed (*Calamagrostis canescens*).
Keyhaven Baskets	SINC	1.8km south	0.78	Semi-natural coastal and estuarine habitats (including saltmarsh, intertidal mudflats, sand dunes, brackish ponds, saline lagoons, inundation grasslands of the coastal plain, maritime cliffs and maritime grasslands. Supports the Hampshire Notable Species bulbous foxtail (*Alopecurus bulbosus*).
Great Newbridge Copse	SINC	377 m north-west	11.45	Ancient semi-natural woodlands.
Keyhaven Fields (South-East)	SINC	1.6 km south	4.10	Regularly supports a significant population of the Hampshire Notable Species dark bellied-brent geese, but only used seasonally or for only one part of a species life-cycle.
Efford Area 1	SINC	903 m north	0.48	Ancient Semi-natural Woodlands
Waterworks Lake & Bank	SINC	160 m north-west	0.67	Semi-improved grasslands which retain a significant element of unimproved grassland. Fens, flushes, seepages, springs, and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent).
Meadows south of Efford Bridge	SINC	375 m north-west	3.78	Semi-improved grasslands which retain a significant element of unimproved grassland. Fens, flushes, seepages, springs, and inundation grasslands of floodplains that support a flora and

Name	Type	Location	Area (ha)	Reason for Designation
				fauna of less-improved wet conditions (seasonal or permanent).
Newbridge Copse	SINC	411 m north	1.63	Ancient semi-natural woodlands.
Efford Southern Balancing Pond (South-East edge)	SINC	1.3 km south	0.38	Supports the Hampshire Notable Species annual bear-grass (*Polypogon monspeliensis*).
Keyhaven Marshes Extension	SINC	1.1 km south-east	4.93	Semi-natural coastal and estuarine habitats (including saltmarsh, intertidal mudflats, sand dunes, brackish ponds, saline lagoons, inundation grasslands of the coastal plain, maritime cliffs and maritime grasslands).
Woodside	SINC	1.7 km north-east	1.98	Agriculturally unimproved grasslands which are not of recent origin. Supports the Hampshire Notable Species water crow-foot (*Ranunculus aquatilis*).
Fields North-West of the Salterns	SINC	1.5 km east	9.62	Regularly supports a significant population of the Hampshire Notable Species dark bellied-brent geese, but only used seasonally or for only one part of a species life-cycle.
Boat Club Paddock	SINC	1.8 km north-east	0.91	Semi-improved or impoverished grasslands which retain a significant element of unimproved grassland.

3.2 Desk Study: Priority and Irreplaceable Habitats

There are no priority or irreplaceable habitats within the Site boundary itself.

There is "Coastal and Floodplain Grazing Marsh" approximately 250 m from the Site, on the opposite side of the existing water treatment works, with a small amount of "Purple Moor Grass and Rush Pastures" and "Reedbeds" within it. There are also two areas of "Lowland Mixed Deciduous Woodland" either side of the Site, approximately 70 m to the east (on the opposite side of Milford Road and the existing New Milton Sand and Ballast site) and 200 m to the west.

To the south of the Site, towards the coastline, there are also areas of "Saline Lagoons" and "Coastal Saltmarsh", with the closest areas of each to the site approximately 1.4 km south-east and 915 m south-west respectively.

The closest area of ancient woodland comprises an area of ancient and semi-natural woodland at Great Newbridge Copse, approximately 365 m north-west of the Site, and on the opposite side of the existing water treatment works and Avon Water.

3.3 Habitat Survey and Condition Assessment

The habitats found in the development Site are shown in Figure 1.2, Appendix 1, and detailed in Appendix 2, with the UKHab type, as determined during the UKHab survey. The condition rating and score of each habitat is also shown with further details provided in Appendix 6.

3.4 Area Based Habitats

The Site, which covers approximately 1.81 ha, comprises part of a horse-grazed grassland field, with scattered scrub at the south end and dense scrub surrounding the Site (although the majority of this

is outside of the application boundary). There is a Public Right of Way (PRoW) running the entire length of the east boundary of the Site, with a stock fence separating the field from the PRoW and the adjacent boundary hedgerow. There is similar stock fencing around the south and west perimeters of the field. A full description of the habitats on-Site and their condition score can be found in Appendix 2 and Appendix 6.

3.5 Linear Habitats

There are no hedgerows present within the Site.

3.6 Trees

There are no trees present within the Site.

