LIZARD
Landscape Design and Ecology

BIODIVERSITY NET GAIN ASSESSMENT

Durrington Police Station, Durrington Lane, Worthing

On behalf of: West Sussex County Council

Client:	West Sussex County Council			
Project:	Durrington Police Station, Durrington Lane, Worthing			
Reference:	LLD2937-ECO-REP-002-01-BNG			
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Validity:

This report is valid for 18 months from the date of the final survey visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, to inform whether surveys should be updated.

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by West Sussex County Council to undertake a baseline Biodiversity Net Gain (BNG) Assessment for the land at Durrington Police Station (Grid Reference: *TQ 11752 04301* – hereafter referred to as 'the site').

A baseline habitat assessment in accordance with the UK Habitats Classification V2.0 UKHab Ltd (2023) was undertaken on the 9th of May 2023, and updated on the 7th of November 2023, to appraise the existing ecological resource within the land to identify and map existing habitats.

The Biodiversity Net Gain calculations contained in this report were undertaken using the Defra Metric 4.0, to provide a quantitative analysis of the biodiversity value of proposals regarding emerging policy within the Environment Act, 2021.

The site consists of modified grassland, developed land sealed surface and urban trees representing a baseline value of 0.52 Habitat Units, and a line of trees representing a baseline value of 0.31 Hedgerow Units. The proposed off-site habitat creation will deliver a total of 1.36 Habitat Units, resulting in a net change of +0.79 units as a result of the development.

Metric calculations have identified that the proposed scheme would result in excess of +10% Biodiversity Net Gain. Developer contributions shall be provided to the local authority to compensate for the loss of 17m of line of trees on site.

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned by West Sussex County Council to undertake a Biodiversity Net Gain (BNG) Calculation for proposals at Durrington Police Station, Durrington Lane, Worthing.

1.2 A baseline habitat assessment in accordance with the UK Habitats Classification Manual (Butcher *et al.,* 2020) was undertaken by this company on the 9th of May 2023, and updated on the 7th of November 2023, to appraise the existing ecological resource within the land to identify and map existing habitats.

1.3 The Biodiversity Net Gain calculations contained in this report were undertaken using the Defra Metric 4.0, to provide a quantitative analysis of the existing biodiversity value of the site in regard to emerging policy within the Environment Act, 2021.

Site Information

1.4 The site area covers c. 0.3ha (hectares) and is part of the Worthing Durrington Police Station and the Worthing ID Unit for Sussex Police, with associated access and car parking area. The surveyed habitats consisted of hard standing, modified grassland, a line of trees and 1no. utility building. The specific area of works is on the southern side of the site, adjacent to Littlehampton Road. Some of the trees across the site are protected by The Worthing Tree Preservation Order No. 15 1992, Grounds of Gateway House, Durrington Lane, Worthing.

Surrounding Landscape

1.5 The site is located within the residential neighbourhood of Durrington, which is to the north-west of Worthing town. The south coast is c. 2.5km south and the South Downs National Park is c. 1.5km north of the site.

Proposals

1.6 It is understood that proposals are for a new access along Littlehampton Road at Durrington Police Station, Durrington Lane, Worthing to support the police services.

2.0 METHODOLOGY

2.1 Biodiversity Net Gain Assessment

2.1.1 A Biodiversity Net Gain (BNG) assessment was conducted using the latest DEFRA 4.0 metric (Natural England, 2023) to calculate the existing baseline biodiversity units across the site.

2.1.2 The extent of existing habitats was calculated using aerial photography and QGIS 3.25.5. Areas were rounded to the nearest 10m2.

2.1.3 The following reports and drawings were used when calculating the baseline and proposed habitat creation on site, and should be read alongside this report:

- Ecological Impact Assessment & Site Habitat Plan (LLDE– May 2023, *LLD2937-ECO-REP-001-01*)
- Tree Replacement Plan (Hyland Edgar Driver, Landscape Architects and Urban Design – October 2023, *HED.1520.001 Revision D*)

2.1.4 The distinctiveness of habitats was assessed using the UK Habitats Classification V2.0 UKHab Ltd (2023) and the condition of habitats assessed in accordance with the Biodiversity Metric 4.0 metric (Natural England, 2023) and is detailed in Appendix A.

