

**LAND AT BAYARDS, LEVEL MARE LANE,
EASTERGATE
BIODIVERSITY NET GAIN ASSESSMENT
27th AUGUST 2021**



BIODIVERSITY NET GAIN ASSESSMENT REPORT

Land At Bayards, Level Mare Lane, Eastergate

Prepared by	GS
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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Reside Developments Ltd to undertake a Biodiversity Net Gain (BNG) Calculation & Report for development proposed at land at Bayards, Level Mare Lane, Eastergate (*centred on Grid Reference: SU 94618 06268 – hereafter referred to as ‘the site’*).

A full *Ecological Impact Assessment* for the site and development proposals was undertaken between May-August 2021 (Lizard Landscape Design and Ecology, 2021) and a *Biodiversity Net Gain Calculation* completed for the scheme in August 2021 (Lizard Landscape Design and Ecology, 2021). These works are submitted alongside proposals and should be read in conjunction with this report, as well as the information provided in the supporting landscaping and architectural documents. The purpose of this report is to provide background and contextual information to inform the interpretation of the Biodiversity Net Gain calculations.

The existing site consists of improved grassland of low ecological value, surrounded by scrubby treelines, ruderal margins of low value, and a narrow treeline/wooded shaw of moderate value. The proposals are for a residential development, which would remove much of the grassland and replace it with amenity grassland, buildings, garden planting and sealed surfaces. Retained grassland, scrub and ruderal vegetation would be enhanced, as would the wooded shaw. Existing scrubby treelines will be enhanced or converted into species rich hedges with trees. The proposals will enhance existing ecological features, providing better habitat for a diverse range of biodiversity interests, and be fully compliant with current legislation requiring BNG in each respective area (i.e., Habitat and Hedgerow units) and conclusively proves the proposals are compliant with Policy ENV DM5 of the Arun Local Plan, which states that development will seek to achieve a net gain in biodiversity and protect existing habitats on site.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned Reside Developments Ltd to undertake a Biodiversity Net Gain (BNG) Calculation & Report for development proposed at land at Bayards, Level Mare Lane, Eastergate (centred on Grid Reference: SU 94618 06268 – hereafter referred to as ‘the site’).
- 1.2 An Ecological Impact Assessment (EcIA) was undertaken between May-August 2021 (Lizard Landscape Design and Ecology, 2021) to appraise the existing ecological resource within the land and the surrounding area to identify and map existing habitats. To assess the scale of any impacts to important ecological features, and to set out any avoidance, mitigation or compensation measures necessary to ensure proposals do not result in a net loss of ecological value at the site, and to meet local and national policy legislation.
- 1.3 Biodiversity Net Gain calculations contained in this report were undertaken in August 2021 (Lizard Landscape Design and Ecology, 2021) using the Defra Metric 2.0, to provide a quantitative analysis of biodiversity value of proposals in regard to emerging policy within the Environment Bill.
- 1.4 The Biodiversity Net Gain calculations and analysis contained in this report was undertaken and prepared by George Sayer (*MCIEEM, Senior Ecologist; Lizard Landscape Design and Ecology*). The report has been reviewed by Catherine O'Reilly (*MCIEEM, Senior Ecologist; Lizard Landscape Design and Ecology*).

Site Information

- 1.5 The site consists of a field formed of horse grazing paddocks, surrounded by a large treeline/wooded shaw to the east and sparse treelines / hedges to all other aspects. The main site area covers a total area of approximately 2.1 hectares (*Ha*).
- 1.6 The site is bounded by Level Mare Lane to the north; the approved Northfields/Fontwell Avenue site to the east; the Bayards stables to the north-west and a track with residential dwellings to the south-west.

Surrounding Landscape

- 1.7 The wider landscape is largely rural; the area is dominated by a matrix of arable and pastoral farmland interspersed with hedgerows and small pockets of woodland. The nearest woodland area is a 0.68Ha plot of *Deciduous Woodland* located immediately west of the proposed development site.
- 1.8 There is 1 no. waterbody located within 500m of the proposed development site, located 90m south at Greenfields Farm.

Development Proposals

- 1.9 It is understood that the development proposals are for the development of 69 no. new dwellings. Access would come from the approved site to the east, apart from 6no. dwellings which would have access from Level Mare Lane. Construction access would also come through Level Mare Lane. The houses would be accompanied by gardens, parking, open space and play areas.
- 1.10 An indicative proposal layout has been included within this report. The exact detailed layout shall be determined at a later Conditions / Reserved Matters stage, with this assessment being updated following a fixed design.

