Hayes Park

Biodiversity Impact Assessment

May 2023

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for greener projects

Client: Shall Do Hayes Developments Limited

Project: Hayes Park

Report: Biodiversity Impact Assessment

QUALITY ASSURANCE

Issue/Revision:	Draft	Final
Date:	May 2023	May 2023
Comments:		
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1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd was commissioned to undertake a Biodiversity Impact Assessment (BIA) by Shall Do Hayes Developments Limited ('the Applicant') of a site known as Hayes Park, Hayes End Road, Hayes, UB4 8FE ('the site') in the London Borough of Hillingdon.

This report has been produced to support a planning submission for the site which seeks change of use of the existing buildings to provide new homes (Use Class C3), together with internal and external works to the buildings, landscaping, car and cycle parking, and other associated works.

The assessment aimed to quantify the predicted change in ecological value of the site in light of the proposed developments to assess compliance against local and national planning policy. The BNG requirement, to be mandated in November 2023, set out in the Environment Act 2021, states that a target of 10% net gain in biodiversity should be reached and biodiversity value maximised on site.

The survey area extends to 3.73 hectares (ha) and comprises of building, hardstanding, modified (amenity) grassland, introduced shrub and scattered trees.

Proposed habitat creation includes 1.123ha of hardstanding, 0.372ha of introduced shrub and 0.9659ha of rural trees. The development seeks to retain 0.270ha of rural trees and 1.1ha of building/access road as well as enhance 1.443ha of the existing modified grassland.

The proposals stand to result in a net gain of 4.80 biodiversity units associated with area-based habitats compared with pre-development value. This equivalent to a total net increase of 72.70%in ecological value. This exceeds the legislative requirement of a 10% net gain.

Additionally, proposals seek to retain the existing 0.083km of native hedgerow and plant and additional 0.017km of hedgerow which results in an increase of 0.6 hedgerow units which equates to 10.27% increase in hedgerow and therefore meets local and national policy targets.

Detail relating to the proposed ecological compensation and enhancement actions in relation to habitat creation and management could be provided within an Ecological Management Plan for the site which could be secured through planning condition. Should these recommendations be adhered to, the proposals stand to be compliant with legislation and current planning policy.

2.0 INTRODUCTION

Greengage was commissioned to undertake a Biodiversity Impact Assessment (BIA) by Shall Do Hayes Developments Limited ('the Applicant') of a site known as Hayes Park, Hayes End Road, Hayes, UB4 8FE ('the site') in the London Borough of Hillingdon.

This report has been produced to support a planning submission for the site which seeks change of use of the existing buildings to provide new homes (Use Class C3), together with internal and external works to the buildings, landscaping, car and cycle parking, and other associated works.

The assessment aimed to quantify the predicted change in ecological value of the site in light of the proposed developments to assess compliance against local and national planning policy. The BNG requirement, to be mandated in November 2023, set out in the Environment Act 2021, states that a target of 10% net gain in biodiversity should be reached and biodiversity value maximised on site.

Any further changes to the design will impact upon the BNG score and the metric will need to be updated to reflect such changes. This also carries forward throughout the entire lifetime of the project, including after planning permission has been granted, in and throughout the construction phase. Biodiversity net gain aims to give an accurate reflection of the changes happening on site.

2.1 SITE DESCRIPTION

The survey area extends to approximately 3.73 hectares and is centred on National Grid Reference TQ 08887 82434, OS Co-ordinates 508887, 182434.

The site forms part of the Hayes Park Business Estate which encompasses three former office buildings, associated carparking and soft landscaping. This report supports the development associated with Hayes Park Central and Hayes Park South buildings, which includes two concrete Grade II listed former office buildings associated carparking, access driveways and footpaths surrounded by low-cut well-maintained grassland, introduced shrub, scattered trees and species poor hedgerow.

Immediately off-site to the north-east is a woodland that comprises a part of the Hayes Shrub Site of Importance for Nature Conservation (SINC). To the east is a large expanse of rough grassland parkland habitat before residential housing. To the south lies horse-grazed fields and arable fields abut the north and western boundaries.

In the wider context the site lies within the heavily residential London Borough of Hillingdon. Notable greenspace is concentrated north of the site and includes Local Nature Reserves (LNRs) Yeading Brook Meadows LNR 1.09km northeast, Yeading Meadows LNR 1.16km east and Yeading Woods (LNR) 1.49km north, a patchwork of open greenspace, arable fields and pockets of woodland.

2.2 PROPOSED DEVELOPMENT

The proposed development proposes to convert the existing buildings from office space to residential and includes an enhanced landscaping. These landscaped areas are proposed, carrying the vision to i)

develop the network of green links, ii) enhance ecology, biodiversity and greening, and iii) support social wellbeing and the community on site.

