

Appendix EDP 8

Biodiversity Net Gain Assessment

METHODOLOGY

- A8.1 The Biodiversity Net Gain (BNG) assessment has been undertaken to objectively measure the net biodiversity impacts of the proposed development and to assess the scheme's ability to deliver net biodiversity gain. The BNG assessment has been undertaken using the Statutory Biodiversity Metric published by the Department for the Environment Farming and Rural Affairs (DEFRA) on 29 November 2023 (last updated 12 February 2024). The assessment has been undertaken by an ecological consultant suitably experienced in these types of assessment, and with reference to the Statutory Biodiversity Metric User Guide³¹ and current best practice guidance³².
- A8.2 The biodiversity metric tool uses habitat as a proxy for wider biodiversity with different habitat types scored according to their relative biodiversity potential. There are three different types of biodiversity unit which can be measured in the biodiversity metric tool, namely habitat units; hedgerow units and watercourse units.
- A8.3 Factors such as distinctiveness, size, condition, and strategic significance, affect the unit score, and in the case of newly created or enhanced habitats the risk (time and difficulty) to reach target habitat condition affects the resulting score. The council has not yet published a Local Nature Recovery Strategy, therefore we have used the following documentation to assign strategic significance for biodiversity enhancements within the biodiversity metric:
- Local Plans and Neighbourhood Plans;
 - Priority Biodiversity Areas and Links Maps; and
 - Biodiversity Action Plan.
- A8.4 The total number of 'biodiversity units' pre- and post-development are calculated in the biodiversity metric tool and used to calculate the total net change as a result of the proposed development.
- A8.5 The biodiversity metric tool only considers direct impacts on biodiversity through impacts on their supporting habitats. Indirect impacts are not included. The metric does take account of habitat creation or enhancement delivered as part of a development for other schemes, such as:
- To comply with statutory obligations or policies (such as green infrastructure, sustainable drainage, or nutrient mitigation);

³¹ DEFRA. The Statutory Biodiversity Metric User Guide. February 2024

³² Biodiversity Net Gain: Good practice principles for development © CIEEM, CIRIA, IEMA, 2016. <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf>

- As mitigation or compensation for protected sites and species (for example EPS mitigation licensing or suitable alternative natural green space (SANG)); or
- River basin management plan (RBMP) mitigation and enhancement.

A8.6 However, rules apply as to how much of this habitat creation or enhancement can be counted towards a development's BNG contribution³³.

A8.7 The provision of specific habitat features such as nesting and roosting sites (e.g. bird and bat boxes), basking sites (e.g. log piles) and hibernation sites (e.g. hibernaculum) are not counted in the biodiversity metric tool.

A8.8 The application to be made is for outline planning permission, with full details of landscaping and layout reserved for later approval. Therefore, at the outline planning stage, the proposed design is illustrative and subject to change following receipt of detailed technical information at the Reserved Matters stage. The draft BNG calculations provided alongside this report are therefore also indicative and will need to be updated once detailed design information is available. A final biodiversity metric calculation will be prepared alongside the Biodiversity Gain Plan and submitted to the LPA to discharge the general biodiversity gain condition applied to the planning permission if granted.

A8.9 The following sections break down the various components of the BNG Assessment to provide further clarity on how individual elements have been entered into the Metric. The following should be read in conjunction with the Statutory Biodiversity Metric (Report ref: edp7852_r012), a copy of which has been submitted to the LPA alongside the planning application and is available on request.

On-site Baseline

A8.10 The pre-development (baseline) biodiversity value of the Site was calculated using the information derived from the baseline habitat survey completed on 07 June 2023 as described within **Appendix EDP 3**.

A8.11 In this case all three unit types (Habitat Units, Hedgerow Units and Watercourse Units) were measured. QGIS software (using Natural England's QGIS Template) was used to accurately measure the area/length of existing habitats. The measured habitat areas/lengths were entered into the Metric as illustrated on **Plan EDP 14**. The detailed condition assessments of the baseline habitats are set out within **Table EDP A7.2** at the rear of this Appendix.

On-site Post-Intervention

A8.12 The anticipated post-development biodiversity value of the Site has been calculated based on the Illustrative Masterplan (as provided within **Appendix EDP 2**) and Landscape Strategy.

A8.13 Given the proposals are currently at the outline planning stage, and the development layout and landscape design are therefore illustrative, reasonable assumptions have been made using professional judgement on the type, extent and condition of habitats to be retained, enhanced, and newly created. A final version of the Metric will be undertaken and submitted with the

³³ <https://www.gov.uk/guidance/what-you-can-count-towards-a-developments-biodiversity-net-gain-bng>

Biodiversity Gain Plan (pre-commencement). The predicted post-development habitats were entered into the indicative Biodiversity Metric as illustrated on **Plan EDP 15**. The detail shown on **Plan EDP 15** is based on the Illustrative Masterplan and is an interpretation of what the Site can achieve in terms of post-development habitat and demonstrates the Sites ability to deliver net gains. Further details regarding the predicted habitats are set out below.