2.0 METHODOLOGY

2.1 Biodiversity Net Gain Assessment

- 2.1.1 A Biodiversity Net Gain (BNG) assessment was conducted to calculate the proposed change in biodiversity units across the site resulting from proposals, to determine the extent to which development could benefit / detriment biodiversity interests. The calculation is based on the existing extent, distinctiveness and condition of habitats on site, compared with the extent, distinctiveness and condition of proposed habitats.
- 2.1.2 The BNG assessment uses the current DEFRA 2.0 metric (Natural England, 2019) in accordance with current guidance methodology in accordance with the *Biodiversity Metric 2.0 - User Guide* (2019). A DEFRA 3.0 metric was released in July 2021, but as this is still in Beta testing format and subject to change, has not been used for this calculation. The distinctiveness of habitats was assessed using the *UK Habitat Classification system* (Butcher *et al*, 2020) and the condition of habitats assessed in accordance with the *Biodiversity Metric 2.0 - Technical Supplement* (Crosher *et al*, 2019).
- 2.1.3 The extent of existing habitats is calculated using aerial imagery and site habitat plans produced during the ecology survey of the site, whereas proposed habitats are calculated based on information provided by Clague Architects (2021) and Fabrik UK (2021).

2.2 Evaluation and Assessment

- 2.2.1 This report has been written with due regard to best practice guidance for report writing (CIEEM, 2017).

2.3 Survey Constraints / Considerations

- 2.3.1 The current application is outline only and does not allow for the exact layout of the development. As such the aim of this report is to prove that BNG is achievable with the current suggested layout and number of units, such that this can be fully designed in at the reserved matter stage. The proportions of habitats will likely change slightly during the process, and this has been addressed within the discussion.

- 2.3.2 Due to imprecisions associated with mapping the extent of existing and proposed habitats using aerial imagery and landscaping proposals based on desktop study, the Biodiversity Net Gain (BNG) assessment cannot conclusively ensure that the extent of habitats is exactly 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 scale of development 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 RESULTS & DISCUSSION

3.1 Biodiversity Net Gain Assessment

Site Habitat Baseline

- 3.1.1 The Biodiversity Net Gain (BNG) assessment concluded that the baseline ecological value of the site is 5.64 Habitat units. The site is dominated by improved grassland (1.95Ha), which due to heavy grazing, the abundance of perennial rye-grass (*Lolium perenne*) other palatable grasses such as Timothy (*Phleum pratense*) and the presence of indicators of nutrient enrichment such as creeping thistles (*Cirsium arvense*), white clover (*Trifolium repens*), nettle (*Urtica dioica*) and broad leaved dock *Rumex obtusifolius*) has been classified as a 'modified grassland' in poor condition. Small areas of tall ruderal (0.12 Ha, dominated by nettle and classified as sparse – ruderal/ephemeral) and patches of mixed scrub (0.07 Ha, dominated by bramble, *Rubus fruticosus*) line the boundaries, and the eastern boundary contains a narrow wooded shaw (0.16 Ha), classified as 'other mixed woodland' due to presence of both native and introduced species, including several conifers. These habitats all contain very limited structure and diversity, and are significantly impacted by nutrient enrichment from piles of horse manure. The habitats have been assessed as being of 'fairly poor' condition. The entire site is not within a Biodiversity Opportunity Area, a Biodiversity Action Plan or similar, so is of low strategic significance.
- 3.1.2 A large proportion (1.53 Ha) of the grassland would be removed to accommodate the proposals, whilst very small areas of all other habitats would require removal, mainly to accommodate the highway access.

Site Habitat Creation

- 3.1.3 Proposals are to result in 1.04ha of 'Developed land; sealed surfaces' which comprise hardstanding, buildings, parking, and access. This is a habitat of negligible ecological value and receives a score of 0 Habitat Units in the metric. Proposals also stand to result in 0.03ha of 'Vegetated garden, which would exist within proposed planting beds. A condition of 'Poor' is automatically given by the metric and overall delivers 0.06 Habitat units. The proposed lawn to be turfed using a suitable amenity grass mix covers an area of c. 05ha has been entered into the metric as 'Modified grassland' and a condition of 'poor' has been assumed, given the heavy use these habitats will be subject to. This delivers 0.97 Habitat units.
- 3.1.4 The mixed scrub would be enhanced through planting of new shrubs such as blackthorn (*Prunus spinosa*) to both enhance the existing scrub habitat and to create 0.01 Ha of new habitat. This would create a habitat of good condition and moderate connectivity, delivering 0.11 habitat units.
- 3.1.5 Tree planting is proposed throughout the site, including along roadside verges and in gaps to the boundaries. These are classified as urban street trees. This gives a total area of 0.1ha (which does not count towards the total habitat areas). Given the relatively dense urban surroundings proposed, it is considered that the trees would generally achieve only 'moderate' condition and 'low' connectivity. This would deliver a score of 0.17 Habitat units.