2.1.5 Proposed habitat enhancements were calculated, based upon a provided parameter plan. The target condition for each habitat has been assessed in accordance with the *Biodiversity Metric* 4.0 metric (Natural England, 2023) and is detailed in Appendix B.

2.1.6 The overall change in ecological value across the site could then be calculated.

2.2 Evaluation and Assessment

2.2.1 This report has been written with due regard to best practice guidance for ecological report writing (CIEEM, 2017) and the Biodiversity Net Gain: Good Practice Principles for Development (CIEEM, 2019).

2.3 Survey Constraints / Considerations

2.3.1 Due to imprecisions associated with mapping the extent of existing and proposed habitats using aerial imagery, the Biodiversity Net Gain (BNG) assessment cannot conclusively ensure that the extent of habitats is precisely quantified, although due care and attention has been given to ensure that the accuracy of the assessment is not misleading and is appropriate for the objectives proposed.

2.3.2 The Biodiversity Net Gain calculation does not take into account the provision of wildlife boxes, such as bat, bird and insect boxes, or log piles.

3.0 EXISTING BASELINE ASSESSMENT

3.1 Habitats

3.1.1 The south of the site comprised modified grassland, which was dominated by perennial rye grass *Lolium perenne*, with frequent dandelion *Taraxacum officinale* and creeping buttercup *Ranunculus repens*. Several early mature and semi mature trees were set within the modified grassland, species present included Lawson cypress *Chamaecyparis lawsoniana*, sycamore *Acer pseudoplatanus* and atlas cedar *Cedrus atlantica*. The access and car park to the north of the site is formed of tarmac hard standing. There was 1no. building (B01) present on site. For full descriptions of the on-site habitats please refer to the Ecological Impact Assessment (LLDE – May 2023).

3.1.2 Condition of the existing habitat on site was assessed using the habitat condition sheets specific to each habitat, which can be found in Appendix A.

3.1.3 The Biodiversity Net Gain (BNG) assessment concluded that the existing on-site baseline biodiversity value is **0.52** habitat units, consisting of:

- 0.066 ha of modified grassland in ‘moderate’ condition providing **0.26** habitat units.
- 0.226 ha of developed land; sealed surface providing 0 habitat units (condition assessment N/A).
- 0.032 ha of urban trees in ‘poor’ condition providing **0.26** habitat units.

3.2 Hedges

3.2.1 A line of trees ran adjacent to the hard standing and the modified grassland. Species included Monterey cypress *Cupressus macrocarpa*, sycamore *Acer pseudoplatanus,* weeping willow *Salix babylonica* and Lawson cypress *Chamaecyparis lawsoniana*. For full descriptions of the on-site linear features please refer to the Ecological Impact Assessment (LLDE – May 2023).

3.2.2 Condition of the existing habitat on site was assessed using the habitat condition sheets specific to each habitat, which can be found in Appendix A.

3.2.3 The Biodiversity Net Gain (BNG) assessment concluded that the existing on-site baseline biodiversity value of the site is **0.31** hedgerow units, consisting of:

- 0.154 km of line of trees in ‘poor’ condition.

4.0 BIODIVERSITY NET GAIN ASSESSMENT

4.1 Overview / Considerations

4.1.1 The proposed development shall result in the removal of an area of modified grassland, 17m of tree line and 4no. scattered trees to allow construction of the new access.

4.1.2 Off-site creation includes the plantation of 7no. new medium sized trees (5no. sycamore *Acer pseudoplatanus* and 2no. Atlas cedar *Cedrus atlantica*) planted as 16-18cm girth extra heavy standard trees along the strip of off-site modified grassland to the immediate east of the red line boundary. Due to size constraints within the site, compensation for the loss of the small section of non-native line of trees is not possible therefore financial contributions towards off-site hedgerow units shall be provided as necessary.

4.1.3 The site is not within any ecological designation and as such all habitats have been assessed as being of low ecological significance.

4.2 Baseline Inputs

A-1 Site Habitat Baseline

4.2.1 The existing habitat variables identified in section 3 of this report were inputted into the metric which calculated the ecological baseline. Total Habitat Units on site were **0.52**. All habitats on site shall be considered lost for the purpose of this assessment.

B-1 Site Hedge Baseline

4.2.2 The existing habitat variables identified in section 3 of this report were inputted into the metric which calculated the hedgerow baseline. Total Hedgerow Units on site were **0.31**. A total of 0.137km of this tree line shall be retained within the scheme in the same condition as existing, resulting in the retention of 0.27 units.