3.7 Strategic Significance

In respect of area-based habitats and hedgerows, as determined using the methodology given in Section 2.2, the strategic significance of the habitats within the Site have been determined as 'area not in a local strategy'.

3.8 Baseline Biodiversity Score

Appendix 3 details the ecological baseline score for area-based habitats, as determined by the Metric, with the UKHab habitats, their condition rating, distinctiveness, strategic significance listed. The total area of the Site given in the Metric is 1.81 ha. The total biodiversity baseline units equal 10.44 BU.

4. POST-INTERVENTION BIODIVERSITY WITHIN SITE

This section assesses the post-intervention biodiversity of the compensation areas. The opportunities for new and enhanced habitats have been determined based upon the professional judgement of a suitably qualified ecologist (SQE).

4.1 Completed Development Habitats, Habitat Intervention and UKHab Translation

The post-development UKHab habitat types are presented in Table 4.1 and illustrated in Figure 1.3 in Appendix 1. The post-development habitat types are based on the ILMP that accompanies the planning application and have been translated into the most appropriate UKHab habitat type using the professional judgement of a SQE. The target habitat condition assigned to each UKHab habitat type is captured within the metric, with details on the criteria considered likely to be passed / failed provided in Appendix 6.

Table 4.1: Post Development Landscape – Area-based Habitats and UKHab Translation post-intervention

ILMP Habitat Description	UKHab Translation (post-intervention)	Metric Habitat Type
Hedgerow Tree Planting	h221 – Hedgerow with Trees	Native Hedgerow with trees
Native Hedgerow	h2a – Native Hedgerow	Native hedgerow
Seasonal Pond	r1 41 – Pond (Non-priority)	Lakes – Ponds (non-priority habitat)
Aquatic Marginal Vegetation	r1 41 – Pond (Non-priority)	Lakes – Ponds (non-priority habitat)
Grassland	g4 – Modified Grassland	Grassland – Modified grassland
Species Rich Grassland	g3c – Other Neutral Grassland	Grassland – Other neutral grassland
Path Surface – Type 1 Aggregate	u1b – Developed Land; Sealed Surface	Urban - Developed Land; Sealed Surface

4.2 Post-intervention Biodiversity

The following subsection describes the habitats changes on the Site based on the Proposed Development.

4.2.1 Impacts to Irreplaceable Habitats and Habitats of Principal Importance

There are no irreplaceable habitat or habitats of principle importance within the Site.

4.2.2 Baseline Habitats Permanently Lost to Development

The development will result in the permanent loss to neutral grassland in the north of the Site to facilitate the creation of the permanent access track.

4.2.3 Baseline Habitats Temporarily Lost to Development

To facilitate the construction of the solar farm infrastructure, the majority of the neutral grassland at baseline would be stripped back and therefore, temporarily lost. The neutral grassland will be reinstated in 'Good' condition in unshaded areas and 'Moderate' condition in shaded areas. This has been input into the Biodiversity Metric as habitat lost and then habitat created as it will take longer than two years to reach its target condition.

To allow for the input of the cable route, mixed scrub habitat would be temporarily lost within the Site and reinstated in 'Good' condition. This has been input into the Biodiversity Metric as habitat lost and then habitat created as it will take longer than two years to return to its target condition.

4.2.4 Baseline Habitat Retained (No Change)

No habitats within the Site will be retained. However, the neutral grassland and mixed scrub along the cable route will be temporarily lost and reinstated once the solar farm infrastructure has been installed and the cable has been input. This has been input into the Biodiversity Metric as habitat lost and then habitat created as it will take longer than two years to return to its target condition.

4.2.5 Baseline Habitat Retained and Enhanced

There will be no retained and enhanced habitats within the Site. However, the neutral grassland will be temporarily lost and reinstated to reach an enhanced 'Good' condition in unshaded areas once the solar farm infrastructure has been installed.

4.2.6 Habitat Created Post Development

Most of the habitats lost to the Proposed Development would be reinstated or recreated post development. These include areas of neutral grassland across most of the Site and mixed scrub over the underground cable route. Modified grassland would also be introduced into the Proposed Development around the perimeter of the Site as well as a pond in the north-west of the Site.