Within Studio Egret West's Landscape Strategy[1] (dated 03/04/23), enhanced, green areas on site include:

- Enhancing the existing amenity (modified) grassland to wildflower meadows;
- Strengthening structural planting through flowering introduced shrubs, herbaceous perennials, seasonal bulbs and grasses;
- 31 new trees consisting of native and non-native species;

The design sets to integrate nature and social value, by reimaging the public realm. The design hopes to provide spaces for play and social activation, improve way finding in the area and create a space for biodiversity to link up with a network of quieter green spaces. The design has incorporated shade loving species into public realm planting that also benefit biodiversity.

3.0 METHODOLOGY

3.1 GOOD PRACTICE PRINCIPLES

To calculate the ecological value of the pre- and post-development site, the Natural England Metric 4.0 methodology was utilised, following good practice guidance from Natural England[2],[3] , and joint guidance from CIEEM, IEMA and CIRIA[4]. The good practice guidelines "provide a framework that helps improve the UK's biodiversity by contributing towards strategic priorities to conserve and enhance nature while progressing with sustainable development". This framework consists of 10 good practice principles which are outlined in Table 3.1.

Table 3.1 Good Practice Principles and Discussion

Good Practice Principle	Discussion
1. Apply the Mitigation Hierarchy	Habitat removal has been minimised on site. All habitat compensation has been provided on site rather than off site. The majority of trees will be retained on site. Where some grassland has been lost, this has been compensated for through provision of higher value habitat.
2. Avoid Losing Biodiversity that Cannot be Offset by Gains Elsewhere	No irreplaceable habitats are present on-site pre-development.
3. Be Inclusive and Equitable	Studio Egret West Limited have been responsive to ideas from Greengage to enhance biodiversity value on site which has informed their Landscaping strategy. They included hedgerow planting once informed that plans were not previously meeting net gain in hedgerow units.
4. Address Risks	Greengage has worked with Studio Egret West Limited to improve biodiversity value on site and highlighted areas where ecological connectivity to habitats off-site should be strengthened. Greengage have also provided an Ecological Constraints and Opportunities plan to LightPad the Lighting consultants, to ensure that ecological connectivity to the wider area remains functional is post development.
5. Make a Measurable Net Gain Contribution	The development is likely to achieve a measurable gain in biodiversity through the use of Metric 4.0. The metric calculations are subject to change regarding on design change.
6.Achieve the Best Outcomes for Biodiversity	The landscape design for Studio Egret West improves biodiversity value on site. Habitat compensation is due to be delivered through the provision higher distinctiveness habitats than that of the baseline. The proposed development will also act as a green steppingstone for

Good Practice Principle	Discussion
	ecological connectivity within an urban area. The proposed development is due to achieve a biodiversity net gain as discussed in Section 4.
7. Be Additional	The BNG for the proposed development, not only focuses on the site itself, but also aims to link other green spaces in the Borough of Hillingdon, to create strategic green corridors for people and wildlife. The design also aims to provide other habitat features for our wildlife including bat and bird boxes and invertebrate features which improves the biodiversity value of the site further.
8. Create a Net Gain Legacy	The landscaping on site will be designed, where possible, to be climate resilient, including non-native more drought tolerant species The BNG on site will be managed for at least 30 years.
9.Optimise Sustainability	The design for Hayes Park has been created with both biodiversity and people in mind. The development seeks to re-furbish existing buildings and so the embodied carbon is much less than re-building residential housing. Furthermore, the designs include flowering plants will help provide a sustainable space for biodiversity in an urban area. The design will also help improve people's wellbeing and mental health.
10. Be Transparent	Shall Do Hayes Developments Limited commissioned Greengage Environmental Ltd to run the BNG calculations and communicate findings in a BIA report.

3.2 BIODIVERSITY METRIC

This metric uses Biodiversity Units as a proxy for the ecological value of area of linear based habitats. The areas of each habitat parcel are measured, with each parcel assigned a 'Distinctiveness', 'Condition' and 'Strategic Significance' score. Distinctiveness is a default score for the habitat classification, representing its inherent ecological value, whereas condition refers to the state each parcel is in relative to predetermined set of criteria outlined in the supplementary Biodiversity Metric 4.0 guidance.

Strategic significance draws upon priorities and objectivise within local plans and strategies, and is measured by providing habitats with a score from low to high as follows:

- High - "area/action formally identified within a local plan, strategy or policy";
- Medium - "location ecologically desirable but area/action not identified in local plan, strategy or policy"; and
- Low - " area/action not identified in any local plan, strategy or policy; or no local strategy in place"[5].

For post-development habitat areas, additional multipliers are applied considering the time taken to reach maturity and difficulty of creation of the habitats, and whether the habitat creation is in a strategically beneficial location.

An assessment of the predicted change in ecological value is undertaken comparing the Biodiversity Units and assessing percentage change. Changes in broader habitat types (for example, 'Urban', 'Woodland' and 'Grassland' habitats) are also tracked, and trading habitats is discouraged unless specifically targeted within a local strategy. Trading down of habitats is not permitted.