Site Habitat Enhancements

- 3.1.6 It is proposed to enhance the existing poor improved grassland, by better management, harrowing and overseeding into a neutral, semi-improved grassland, of 'moderate' condition. This would deliver 2.6 habitat units. The mixed scrub is proposed to be enhanced through new planting to increase diversity and connectivity, delivering 0.56 habitat units, whilst new herb species will increase the structure and diversity of the ruderal habitat, delivering 0.42 habitat units. The wooded shaw will be enhanced through understorey planting, removal of horse manure and overly-dominant species such as nettle and elder. This shall deliver 1.21 habitat units. Because of the relative proximity of the development and resulting disturbance the maximum condition that is considered achievable is 'fairly good'.

Site Hedgerow Baseline

- 3.1.7 The baseline ecological value of the linear vegetative features is 2.95 Hedgerow units. A line of mature trees is present along the northern boundary (0.07 km). The eastern wooded shaw contains a line of mature trees classified as a line of ecologically valuable trees (0.24 km). These features are in 'moderate' condition being mature but not all of native species or particular interest, and 'moderate' connectivity being sparsely connected to other treelines but with gaps noted. A small native hawthorn hedge of 0.12 km length is in 'poor' condition and 'low' connectivity, being a small heavily-pruned hedge used as a horse boundary, lacking structure, ground flora or diversity. The western boundary contains a line of self-seeded sycamores, generally in 'poor' condition due to the species and tree form, but of 'moderate connectivity being connected to other treelines, albeit with numerous gaps.
- 3.1.8 A small section of the ecologically valuable treeline would require removal to accommodate the proposed highway access. The poor condition hedgerow would require removal as it is located within the centre of the development site.

Site Hedgerow Creation

- 3.1.9 A native, mixed species hedge of 0.13 km will be planted along the north-western boundary to replace the hedge removed. Given the proximity to the development and lack of connectivity to the west, this would be of 'moderate' condition and 'low' connectivity, delivering 0.58 hedgerow units.

Site Hedgerow Enhancement

- 3.1.10 The northern treeline to the north will be enhanced to 'good' condition, through planting up of the existing gaps with native trees, delivering 0.31 hedgerow units. The treeline along the western boundary will be planted with new shrubs and trees in gaps in the treeline and scrub, to create a native, mixed species hedge, delivering 0.49 hedgerow units. Given the proximity to the development and lack of connectivity to the north, this would be of 'moderate' condition and 'low' connectivity, delivering 0.58 hedgerow units. The eastern treeline within the wooded shaw will be enhanced to 'good' condition through understorey planting, removal of horse manure and overly-dominant species such as nettle and elder. This shall deliver 2.26 hedgerow units.

4.0 CONCLUSIONS

- 4.1 The existing site consists of improved grassland of low ecological value, surrounded by scrubby treelines, ruderal margins of low value, and a narrow treeline/wooded shaw of moderate value. The proposals are for a residential development, which would remove much of the grassland and replace it with amenity grassland, buildings, garden planting and sealed surfaces. Retained grassland, scrub and ruderal vegetation would be enhanced, as would the wooded shaw. Existing scrubby treelines will be enhanced or converted into species rich hedges with trees.
- 4.2 The indicative layout suggests the proposals would result in a Biodiversity Net Gain (BNG) of 8.11% in Habitat units and 23.41% in Hedgerow Units, providing new habitat for a diverse range of biodiversity interests, and be fully compliant with existing legislation which requires development to achieve a demonstrable net gain, and conclusively proves the proposals are compliant with Policy ENV DM5 of the Arun Local Plan, which states that development will seek to achieve a net gain in biodiversity and protect existing habitats on site.

5.0 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 26/08/2021]

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

Arun District Council (2018) Adopted Local Plan.

Ian Crosher, Susannah Gold, Max Heaven, Matt Heydon, Lauren Moore, Stephen Panks, Sarah Scott, Dave Stone & Nick White (2019). The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. User guide (Beta Version, July 2019). Natural England

Lizard Landscape Design and Ecology. (2021). Biodiversity Net Gain Assessment. Land at Bayards, Level Mare Lane, Eastergate. On behalf of Reside Developments Ltd. Ref: LLD2327-ECO-BNG-001-Metric. Date: 23/08/2021. Revision: 00 (Submitted Alongside Proposals)

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