The newly created neutral grassland would be designed to match the UKHab definition of 'Other Neutral Grassland', with target species dominant including, but not limited to: common bent *Agrostis capillaris*; false oat-grass *Arrhenatherum elatius*; cocks-foot *Dactylis glomerata*; sweet vernal grass *Anthoxanthum odoratum*; crested dog's tail *Cynosurus cristatus*; lady's smock *Cardamine pratensis*; sorrel *Rumex acetosa*; yarrow *Achillia milliofolium*; meadow buttercup *Ranunculus acris;* and ribwort plantain *Plantago lanceolata*.

Species present in the seed bank (recorded during the initial extended UKHab survey), such as creeping cinquefoil *Potentilla reptans,* common fleabane *Pulicaria dysentierica,* selfheal *Prunella vulgaris,* black medick *Medicago lupulina,* common centaury *Centaurium pulchellum,* common knapweed *Centaurea nigra and* common mouse-ear *Cerastium fontanum*, will also be selected for with appropriate management that doesn't allow any one species to become dominant.

The grassland cover would be between 50% and 70% with forbs up to 50% cover and would be managed in a way to encourage a varied sward height, with any scrub and invasive / broadleaved weeds removed, to achieve the target condition across the Site. There would be greater than eight native species per metre square in the newly created grassland. The new grassland would be sown with a high diversity seed mix to achieve 'Good' condition in unshaded areas (0.83 ha). This is considered feasible as the underlying soil conditions already support neutral grassland (in poor condition), indicating nutrient deficits, and the cessation of grazing will permit an enhanced condition. Any areas shaded by the solar infrastructure would only achieve 'Moderate' condition (0.49 ha). It is not anticipated that the grassland would be mown closely, and marginal areas would be allowed to grow tall.

The newly created pond will be made up of an area of pond as well as aquatic habitat features such as areas of emergent and marginal planting, to provide a diverse range of habitats. Ponds would include a variety of depths of water, with stepped edges, to maximise the range of plants supported and in turn, the diversity of invertebrates. It is assumed that with appropriate management, the ponds would achieve 'Moderate' condition.

The newly created mixed scrub would likely achieve 'Moderate' condition. A range of age classes from seedlings to mature shrubs would be created. The habitat would be managed to ensure no invasive non-native species are present within the habitat.

Modified Grassland will be created in 'Moderate' condition around the perimeter of the Site within the Site fencing to allow for access and maintenance.

4.2.1 Trees

There will be no new trees planted within the Site.

4.2.2 Linear Habitats

50 m (0.05 km) of native hedgerow with trees would be created along the northern boundary of the Site and 260 m (0.026 km) of native hedgerow would be created along the eastern boundary of the Site.

Hedgerows would be created on the Site to reach 'Moderate' condition. A suitably diverse range of species should be introduced into the hedgerows, using native species of local provenance, and taking into consideration climate resilience. Hedgerows would be protected from damage through grazing or other activities, to promote the growth of a diverse understorey and create strips of undisturbed land along at least one aspect of every hedgerow. Appropriate management practices would ensure hedgerows are maintained at a minimum of 1.5 m wide and 1.5 m high, invasive and non-desirable species would be controlled. In some instances, hedge laying may be appropriate, especially for younger hedges, to improve structure and form in the long-term. Newly planted hedgerows will be allowed to grow up and out and would be trimmed back on a three-year rotation, to allow flowers and fruit to grow. The proposed new hedgerows would deliver a total of 1.15 HUs.

4.3 Post-intervention Summary

Figures 4.1 and 4.2 in Appendix 4 detail the post-development habitats and their corresponding biodiversity unit score based on the ILMP and as determined by the Metric, with the habitats shown.

5. CALCULATION OF BIODIVERSITY CHANGE

5.1 Quantitative Biodiversity Change

This section details the biodiversity unit changes between the baseline and the post-development Site. Table 5.1 shows the calculation of change for area-based habitats and linear features at the Site, pre-development and post-development, based on the ILMP, with the outcome for biodiversity.

Table 5.1: Baseline Biodiversity, Post-development Biodiversity and Biodiversity Change

Biodiversity Feature	Baseline (area (ha) /length (km))	Baseline Units (BU/HU/RU)	Post-development (area (ha) /length (km))	Post-development (BU/HU/RU)	Outcome
Area-based Habitats	1.78 ha	10.56 BU	1.78 ha	11.91 BU	**+ 12.79% = Net gain**
Hedgerows	0.00 km	0.00 HU	0.31 km	1.15 HU	**NA**

The final change is a 12.79% net gain for area-based habitats. There are zero baseline units for hedgerows so the percentage net gain cannot be calculated however, there is an increase in hedgerow units of 1.15 within the Site.