3.3 BASELINE CALCULATION

To calculate pre-development Biodiversity Units, data collected during a Preliminary Ecological Appraisal (PEA) undertaken by Greengage on 8th April 2022 was assessed (doc ref: 552014ltDec22FV01_PEA.pdf). Areas of each habitat type were taken from the baseline habitat map within QGIS (Appendix A). Species lists and photos are provided in Appendix B.

Additionally, to calculate the Biodiversity Units associated with individual trees on site, data tables from the BS5837 Tree Survey Report undertaken by Keen Consultants on 08 April 2022 were assessed (ref: 1854-KC-XX-YTREE-TreeSurvey-Rev0 Appendix B). Stem diameters of each tree were used to assign each tree a rating of 'small', 'medium' or 'large', in line with the Natural England BNG User Guide. The rating corresponds to an area value to be used.

Distinctiveness values were automatically calculated for the site and habitat conditions were assessed both in the field, and retrospectively using site photos.

Strategic significance was assessed by reviewing the following:

- Hillingdon Local Plan[6];
- DEFRA's magic maps application[7]; and
- National Character Area Profile 115: Thames Valley[8].

As found within the Hillingdon Local Plan, the site lies within Greenbelt and Green Chain areas. These are areas which contribute to the green network within the borough. The plan also states open spaces in the context of a suburban and densely built - up area, such as roof terraces, gardens including trees, allotments and amenity areas around housing estates, are considered important. Additionally, as seen in the aforementioned document, there is a BAP priority woodland and SINC off-site along the north east boundary and extending further to the northeast. Due to this, the site is thought to be with a strategically significant area and therefore, all habitats pre and post development have been assigned a high strategic significance.

3.4 PROPOSED DEVELOPMENT CALCULATIONS

The proposed development seeks to convert current buildings onsite into residential buildings. Landscaping habitat types were provided by Studio Egret West Limited and then translated into the relevant UKHAB and Metric 4.0 habitats (Appendix C).

Targeted condition scores were assigned by Greengage, using the Metric 4.0 habitat condition criteria and species provided by Studio Egret West Limited, whilst considering the likely future use of each area.

Due to no direct translation of some urban habitats into Metric 4.0, introduced shrub has been assigned to amenity planting habitats.

It is unknown the length time that will elapse between site habitat clearance, and habitat re-creation is estimated to be approximately 3 years. This time is recorded with Metric 4.0 as a temporal multiplier called 'delay in starting habitat', which is added to each post-development habitat type, and increases 'time to target condition'. As a general pattern, the longer the time elapsed between habitat clearance and creation, the longer it takes to achieve the targeted habitat condition, which can consequently negatively affect the metric score. Whilst it is likely that habitats will be installed with less than a three year delay, a delay of three years has been applied as a conservative estimate.

3.5 COMPENTENCIES

Daniel Perlaki, who undertook the calculations and prepared this report, has an undergraduate degree in Ecology (BSc Hons), a Master's degree in Conservation Science and Policy and is a Graduate member of CIEEM. Dan has over 6 years' experience in ecology survey and consultancy

Laura Thomas, who undertook the PEA and the baseline condition assessment, has an undergraduate degree in Biology (BSc Hons) and a Master's degree in Evolutionary and Behavioural Ecology, holds a Natural England Bat Survey Level 1 Class Licence and is a Graduate member of CIEEM. Laura has over 5 years' experience in the commercial sector.

Georgia Alfreds, who reviewed this report, has a degree in Geography (BSc Hons), an MSc in Environmental Biology: Conservation and Resource Management and is an Associate member of CIEEM with 7 years' experience in ecological survey and assessment.

This report was written by Laura Thomas and reviewed and verified by Georgia Alfreds who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

3.6 CONSTRAINTS

The assessment methodology does not incorporate ecological features beyond area and linear based habitats. The potential for the site to support protected species, for example, is not captured by this assessment. As such this report should be read in conjunction with all other ecological reports for the site. The mitigation hierarchy in relation to protected and notable habitats and species much be followed. This report should accordingly be read in conjunction with the PEA and any other appropriate protected species surveys.

The BNG assessment at this stage is predictive in nature. To ensure delivery of BNG, requirements outlined within this report must be adhered to, and a rigorous programme of monitoring and maintenance must be implemented.

4.0 RESULTS

4.1 PREDEVELOPMENT AREA HABITAT CONDITIONS

The baseline biodiversity value of the site is calculated to be 5.15 biodiversity units. There were no linear, nor river habitats on site and therefore, no corresponding biodiversity units. A breakdown of this calculation is provided in Tabl.1:

Tabl.1 Baseline Biodiversity Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Biodiversity Units
Urban	Developed land; sealed surface	1.1836	V.Low	N/A - Other	0.00
Urban	Developed land; sealed surface	0.565	V.Low	N/A - Other	0.00
Urban	Introduced shrub	0.0053	Low	Condition Assessment N/A	0.01
Individual trees	Rural tree*	0.6008	Medium	Poor	2.64**
Grassland	Modified grassland	1.9761	Low	Poor	3.95***
***Individual trees are not included in the total site area to avoid double counting. **of which 0.5927ha/ 2.61 Biodiversity Units of canopy area will be retained. ***of which 1.443ha / 2.89 Biodiversity Units will be enhanced.**				TOTAL	5.15

In accordance with Metric 4.0 guidance, '**Developed land; sealed surface**', and '**Introduced shrub**' have no condition assessment.