RESULTS

On-site Baseline

- A8.14 The habitats present on-site are summarised in **Table EDP 3.3** within the main report. A full description of the baseline habitats is included in **Appendix EDP 3**. Justification for their conditions is shown in **Table EDP A7.2** at the rear of this Appendix.

Irreplaceable Habitats

- A8.15 There are no irreplaceable habitats present within the Site.

Habitat Degradation

- A8.16 No unauthorised activities have been carried out on-site prior to the baseline habitat survey completed on 07 June 2023, which have resulted in the deliberate loss or degradation of on-site biodiversity value. The relevant date used to calculate the on-site pre-development value is therefore taken as 07 June 2023.

On Site Post-Intervention

- A8.17 Full details of the newly created and enhanced habitats will be provided as part of the Biodiversity Gain Plan (and accompanying HMMP) that will be produced as part of the standard pre-commencement condition. However, to provide an indicative BNG score the following assumptions have been made:
- The ratio of 'developed land sealed surface' to 'vegetated garden' within the residential development area has been input as 70:30, as recommended within the metric user guide;
 - Modified grassland in 'poor' condition within formal green space. Although some of this may reach moderate condition if seeded with a flowering lawn mix, at this outline stage a precautionary condition of 'poor' has been selected;
 - Creation of areas of neutral wildflower rich grassland (denoted as 'other neutral grassland') of moderate condition to be created at the Site boundaries, including areas surrounding attenuation basins and along retained hedgerows and tree lines;
 - Sustainable urban drainage features designed to maximise biodiversity benefits, and achieve at least 'moderate' condition, through sensitive design and planting with diverse mix of native aquatic and semi-aquatic flora;
 - Street trees to be planted throughout the road network and within the POS. Details regarding the number, locations and/or specification of street trees is unknown at the outline planning stage. For the purpose of the Biodiversity Metric calculations, estimations

have been made based on the Illustrative Masterplan to include 96 small trees of poor condition planted along streets, and 133 small trees of moderate condition planted within POS;

- Native scrub planting at the eastern, southern and western Site boundaries to bolster existing vegetation. Scrub to achieve at least 'moderate' condition through planting a mix of native species will be planted and a scalloped edge created with adjacent wildflower grassland in many areas;
- Existing hedgerow retained except for access;
- Existing tree lines retained, except for access, and enhanced through maintaining a naturally vegetated strip of at least 6m on both sides; and
- Ditch as the south of the Site enhanced by removal of riparian encroachment through creation of semi-natural habitat within 5m of the bank top.

A8.18 The target condition for newly created or enhanced habitats is provided within **Tables EDP A7.3 – A7.10** at the rear of this Appendix, along with justification for the target condition.

NET BIODIVERSITY IMPACT

A8.19 The predicted overall net change in biodiversity units, taking into account all proposed habitat retention, enhancement and creation, is summarised in **Table EDP A7.1**.

Table EDP A8.1: Biodiversity Metric Headline Results

	Habitat Units	Hedgerow Units	Watercourse Units
On-Site Baseline	22.13	2.19	1.09
On-Site Post-Intervention	24.65	3.68	1.26
On-Site Net Unit Change	+2.51	+1.49	+0.16
On-Site Net % Change	+11.36%	+67.79%	+15%

A8.20 The Metric has demonstrated that the proposed development, albeit in outline, is capable of delivering a net gain to biodiversity (in accordance with the Environment Act 2021. To ensure this is achieved full details will be set out within the Biodiversity Gain Plan and accompanying HMMP which will be submitted to and approved by the LPA pre-commencement as per the general biodiversity gain condition under the granted Planning Permission.

HABITAT CONDITION ASSESSMENT TABLES

Baseline Habitats

Table EDP A8.2: Summary of Condition Assessment for On-site Baseline Habitats

Baseline Habitat	Field/ Parcel ID	Assessment Criteria Passed	Condition Assessment Result	Condition Assessment Score
Area Habitats				
Modified grassland	All field	C (scrub cover), D (physical damage), F (cover of bracken), G (absence of invasive species)	Passes 4 criteria and fails criterion A	Poor
Hedgerows				
Native species-rich hedgerow	H1	A1 (height), A2 (width), B1 (gap hedge base), B2 (gap hedge canopy), C1 (undisturbed ground), D1 (invasive species)	Fails two criteria	Good
Line of trees associated with ditch	TL1	A (native species), C (veteran features/natural ecological niches)	Passes two of five criteria	Poor
Line of trees	Eastern site boundary features (partly off-site)	A (native species), B (continuous canopy), C (veteran features/natural ecological niches),	Passes three of five criteria	Moderate
Watercourses				
Ditch	Along southern boundary	A (water quality), B (range of plants), C (<10% filamentous algae/duckweed), H (absence non-natives)	Passes four of eight criteria	Poor

Habitat Creation

Table EDP A8.3: Condition Assessment for Created Modified Grassland (Poor Condition)