Trading Rules

Trading rules are satisfied for area-based habitats and hedgerows.

5.2 Outcomes for Biodiversity

Table 5.2 shows the broad habitat changes for area-based habitats, highlighting where like-for-like or like-for-better compensation has been achieved, as per Principle 6 of the CIEEM Biodiversity Net Gain principles for development[2] along with the overall outcome.

Table 5.2: Baseline Biodiversity, Post-development Biodiversity and Biodiversity Change per Habitat Group

Total Site Units	Baseline		Post-development		Overall Change	
Habitat Group	Baseline Area/Length (ha/km)	Baseline Units (BU/HU/RU)	Post-development Area/Length (ha/km)	Post-development Units (BU/HU/RU)	Area Change (ha/km)	BU/HU/RU Change
Grassland	1.74 ha	10.20 BU	1.64 ha	11.37 BU	-0.10 ha	1.17 BU
Heathland & Shrub	0.03 ha	0.36 BU	0.06 ha	0.40 BU	0.03 ha	0.04 BU
Lakes	0.00 ha	0.00 BU	0.02 ha	0.14 BU	0.02 ha	0.14 BU
Urban	0.01 ha	0.00 BU	0.07 ha	0.00 BU	0.06 ha	0.00 BU
Hedgerows	0.00 km	0.00 HU	0.31 km	1.15 HU	0.31 km	1.15 HU

Comparisons of the broad habitat groups pre- and post-development show positive gains in low and medium distinctiveness habitats grouped in Grassland, Heathland and Shrub and Lakes due to the creation of modified grassland, neutral grassland, mixed scrub and a new pond, which will provide habitat for amphibians and invertebrates. In addition, there are significant gains for hedgerows, owing to the creation of a new hedgerow.

Overall, this assessment has found that it is possible to deliver a net gain in biodiversity on-Site under the proposed ILMP via the like-for-like and like-for-better compensatory actions outlined within this report.

5.3 Qualitative Biodiversity Change

The introduction of new habitats as part of the Proposed Development would bring additional benefits for biodiversity, with features such as ponds providing habitats for amphibians and aquatic invertebrates and wildflower-rich planting providing nectar and pollen suitable for pollinators (which meets with the UK Government's aspirations in the National Pollinator Strategy[15]).

5.4 Recommendations

Overall, this assessment has demonstrated that it is possible to deliver a Site-wide net gain in biodiversity for area-based habitats under the proposed ILMP via the like-for-like and like-for-better compensatory actions outlined within this report.

Landscaping could also bring further benefits for biodiversity within the Site. For example, by introducing rocks and piles of brash for reptiles and amphibians; pebble and log piles suitable for nesting and hibernating invertebrates; and bat and bird boxes. Site-derived material such as felled trees and rocks dug up during re-profiling could be reused on the Site to provide these features for invertebrates.

5.5 Management and Monitoring

Habitats delivered as part of the Proposed Development should be sympathetically managed for biodiversity to ensure they develop appropriately managed following the prescriptions of a Habitat Management Plan (HMP). An HMP has been prepared an accompanies the planning application. It outlines the measures for the long-term management and monitoring of habitats and features suitable for promoting biodiversity and reaching the prescribed target condition. It includes measures to increase the ecological value of the Site following completion of the development and for the long term, such as reduced mowing of wildflower grassland areas and avoidance of pesticide. It would be handed over after construction and explained to a maintenance company or staff responsible for ongoing management of the Site. The stewardship options for the 30 years of management post-development are unknown at the time of writing.

Management and monitoring of the habitats over a 30-year period is required to ensure correct development and management of habitats, in line with BNG principles. Initially the HMP should be suitable for a 10-year period, when the Metric predicts habitats will have reached target condition. Scheduled checks should be undertaken at appropriate intervals, to ensure habitats are establishing correctly along with corrective actions if required. After the initial period it would be advised that it is reviewed and updated. The mixed scrub and neutral grassland in particular would take time to mature, and management would need to be ongoing to ensure that the habitats present develop appropriately and reach their target condition.

5.6 Conclusion

The Proposed Development has sought to create and enhance significant areas of additional habitats within the Site. With these measures, it is possible to achieve a net gain of more than 10% for area-based habitats. Overall, the current calculated change is 12.79% (+1.35 Biodiversity Units) net gain for area-based habitats. There are zero baseline units for hedgerows so the percentage net gain cannot be calculated however, there is an increase in hedgerow units of 1.15 within the Site.