There were areas of '**Modified grassland**' surrounding the former office buildings. These were uniformly low-cut, well maintained and had fewer than 9 species per m^2. Species present included perennial rye grass (Lolium perenne) common daisy (Bellis perennis), yarrow (Achillea millefolium), dandelion (Taraxacum officinale), oxlip (Primula elatior), cats' ear (Hypochaeris radicata), slender thistle (Carduus pycnocephalu), hawkweed (Crepis sp.), bristly oxtongue (Helminthotheca echioides), common nettle (Urtica dioica), ground ivy (Glechoma hederacea), buttercup (Ranunculus sp.) and red dead nettle

(Lamium purpureum). The grassland had less than 6 species per m2, was a uniform sward height failing these conditions. There was an absence of scrub, bracken and bare ground. The grassland failed the essential criteria of having more than 6 species per m2 and therefore achieved poor condition.

'**Urban Trees**' were assessed and given a habitat condition of poor. According to Keen Consultant's AIA report, 18 scattered trees across the site the majority of which are non-native trees and tree groups were found on site including silver maple (Acer saccharinum), English oak (Quercus robur), red oak (Quercus rubra), field maple (Acer campestre), London plane (Platanus x acerifolia), Atlas cedar (Cedrus atlantica), tulip tree (Liriodendron tulipifera), sweet gum (Liquidamber sp.), Corsican pine (Pinus nigra), Wellingtonia (Sequoiadendron giganteum) and lime (Tilia sp). The canopy cover was not continuous, and only one tree was classed as mature. The trees were in good condition lacking in cracks and crevices with exception to the tree with moderate bat potential. The trees do however oversail existing vegetation underneath. Based on this evidence, the trees on site passed two out of six condition criteria and were assigned a poor condition.

The criteria for condition assessments are located in Appendix C.

4.2 PREDEVELOPMENT HEDGEROW UNITS

The baseline biodiversity value of the site is calculated to be 0.55 hedgerow units. There were no linear, nor river habitats on site and therefore, no corresponding biodiversity units. A breakdown of this calculation is provided in Tabl.12 :

Table 4.2 Baseline hedgerow units

Hedgerow type	Length (km)	Distinctiveness	Condition	Total hedgerow units
Native Hedgerow	0.083	Low	Good	0.55
			TOTAL	0.55

There is a yew hedgerow partially along the western boundary which is 1.8m in height and approximately 2m wide. The hedgerow meets most of the condition criteria.

The criteria for condition assessments are located in Appendix C.

4.3 PROPOSED AREA BASED HABITATS

Based on masterplan drawings, the proposed development is predicted to provide 11.41 biodiversity units as shown in Table 4.3.

Table 4.3 Post-Development Biodiversity Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Biodiversity Units
Retained					
Individual trees	Rural trees	0.5927	Medium	Poor	2.61
Urban	Developed land; sealed surface (Buildings)	0.5485	N/A - Other	N/A	0.00
Urban	Developed land; sealed surface (Access roads)	0.565	N/A - Other	N/A	0.00
Enhanced					
Grassland	Modified grassland	1.442	Low	Moderate	5.17
Created					
Urban	Developed land; sealed surface	0.8015	V.Low	N/A - Other	0.00
Urban	Introduced shrub	0.372	Low	Condition Assessment N/A	0.71
Individual trees	Rural tree	0.9659	Medium	Moderate	2.92
***Individual trees are not included in the total site area to avoid double counting**				TOTAL	**11.41**

The metric calculation reflects area-based habitats only as no linear, or river habitats are proposed within the post-development design.

'Developed land; sealed surface' relates to all areas of hardstanding, building and impermeable surfaces within the proposed development design. The habitat has a pre-set condition within Metric 4.0 and does not contribute any biodiversity units to the calculation.

'**Modified grassland**' will be enhanced by altering the mowing regime to establish various lengths within the habitat parcel. Additionally, arisings will be removed from site to remove nitrogen from the soil and artificial fertilisation will not be undertaken. Finally, yellow rattle (Rhinanthus minor) will be sown if required, to reduce the dominance of fast-growing grasses and allow establishment of a more diverse suite of forbs.