Condition Assessment Criteria		Criterion Passed
A	There are six-eight vascular plant species per m ² present, including at least two forbs. Note - this criterion is essential for achieving Moderate or Good condition.	No – assumed to fail due to trampling. Within detailed design some areas seeded with flowering lawn mix may pass this criterion.
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble may be present).	Yes - all scrub will be removed.
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	No – assumed to fail due to trampling. Within detailed design some areas may pass this criterion.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)/	No
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes - all bracken will be removed.
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of the <i>Wildlife and Countryside Act 1981</i> (as amended)).	Yes - all non-native species will be removed.
Number of Criteria Passed		3 (not criteria A)
Condition Assessment Result		Poor

Table EDP A8.4: Condition Assessment for Newly Created SuDS

Condition Assessment Criteria		Criterion Passed
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	No – Although some will likely pass this condition through seeding and taller marginal vegetation, a precautionary approach is taken at this outline stage.

Condition Assessment Criteria		Criterion Passed
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes – wetland grassland seeding and marginal planting.
C	Invasive non-native plant species (listed on Schedule 9 of WCA1) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area.	Yes - all non-native species will be removed.
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife.	Yes – only native species
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.	Yes – wetland species seeded/planted
Number of Criteria Passed		Four
Condition Assessment Result		Moderate

Table EDP A8.5: Condition Assessment for Newly Created Mixed Scrub

Condition Assessment Criteria		Criterion Passed
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprises more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	Yes - >3 native woody species planted, with no one species dominating.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	No – all planting at same time
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA5) and species indicative of suboptimal condition make up less than 5% of ground cover.	Yes - all non-native species will be removed.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Yes – adjacent tall grassland
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	No – Areas are generally too small to achieve this effectively
Number of Criteria Passed		Three
Condition Assessment Result		Moderate

Table EDP A8.6: Condition Assessment for Newly Created Grassland (Other Neutral Grassland)

Condition Assessment Criteria		Criterion Passed
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Yes – area to be sown with species rich grassland mix.
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No – not targeted through management
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	No – criterion not targeted.
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble) is less than 5%.	Yes - all bracken and scrub will be removed.
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species ⁴ (as listed on Schedule 9 of the <i>Wildlife and Countryside Act 1981</i> (as amended)) are present, this criterion is automatically failed.	Yes - non desirable species to be removed and any physical damage to be restored.
F	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only. Yes – area to be sown with species rich grassland mix.	No – area to be sown with species-rich grassland mix, but may not reach this highest species diversity.
Number of Criteria Passed		3 , including essential criterion A but not additional criterion F.
Condition Assessment Result		Moderate

Table EDP A8.7: Condition Assessment for Newly Planted Urban Trees – Street Trees

Condition Assessment Criteria		Criterion Passed
A	The tree is a native species (or at least 70% within the block are native species).	No – mix of species planted
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes – individual trees
C	The tree is mature (or more than 50% within the block are mature).	No – trees will not reach maturity in 30 years.

Condition Assessment Criteria		Criterion Passed
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	No – assumed to fail due to pruning in more formal amenity areas.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No – Assumed these will not have developed in 30 years
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	No – Some may pass this criterion but assumed to fail
Number of Criteria Passed		1
Condition Assessment Result		Poor

Table EDP A8.8: Condition Assessment for Newly Planted Urban Trees – POS

Condition Assessment Criteria		Criterion Passed
A	The tree is a native species (or at least 70% within the block are native species).	Yes – mix of species planted
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes – individual trees
C	The tree is mature (or more than 50% within the block are mature).	No – trees will not reach maturity in 30 years.
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Yes – low intensity pruning in POS.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No – Assumed these will not have developed in 30 years
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes – planted within grassland
Number of Criteria Passed		4
Condition Assessment Result		Moderate

Table EDP A8.9: Condition Assessment for Newly Created Hedgerows

Condition Assessment Criteria			Criterion Passed
A1	Height	>1.5m average along length	Yes - hedge to be managed at a height of greater than 1.5m.
A2	Width	>1.5m average along length	Yes - hedge to be managed at a width of greater than 1.5m.
B1	Gap - hedge base	Gap between ground and base of canopy <0.5m for >90% of length	Yes - any gaps to be gapped up.
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5m	Yes - any gaps to be gapped up.
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length; Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).	No - May be located adjacent to roads/footpaths
C2	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	No – due to potential nutrient enrichment from dog walking.
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) and recently introduced species.	Yes – non-desirable species to be removed.
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Yes - any physical damage to be restored. Buffer strips to protect from future damage.
Number of Criteria Passed			6
Condition Assessment Result			Moderate

Table EDP A8.10: Condition Assessment for Enhanced Lines of Trees

Condition Assessment Criteria		Criterion Passed
A	At least 70% of trees are native species.	Yes – Currently passes and species retained.
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes – gap planting where necessary.

Condition Assessment Criteria		Criterion Passed
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Yes – Currently passes and no trees lost.
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice.	Yes – At least 6m of semi-natural habitat created
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	No - chance of failure due to ash dieback or other disease.
Number of Criteria Passed		4
Condition Assessment Result		Moderate