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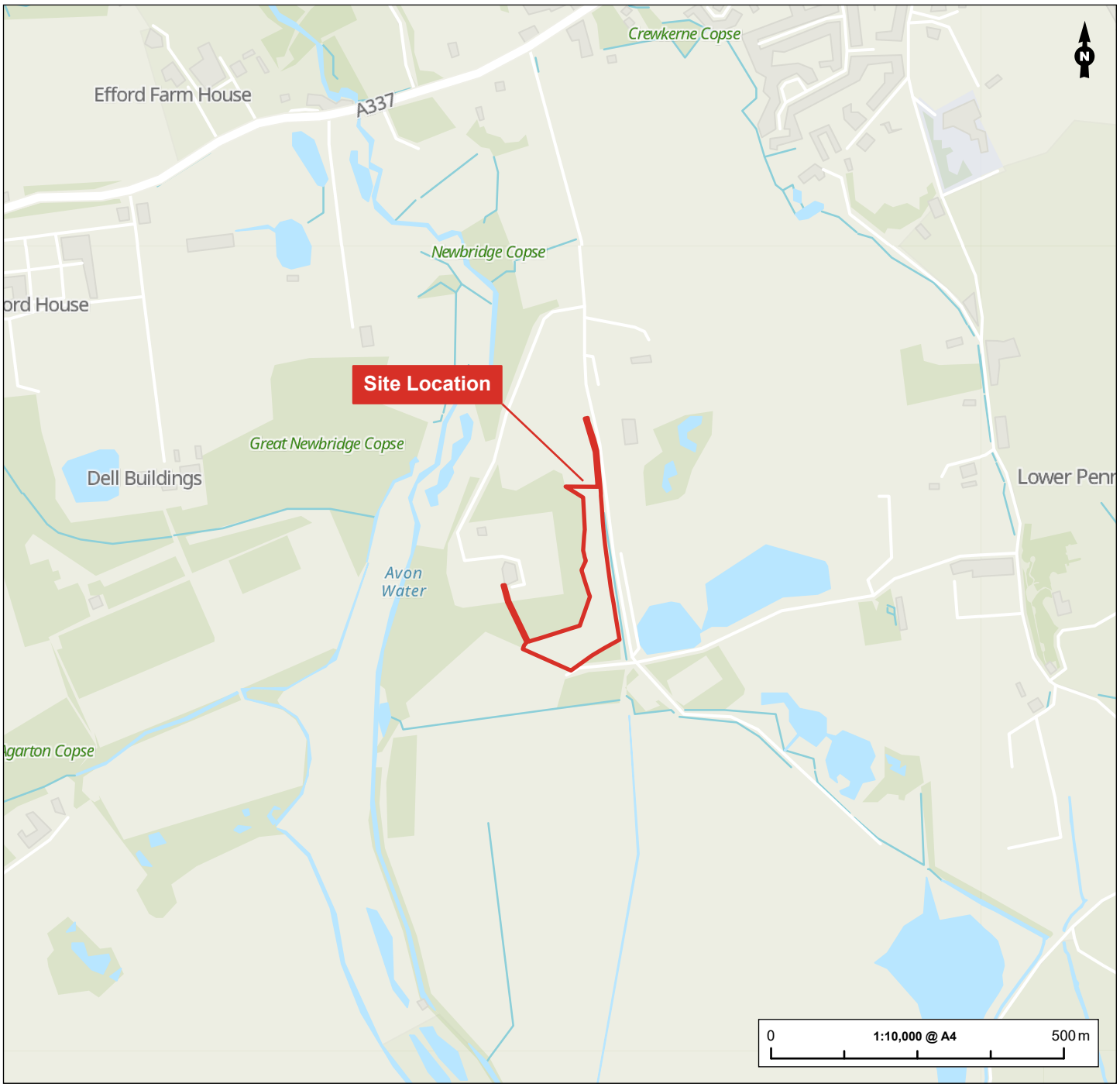
[15] Department for Environment, Food & Rural Affairs, 2018. National Pollinator Strategy: Implementation Plan, 2018-2021 [online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766200/nps-implementation-plan-2018-2021.pdf

APPENDIX 1
FIGURES



RAMBOLL	Figure Title: Site Location	Project Name: Milford Road	Date: January 2024
			Prepared By: BE/CT/AB; Figure No.: 1.1
	Client: **Downing Renewable Developments LLP**	Project No./Filery ID: 1620015344-002 / REH2023N04158	Scale: As Shown; Revision: 1.0