Whilst there are areas which would be considered more wildflower meadow planting, the landscaping architects confirmed these were grouped within areas of introduced shrubs and individual measurements for the different habitats could not be provided. Therefore, these were grouped as the lower distinctiveness '**Introduced shrub**' habitat as a precautionary approach. These areas comprise species such as common bent (Agrostis capillaris), brown bent (Agrostis vinealis), sweet vernalgrass (Anthoxanthum odoratum), Crested dogtail (Cynosurus cristatus), sheeps fescue (Festuca ovina), red fescue (*Festuca rubra*), crested hair-grass (Koeleria macrantha), yarrow (Achillea sp.), Michaelmas-daisy (*Aster* sp.), Mexican fleabane (Erigeron karvinskianus), alpine sea holly (Eryngium alpinum), field scabious (Knautia arvensis), broad-leaved statice (Limonium platyphyllum), purple toadflax (Linaria purpurea), rose campion (Lychnis coronaria), ornamental oregano (Origanum laevigatum), Russian sage (Perovskia sp.), the pasqueflower (Pulsatilla vulgaris), woodland sage (Salvia nemorosa), Sedum sp.

Approximately 31 '**rural trees**' will be planted throughout the site consisting of *Pinus sylvestris, Liriodendron tulipifera, Ginkgo biloba, Metasequoia glyptostroboides, Gleditsia triacanthos, Carpinus betulus, Betula pubescens, Cornus contraversa, Pinus nigra, Koelreuteria paniculata, Ostrya carpinifolia, Hippophae salicifolia* and *Corylus avellana* in the public realm. 38% of all species proposed to be planted are non-native, however they will still be able to provide foraging and a habitat for wildlife in the area. Both non-native and native blocks have been assigned an assumed condition of moderate and are expected to pass three and four out of six criteria respectively. All trees are likely to provide microhabitats for wildlife and over sail vegetation beneath, however, are assumed to be subject to a pruning regime due to their locations within public spaces.

The criteria for condition assessments are located in Appendix C.

4.4 HEDGEROW UNITS

There pre-construction hedgerow is proposed to be retained and an additional hedgerow will be planted equating to a total of 0.60 hedgerow units.

Table 4.4 Proposed hedgerow units

Hedgerow type	Length (km)	Distinctiveness	Condition	Total hedgerow units
Retained Hedgerows				

Hedgerow type	Length (km)	Distinctiveness	Condition	Total hedgerow units
Native Hedgerow	0.083	Low	Moderate	0.55
Created Hedgerows				
Native hedgerow	0.017	Low	Moderate	0.06
TOTAL				0.60

The criteria for condition assessments are located in Appendix C.

5.0 EVALUATION AND DISCUSSION

Under these proposals, and in the absence of additional enhancement measures and habitat creation, the development stands to result in a net gain of 4.80 biodiversity units associated with area-based habitats from pre-development levels. This corresponds to a total net increase of 72.70% in ecological value. All trading rules have been satisfied.

Additionally, proposals seek to retain the existing 0.083km of native hedgerow and plant and additional 0.017km of hedgerow which results in an increase of 0.6 hedgerow units which equates to 10.27% increase in hedgerow and therefore meets local and national policy targets.

The proposals are therefore in compliance with local and national planning policy (see Appendix E).

As referenced to in the PEA report, further qualitative ecological enhancement should also be targeted on site through the provision of invertebrate habitat features (such as pollinator posts or bee bricks), bird boxes (such as for swifts, black redstarts and garden birds) and bat boxes, to help protect nationally and locally important species, including those specified in the Hillingdon's Council biodiversity action plan.

Details on habitat enhancement and management to ensure delivery of BNG should be outlined in an Ecological Management Plan (EMP) and detailed landscaping plans, which could be secured through planning condition.

The EMP should provide description of how habitats are to be created and managed for a period of at least 30 years.

6.0 SUMMARY & CONCLUSION

Greengage was commissioned by Marson Property to undertake a Biodiversity Impact Assessment (BIA) by Shall Do Hayes Developments Limited ('the Applicant') of a site known as Hayes Park, Hayes End Road, Hayes, UB4 8FE ('the site') in the London Borough of Hillingdon in order to assess the change in ecological value of the site in light of the proposed development.

This report demonstrates that the development proposals will result in a net gain of 4.80 biodiversity units should existing plans be adhered to, equivalent to a 72.70% increase in ecological value. Additionally, proposals seek to retain the existing 0.083km of native hedgerow and plant and additional 0.017km of hedgerow which results in an increase of 0.6 hedgerow units which equates to 10.27% increase in hedgerow and therefore meets local and national policy targets.

Therefore, proposals are in compliance with the BNG Mandate which states a target of 10% net gain in biodiversity. All trading rules are satisfied.

Any further changes to the design will impact upon the BNG score and the metric will need to be updated to reflect such changes. This also carries forward throughout the entire lifetime of the project, including after planning permission has been granted, in and throughout the construction phase. Habitat condition criteria in Section 4.3 must also be adhered to. Any changes must be reflected in the biodiversity metric.