4.3 Proposed Off-site Enhancements

D-1 Off-site Baseline

4.3.1 An area of 0.143 ha of modified grassland to the immediate east of the red line boundary is proposed for creation of 7no. trees. This habitat is adjacent to the site and is classified as being in 'moderate' condition and has a baseline value of **0.57** units. This grassland habitat shall be retained within the scheme in its current condition.

D-3 Off-site Habitat Creation

4.3.2 7no. new medium sized trees (5no. sycamore and 2no. Atlas cedar) planted as 16-18cm girth extra heavy standard are proposed along the strip of modified grassland. The trees are proposed to achieve 'moderate' condition resulting in the delivery of an additional **0.79** habitat units**.**

4.4 Trading Summary

4.4.1 Trading rules for habitat units have been satisfied.

4.5 Results

4.5.1 Once off-site habitat creation measure are taken into account, the scheme shall deliver a net increase of **0.79** off-site habitat units, resulting in an overall net change of **0.27** units and **51.10% Biodiversity Net Gain** as a result of the development.

5.0 CONCLUSION

5.1 The site consists of modified grassland, developed land sealed surface and urban trees representing a baseline of **0.52** Habitat Units, and a line of trees representing a baseline of **0.31** Hedgerow Units. The proposed off-site management changes will deliver a net unit change of **+0.27** Habitat Units.

5.2 Metric calculations have identified that the proposed scheme would result in excess of +10% Biodiversity Net Gain of off-site habitat units. To allow 10% net gain in hedgerow units to be achieved, financial contributions towards the creation of **0.06** off-site hedgerow units will be provided as necessary.

6.0 REFERENCES

Butcher. B., Carey. P., Edmonds. R., Norton. L. & Treweek., J. (2020) UK Habitat Classification – Habitat Definitions V1.1 at http://ukhab.org [last accessed 02/12/2021]

CIEEM. (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.

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Appendix A – Condition Assessment for Existing Habitats and Hedgerows

Modified Grassland = Moderate Condition

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	c. 6 species on average
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	Uniform length
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[1].	Y	No patches of bare ground.
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	No braken present
E	Combined cover of species indicative of sub-optimal condition[2] 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[3] (as listed on Schedule 9 of WCA[4]) are present, this criterion is automatically failed.	Y	None recorded
	Additional Criterion - must be assessed for all non-acid grassland types		
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 2 and 4 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	
	Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)	N	
	Number of criteria passed	4	Moderate

Urban Trees = Moderate Condition

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The tree is a native species (or at least 70% within the block are native species).	N	Trees are non-native
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).	Y	Continuous canopy
C	The tree is mature (or more than 50% within the block are mature).	N	Trees are early and semi mature
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.	Y	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	No noteable features
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	
	Number of criteria passed	**3**	Moderate Condition

Line of Trees = Poor Condition

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	At least 70% of trees are native species.	N	
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.	Y	Tree canopy is continuous.
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.	N	No veteran features present or ecological niches.
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[2].	N	The north of the line of trees is formed of hard standing.
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.	Y	No evidence of damage to the trees at the time of the survey.
		Number of criteria passed	2

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/□
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	X

Appendix B – Condition Assessment for Off-Site Habitat Baseline and Off-Site Habitat Creation

Off-Site Baseline: Modified Grassland = Moderate Condition

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	c. 6 species on average
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	Uniform length
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[1].	Y	No patches of bare ground.
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	No braken present
E	Combined cover of species indicative of sub-optimal condition[2] 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[3] (as listed on Schedule 9 of WCA[4]) are present, this criterion is automatically failed.	Y	None recorded
Additional Criterion - must be assessed for all non-acid grassland types			
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 2 and 4 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N	
Number of criteria passed		4	Moderate

Off-Site Habitat Creation: Urban Trees = Moderate Condition

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The tree is a native species (or at least 70% within the block are native species).	Y	x 5 trees are native and x 2 trees are non native
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).	Y	Continuous canopy
C	The tree is mature (or more than 50% within the block are mature).	N	Unlikley to reach maturity within BNG period
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.	Y	No evidence
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	Unlikley to develope within BNG period
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	
Number of criteria passed		**4**	