1620015344_002-RAM-MA-IA-00001_Fig1.1SiteLoc_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

- Site Boundary
- Access Point
- Proposed Cable Route

UKHab

- g3c - Other Neutral Grassland
- h3h - Mixed Scrub
- u1b - Developed Land, Sealed Surface

Figure Title
Baseline UKHab Habitat Plan

Project Name
Milford Road

Project No./Filery ID
1620015344-002 / REH2023N04158

Date	Figure No.	Revision
January 2024	1.2	1.0

Prepared By	Scale
AB	1:2,000 @A3

Client **Downing Renewable Developments LLP**

RAMBOLL

1620015344_002-RAM-MA-IA-00004_Fig1.2BaselineUKHabPlan_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

- Site Boundary
- Access Point
- Proposed Cable Route

UKHab

- h2 21 - Hedgerow with Trees
- h2a - Native Hedgerow
- g3c - Other Neutral Grassland
- g4 - Modified Grassland
- h3h - Mixed Scrub
- r1 41 - Pond (Non-priority)
- u1b - Developed Land, Sealed Surface

Figure Title
Post-Development Habitat Plan

Project Name
Milford Road

Project No./Filery ID
1620015344-002 / REH2023N04158

Date	Figure No.	Revision
January 2024	1.3	1.0

Prepared By	Scale
AB	1:2,000 @A3

Client **Downing Renewable Developments LLP**

RAMBOLL

1620015344_002-RAM-MA-IA-00005_Fig1.3PostDevHabitatPlan_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

APPENDIX 2
BASELINE UKHAB DESCRIPTIONS

The following habitat descriptions are to be read in conjunction with Figure 1.2 (Baseline UKHab Map) in Appendix 1.

General Site Description

The Site comprises part of a horse-grazed grassland field, with scattered scrub at the south end and dense scrub surrounding the Site (although the majority of this is outside of the application boundary).

There is a Public Right of Way (PRoW) running the entire length of the east boundary of the Site, with a stock fence separating the field from the PRoW and the adjacent boundary hedgerow. There is similar stock fencing around the south and west perimeters of the field.

g3c - Other Neutral Grassland

The Site comprises part of a grassland field, although the species within the sward are distinct between the northern end and the southern end within the application boundary.

The north end is dominated by common bent (*Agrostis capillaris*), with abundant creeping bent (*Agrostis stolonifera*), creeping cinquefoil (*Potentilla reptans*) and common fleabane (*Pulicaria dysentierica*). Frequent species present in the sward comprise yarrow (*Achillea millefolium*), white clover (*Trifolium repens*), creeping thistle (*Cirsium arvense*), Yorkshire fog (*Holcus lanatus*), ribwort plantain (*Plantago lanceolata*), bristly oxtongue (*Helminthotheca echioides*), self-heal (*Prunella vulgaris*), black medick (*Medicago lupulina*) and meadow grass (*Poa* sp.). Occasional species include common hogweed (*Heracleum sphondylium*), common mouse-ear (*Cerastium fontanum*), ragwort (*Jacobaea vulgaris*), creeping buttercup (*Ranunculus repens*), broadleaved plantain (*Plantago major*) and perennial ryegrass (*Lolium perenne*).

Areas of higher disturbance (particularly at the field entrance and surrounding the water trough) are bare ground with fewer species indicative of disturbed ground comprising prostrate knotweed (*Polygonum aviculare*) and scarlet pimpernel (*Anagallis arvensis*). There is a small amount of scattered hawthorn (*Crataegus monogyna*) scrub within this area of grassland.

The south end of the field is not dominated by any particular grass or herb species, with abundant Yorkshire fog, creeping cinquefoil, and common fleabane present in the sward. There is frequent common centaury (*Centaurium pulchellum*), cat's ear (*Hypochaeris radicata*), common knapweed (*Centaurea nigra*), common bent, white clover, bristly ox-tongue, creeping bent and self-heal, with occasional clustered dock (*Rumex conglomeratus*), hairy trefoil (*Lotus subbiflorus*), red fescue (*Festuca rubra*), red clover (*Trifolium pratense*), yarrow, ribwort plantain, scarlet pimpernel, creeping buttercup, creeping thistle and meadow grass. There is rare greater trefoil (*Lotus pedunculatus*), common agrimony (*Agrimonia eupatoria*), field bindweed (*Convolvulus arvensis*), St John's wort (*Hypericum perforatum*) and common mouse-ear also present within the sward, with a locally abundant patch of marsh cudweed (*Gnaphalium ulignosum*) present at the south-east corner of the Site.