Further improvements to biodiversity on site could be achieved through increasing the amount of native planting and native trees on site.

Qualitative ecological enhancement should also be targeted on site through the provision of invertebrate habitat features (such as pollinator posts or bee bricks), bird boxes (such as house sparrow terraces) and bat boxes to help protect nationally and locally important species.

Details on any habitat creation and its ongoing management should be agreed with the Local Planning Authority and described in an EMP (secured by planning condition) for the site. The EMP must provide description of how habitats are to be created, managed and maintained for a period of at least 30 years.

APPENDIX A SITE PLAN AND HABITAT MAP

HAYES PARK

- Red Line Boundary
- Existing trees
- Developed land; sealed surface
- Introduced shrub
- Modified grassland
- Buildings
- Native Hedgerow (h2NE5)

Drawn by: Laura Thomas
Date: [13/06/2022]

Reviewed by: Steph Harper
Date: [13/06/2022]

Project number: 552240
Sources: Google Satellite

Greengage

APPENDIX B LANDSCAPING PLAN

General Notes

No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation.
Do not scale this drawing for construction purposes. All dimensions to be checked on site by the contractor and such dimensions to be their responsibility.
All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect.

Notes

Key Plan

0 50mm
@ 1:1

For Information 0419

Project Name
Hayes Park

Drawing Title
Soft Landscape Character Plan

Client	Shall Do Hayes Developments Limited
Scale @A1	
Date	14/04/23
Drawn by	ML
Checked by	SEW

Rev	Date	Reason	Chk
P1	14/04/2023	For Information	SEW

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Drawing Number	Rev
0419-SEW-ZZ-ZZ-DR-L-001003	P1

APPENDIX C CONDITION ASSESSMENT

C.1 PRE-DEVELOPMENT ASSESSMENT

Grassland (Low distinctiveness) - Modified grassland

Condition Assessment Criteria		Pass
1	There are 6-8 vascular plant species per m2 present, including at least 2 forbs (this may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	N
2	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 vertebrates and invertebrates to live and breed.	N
3	Some scattered scrub (including bramble *Rubus fruticosus* agg.) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y
4	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.	Y
5	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	N
6	Cover of bracken Pteridium aquilinum is less than 20%.	Y
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Y

Condition Assessment Result	Condition Assessment Score
Passes 6 or 7 of 7 criteria including passing essential criterion 1	Good (3)
Passes 4 or 5 of 7 criteria including passing essential criterion 1	Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria, OR 4, 5 or 6 of criteria but failing criterion 1	Poor (1)

Rural trees

Condition Assessment Criteria		Pass
1	The tree is a native species (or at least 70% within the block are native species).	N

Condition Assessment Criteria		Pass
2	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).	N
3	The tree is mature (or more than 50% within the block are mature).	N
4	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
5	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N
6	More than 20% of the tree canopy area is oversailing vegetation beneath	Y

Condition Assessment Result	Condition Assessment Score
Passes 5 or 6 of 6 criteria	Good (3)
Passes 3 or 4 of 6 criteria	Moderate (2)
Passes 0, 1 or 2 of 6 criteria	Poor (1)

Condition Assessment Criteria				
A series of ten attributes, representing key physical characteristics, are used for this assessment. The attributes, and the minimum criteria for achieving a favourable condition in each, are defined. The attributes use similar favourable condition criteria to the Hedgerow Survey Handbook and the handbook is the recommended source of reference for assessing individual hedgerow attributes.				
Functional Groupings	Attribute	Criteria (the minimum requirements for 'favourable condition')	Description	Pass
Core groups - applicable to all hedgerow types				
A1	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is > 1.5 m height).	Y
A2	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they >0.5 m in height.	Y

Condition Assessment Criteria				
			Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice4).	
B1	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Y
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length and No canopy gaps >5 m	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate).	Y
C1	Undisturbed ground and perennial vegetation	>1 m 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 hedge (at least)	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. Undisturbed ground should be present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedge. This criterion recognises the value of the hedge base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	N
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (Urtica spp.), cleavers (Galium aparine) and docks (Rumex spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	Y
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website.	Y
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.	Y

Condition Assessment Criteria				
			This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).	

Condition Assessment Result		
Each attribute is assigned to one of 5 functional groups (A-E), as indicated in the table above, and the condition of a hedgerow is assessed according to the number of attributes from these functional groups with pass or fail the 'favourable condition' criteria according to the approach set out in this table.		
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)
Condition categories for hedgerows without trees		
Good	No more than 2 failures in total; AND No more than 1 in any functional group.	3
Moderate	No more than 4 failures in total; AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR Fails both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).	1

C.2 POST DEVELOPMENT

Medium Distinctiveness Grassland

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m2 present, including at least 2 forbs (this may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	Yes	Owing to the changes in mowing regime and the increase in native propagules in the vicinity, it is considered highly likely that within a reasonable timeframe, criterion A will be met.
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	No	The proposed mowing regime does not feature maintaining different length areas

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
	opportunities for vertebrates and invertebrates to live and breed.		
C	Some scattered scrub (including bramble *Rubus fruticosus* agg.) may be present, but scrub accounts for less than 20% of total grassland area.	Yes	Scrub will be managed and kept below 20%
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.	Yes	Damage at present is <5% and management will not change, beyond changes to mowing regime
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	No	Bare ground amount is not likely to change from baseline levels
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Yes	No bracken present on site
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA4).	Yes	INNS will be managed

Condition Assessment Result	Condition Assessment Score
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)

Rural trees

Condition Assessment Criteria		Pass
1	The tree is a native species (or at least 70% within the block are native species).	N
2	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
3	The tree is mature (or more than 50% within the block are mature).	Y
4	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.	N
5	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N
6	More than 20% of the tree canopy area is oversailing vegetation beneath	Y

Condition Assessment Result	Condition Assessment Score
Passes 5 or 6 of 6 criteria	Good (3)
Passes 3 or 4 of 6 criteria	Moderate (2)
Passes 0, 1 or 2 of 6 criteria	Poor (1)

APPENDIX D LANDSCAPE TO UKHAB/METRIC4.0 TRANSLATION

Landscaping Habitat	Metric 4.0
Lawn (modified): 14430m2	Modified grassland
Defensible planting (grasses, wildflower, structural shrubs): 2760m2	Introduced Shrub (Landscape architect unable to separate the structural shrubs from wildflower meadow)
Ornamental shrubs and herbaceous planting: 960m2	Introduced shrub
23 trees	Rural trees

APPENDIX E LEGISLATION AND POLICY

E.1 LEGISLATION

The Environment Act, 2021[9]

The Environment Act, 2021 mandates the requirement for new development in England to deliver a minimum 10% biodiversity net gain (BNG), as measured by the agreed metric (the current relevant version being the Natural England Metric 3.0), secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of offsite biodiversity unit offsets, or the purchase of biodiversity credits.

The Act introduces the condition that no development may begin unless a biodiversity net gain plan has been submitted and approved by the local planning authority (LPA).

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

E.2 POLICY

National

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) 2021[10] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost..

The London Plan[11]

Policy G1 Green infrastructure

1. London's network of green and open spaces, and green features in the built environment such as green roofs and street trees, should be protected, planned, designed and managed as integrated features of green infrastructure.

2. Boroughs should prepare green infrastructure strategies that integrate objectives relating to open space provision, biodiversity conservation, flood management, health and wellbeing, sport and recreation.
3. Development Plans and Opportunity Area Planning Frameworks should:
    1. identify key green infrastructure assets, their function and their potential function
    2. identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.
4. Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.

Policy G5 Urban greening

1. Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.
2. Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development. (excluding B2 and B8 uses).
3. Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Policy G6 Biodiversity and access to nature

4. Sites of Importance for Nature Conservation (SINCs) should be protected.
5. Boroughs, in developing Development Plans, should:
    a. use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks
    b. identify areas of deficiency in access to nature (i.e. areas that are more than 1km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them
    c. support the protection and conservation of priority species and habitats that sit outside the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans
    d. seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context

e. ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.

6. Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:
   a. avoid damaging the significant ecological features of the site
   b. minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site
   c. deliver off-site compensation of better biodiversity value.
7. Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.
8. Proposals which reduce deficiencies in access to nature should be considered positively.

Policy G7 Trees and woodlands

1. London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.
2. In their Development Plans, boroughs should:
   a. Protect 'veteran' trees and ancient woodland where these are not already part of a protected site
   b. Identify opportunities for tree planting in strategic locations
3. Development proposals should ensure that, wherever possible, existing trees of quality are retained [Category A and B]. If planning permission is granted that necessitates the removal of trees, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

London Environment Strategy 2018[12]

The Mayor's Environment Strategy was published in May 2018. This document sets out the strategic vision for the environment throughout London. Although not primarily a planning guidance document, it does set strategic objectives, policies and proposals that are of relevance to the delivery of new development in a planning context, including:

Objective 5.1 Make more than half of London green by 2050

Policy 5.1.1 Protect, enhance and increase green areas in the city, to provide green infrastructure services and benefits that London needs now.

This policy states:

"New development proposals should avoid reducing the overall amount of green cover and, where possible, seek to enhance the wider green infrastructure network to increase the benefits this provides. [...] New developments should aim to avoid fragmentation of existing green space, reduce storm water run-off rates by using sustainable drainage, and include new tree planting, wildlife-friendly landscaping, or features such as green roofs to mitigate any unavoidable loss".

This supports the 'environmental net gain' approach promoted by government in the 25 Year Environment Plan.

Proposal 5.1.1.d The London Plan includes policies to green streets and buildings, including increasing the extent of green roofs, green walls and sustainable drainage.