There is scattered scrub, comprising field rose (*Rosa arvensis*) and hawthorn, throughout this part of the grassland.

h3h – Mixed Scrub

There is dense scrub, dominated by blackthorn, with frequent bramble (*Rubus fruticosus*) and occasional gorse (*Ulex europaeus*), to the west of the Site and adjacent to the Site to the south-east.

APPENDIX 3
BASELINE BIODIVERSITY SCORE

Figure 3.1: Baseline Biodiversity Score, Areas, Distinctiveness, Strategic Significance and Condition Score – Area-based habitats (including Areas Retained and Enhanced)

Existing area habitats			Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline
Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units
Grassland	Other neutral grassland	0.93	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	3.72
Grassland	Other neutral grassland	0.81	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	6.48
Heathland and shrub	Mixed scrub	0.03	Medium	Good	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	0.36
Urban	Developed land; sealed surface	0.01	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
	Total habitat area	1.78					10.56
	Site Area (Excluding area of Individual trees and Green walls)	1.78					

APPENDIX 4
POST DEVELOPMENT BIODIVERSITY SCORE

Figure 4.1: Post-development Habitats, Habitat Action and Units Delivered – Area-based habitats (Creation)

Post development/ post intervention habitats									
Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty	Habitat units delivered
			Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of creation	
Grassland	Other neutral grassland	0.83	Medium	Good	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	10	Low	6.97
Grassland	Modified grassland	0.32	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	4	Low	1.11
Heathland and shrub	Mixed scrub	0.06	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.40
Lakes	Ponds (non-priority habitat)	0.02	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	3	Low	0.14
Urban	Developed land; sealed surface	0.07	V Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	0	Medium	0.00
Grassland	Other neutral grassland	0.49	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	3.28
	Total habitat area	1.79							11.91
	Site Area (Excluding area of Individual trees and Green walls)	1.79							
	M² to hectares conversion tool:	Select a unit	Hectares	M²					

Figure 4.2: Post-development Habitats, Habitat Action and Units Delivered – Hedgerows (Creation)

Proposed habitats		Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty risk multipliers	Hedge units delivered
Habitat type	Length (km)	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of creation	
Native hedgerow with trees	0.05	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	10	Low	0.28
Native hedgerow	0.26	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.87
	0.31							1.15

APPENDIX 5
BIODVIERSITY NET GAIN PRINCIPLES

BIODIVERSITY NET GAIN PRINCIPLES

The ten good practice principles[16] must be met for a proposed development to achieve qualitative BNG and overall BNG. The Proposed Development has been assessed against each good practice principle and the result is displayed with supporting evidence in the table below. Where a principle has not been met, recommendations on how the principle could be met in future are also provided. It should be noted that the adherence to these principles is based on the Proposed Development's current stage in the BNG process and therefore the results presented below do not necessarily rule out future adherence.

[16] CIRIA, CIEEM, IEMA (2019). Biodiversity Net Gain: Good Practice Principles for Development. A Practical Guide.

Principle	Principle Description	Evidence	Current Outcome	Recommendations
Apply the mitigation hierarchy	Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision-makers where possible, compensate for losses that can not be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.	There are no priority habitats, irreplaceable habitats and protected plants within the Site. Most habitats within the Site will be permanently lost and new habitats created including grassland and scrub.	Achieved	N/A
Avoid losing biodiversity that cannot be offset elsewhere	Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve No Net Loss or Net Gain.	There are no irreplaceable habitats within the Site.	Achieved	N/A
Be inclusive and equitable	Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to Net Gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.	Consultation has been undertaken with the Landscape Architect and the Impact Assessment team, and further consultation will be undertaken with the local authority in relation to the creation and management of new habitats.	Achieved	Recommended how the Proposed Development can meet trading rules by including more mixed scrub in the landscape plans.
Address risks	Mitigate difficulty, uncertainty and other risks to achieving Net Gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.	BNG Metric 4.0 applies risk multipliers to account for the time required for habitats to reach any given condition, and the difficulty to create any given habitat. A variety of locally relevant habitats have been incorporated into the landscape design, including trees, woodland, scrub and grassland that will also increase habitat connectivity. A precautionary approach has been taken when making	Achieved	Habitats can be managed to target higher conditions than those assumed in the BNG Assessment. This would result in a higher BNG score.