Objective 5.2 conserving and enhancement wildlife and natural habitats

Policy 5.2.1 Protect a core network of nature conservation sites and ensure a net gain in biodiversity

This policy requires new development to include new wildlife habitat, nesting and roosting sites, and ecologically appropriate landscaping will provide more resources for wildlife and help to strengthen ecological corridors. It states:

"Opportunities should be sought to create or restore priority habitats (previously known as UK Biodiversity Action Plan habitats) that have been identified as conservation priorities in London [and] all land managers and landowners should take BAP priority species into account".

E.3 LOCAL

Hillingdon Local Plan

Built Environment

Policy BE1: Built Environment

The Council will require all new development to improve and maintain the quality of the built environment in order to create successful and sustainable neighbourhoods, where people enjoy living and working and that serve the long-term needs of all residents. All new developments should:

1. Achieve a high quality of design in all new buildings, alterations, extensions and the public realm which enhances the local distinctiveness of the area, contributes to community cohesion and a sense of place;

2. Be designed to be appropriate to the identity and context of Hillingdon's buildings, townscapes, landscapes and views, and make a positive contribution to the local area in terms of layout, form, scale and materials and seek to protect the amenity of surrounding land and buildings, particularly residential properties;

3. Be designed to include "Lifetime Homes" principles so that they can be readily adapted to meet the needs of those with disabilities and the elderly, 10% of these should be wheelchair accessible or easily adaptable to wheelchair accessibility encouraging places of work and leisure, streets, neighbourhoods, parks and open spaces to be designed to meet the needs of the community at all stages of people's lives;

4. In the case of 10 dwellings or over, achieve a satisfactory assessment rating in terms of the latest Building for Life standards (as amended or replaced from time to time);

5. Improve areas of poorer environmental quality, including within the areas of relative disadvantage of Hayes, Yiewsley and West Drayton. All regeneration schemes should ensure that they are appropriate to their historic context, make use of heritage assets and reinforce their significance;

6. Incorporate a clear network of routes that are easy to understand, inclusive, safe, secure and connect positively with interchanges, public transport, community facilities and services;

7. Improve the quality of the public realm and provide for public and private spaces that are attractive, safe, functional, diverse, sustainable, accessible to all, respect the local character and landscape, integrate with the development, enhance and protect biodiversity through the inclusion of living walls, roofs and areas for wildlife, encourage physical activity and where appropriate introduce public art;

8. Create safe and secure environments that reduce crime and fear of crime, anti-social behaviour and risks from fire and arson having regard to Secure by Design standards and address resilience to terrorism in major development proposals;

9. Not result in the inappropriate development of gardens and green spaces that erode the character and biodiversity of suburban areas and increase the risk of flooding through the loss of permeable areas;

10. Maximise the opportunities for all new homes to contribute to tackling and adapting to climate change and reducing emissions of local air quality pollutants. The Council will require all new development to achieve reductions in carbon dioxide emission in line with the London Plan targets through energy efficient design and effective use of low and zero carbon technologies. Where the required reduction from on-site renewable energy is not feasible within major developments, contributions off-site will be sought. The Council will seek to merge a suite of sustainable design goals, such as the use of SUDS, water efficiency, lifetime homes, and energy efficiency into a requirement measured against the Code for Sustainable Homes and BREEAM. These will be set out within the Hillingdon Local Plan: Part 2- Development Management Policies Local Development Document (LDD). All developments should be designed to make the most efficient use of natural resources whilst safeguarding historic assets, their settings and local amenity and include sustainable design and construction techniques to increase the re-use and recycling of construction, demolition and excavation waste and reduce the amount disposed to landfill;

11. In the case of tall buildings, not adversely affect their surroundings including the local character, cause harm to the significance of heritage assets or impact on important views. Appropriate locations for tall buildings will be defined on a Character Study and may include parts of Uxbridge and Hayes subject to considering the Obstacle Limitation Surfaces for Heathrow Airport. Outside of Uxbridge and Hayes town centres, tall buildings will not be supported. The height of all buildings should be based upon

an understanding of the local character and be appropriate to the positive qualities of the surrounding townscape.

Support will be given for proposals that are consistent with local strategies, guidelines, supplementary planning documents and Hillingdon Local Plan: Part 2- Development Management Policies.

Policy EM7: Biodiversity and Geological Conservation

The Council will review all the Borough grade Sites of Importance for Nature Conservation (SINCs). Deletions, amendments and new designations will be made where appropriate within the Hillingdon Local Plan: Part 2- Site Specific Allocations Local Development Document. These designations will be based on previous recommendations made in discussions with the Greater London Authority.

Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:

1. The conservation and enhancement of the natural state of:

- Harefield Gravel Pits
- Colne Valley Regional Park
- Fray's Farm Meadows
- Harefield Pit

2. The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.

3. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.

4. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/assist in the delivery of actions within the Biodiversity Action Plan.

5. The provision of biodiversity improvements from all development, where feasible.

6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.

7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.

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