Principle	Principle Description	Evidence	Current Outcome	Recommendations
		assumptions about target condition for habitats.		
Make a measurable Net Gain contribution	Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.	A measurable net gain has been achieved for area-based habitats. The final predicted change is a 17.70% net gain for area-based habitats. There are zero baseline units for hedgerows so the percentage net gain cannot be calculated however, there is an increase in hedgerow units of 1.15 within the Site.	Achieved for Area-based Habitats N/A for Hedgerows. There are zero baseline units for hedgerows so the percentage net gain cannot be calculated however, there is an increase in hedgerow units of 1.15 within the Site.	N/A
Achieve the best outcomes for biodiversity	Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly justified choices when: Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses; Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation; Achieving Net Gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels; Enhancing existing or creating new habitat; Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity.	This BNG assessment followed a rigorous QA process and local policy has been followed. The Proposed Development achieved a Net Gain with losses compensated for on Site. Trading rules have been satisfied due to the creation of new ponds, neutral grassland and reinstatement of mixed scrub along the cable route and around the solar panels. The best habitats for the specific Site have been chosen for mitigation works including neutral grassland and mixed scrub. Habitats have been designed in a way that is supportive to existing local habitat networks.	Achieved	Landscaping could also bring further benefits for biodiversity within the Site. For example, by introducing rocks and piles of brash for reptiles and amphibians; pebble and log piles suitable for nesting and hibernating invertebrates; and bat and bird boxes. Site-derived material such as felled trees and rocks dug up during re-profiling could be reused on the Site to provide these features for invertebrates.

Principle	Principle Description	Evidence	Current Outcome	Recommendations
Be additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway)	The nature conservation outcomes relating to legislation and policy have been met. Areas of medium distinctiveness habitat will be created.	Achieved	N/A
Create a Net Gain legacy	Ensure Net Gain generates long-term benefits by: Engaging stakeholders and jointly agreeing practical solutions that secure Net Gain in perpetuity; Planning for adaptive management and securing dedicated funding for long-term management; Designing Net Gain for biodiversity to be resilient to external factors, especially climate change; Mitigating risks from other land uses; Avoiding displacing harmful activities from one location to another; Supporting local-level management of Net Gain activities.	New habitats have been chosen based on expert opinion, and liaison with stakeholders will take place to ensure they are designed and implemented in the production of a HMP. This ensures the ecosystem services of the area are retained. The development conforms with what is required for protected species or other environmental mitigation and Policy ENV1 of the Local Plan. It has been demonstrated that the proposals enhance the network of natural capital and biodiversity.	Achieved	N/A
Optimise sustainability	Prioritise Biodiversity Net Gain and, where possible, optimise the wider benefits for a sustainable society and economy.	The current landscape plan takes into account BNG requirements for the site but also wider sustainability requirements, addressing both where possible.	Achieved	N/A
Be transparent	Communicate all Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.	Data was consistently shared across disciplines and stakeholders to allow biodiversity to be designed into the development to maximise outcomes via regular meetings and via collaborative drawings.	Achieved	N/A

APPENDIX 6
HABITAT CONDITION ASSESSMENT

Habitat Reference	UKHab Type	Criterion 1	Criterion 2	Criterion 3	Criterion 4	Criterion 5	Criterion 6	Criterion 7	Criterion 8	Criterion 9	Criterion 10	Criterion 11	Criterion 12	Criterion 13	Condition Score	Notes
Baseline Habitats																
1281	Other neutral grassland	P	P	P	P	P	F								Moderate	Northern end
1282	Other neutral grassland	F	P	P	P	P	F								Poor	Southern end
1283	Mixed scrub	P	P	P	P	P									Good	
Created Habitats																
	Other neutral grassland	P	P	P	P	P	P								Good	Unshaded areas of neutral grassland
	Other neutral grassland	P	P	P	P	F	F								Moderate	Areas of neutral grassland shaded by solar panels
	Modified grassland	P	P	F	F	P	P	P							Moderate	
	Pond (non-priority habitat)	P	F	F	P	P	P	P	P	P					Moderate	
	Mixed Scrub	F	P	P	P	F									Moderate	
	Native hedgerow with trees	P	F	P	F	P	F	P	P	F	P				Moderate	
	Native hedgerow	P	F	P	F	P	F	P	P						Moderate	