Greengage

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Client: Mapletree

Project: 300 Brook Drive

Report: Biodiversity Net Gain Assessment

QUALITY ASSURANCE

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CONTENTS

1.0 EXECUTIVE SUMMARY 2
2.0 INTRODUCTION 3
2.1 SITE DESCRIPTION AND CONTEXT 3
2.2 PROPOSED DEVELOPMENT 3
3.0 METHODOLOGY 5
3.1 GOOD PRACTICE PRINCIPLES 5
3.2 BIODIVERSITY METRIC 6
3.3 BASELINE CALCULATION 6
3.4 PROPOSED DEVELOPMENT CALCULATIONS 7
3.5 COMPETENCIES 7
3.6 CONSTRAINTS 7
4.0 RESULTS 9
4.1 BASELINE CONDITIONS 9
4.2 PROPOSED SITE LAYOUT 11
5.0 EVALUATION AND DISCUSSION 15
6.0 SUMMARY & CONCLUSION 16
APPENDIX A BASELINE HABITATS PLAN AND PROPOSED HABITATS PLAN
APPENDIX B CONDITION ASSESSMENT CRITERIA FOR BASELINE AND PROPOSED HABITATS
APPENDIX C LEGISLATION AND POLICY
REFERENCES

Tables

Table 3.1 Good Practice Principles and Discussion 5
Table 4.1 Baseline Habitat Biodiversity Units 9
Table 4.2 Baseline Hedgerow Biodiversity Units 10
Table 4.3 Post-Development Habitat Biodiversity Units 11
Table 4.4 Post-Development Hedgerow Biodiversity Units 12

Figures

Figure A.1 Baseline Habitats Plan
Figure A.2 Proposed Habitats Plan

1.0 EXECUTIVE SUMMARY

Greengage was commissioned by Mapletree to undertake a Biodiversity Net Gain Assessment (BNGA) of a site known as 300 Brook Drive in Reading, Berkshire, in order to assess the change in ecological value of the site in light of the proposed refurbishment.

This report is an update to one submitted with the planning application following minor post-planning amendments to landscaping proposals.

The baseline biodiversity value of the site is calculated to be 5.71 Habitat Units and 0.13 Hedgerow Units. There are no watercourse habitats on site and therefore, no corresponding Watercourse Units.

Based on the landscaping plans provided the development is predicted to provide a net gain of 0.81 Habitat Units (14.22%) and 0.03 Hedgerow Units (24.51%) associated with the proposed habitats compared with the pre-development value.

Should these plans and the stated habitat condition criteria in Appendix B be adhered to, the proposals stand to be compliant with legislation and planning policy. Any changes to the design will impact upon the biodiversity score and thus the metric will need to be updated to reflect such changes.

Detail relating to the proposed ecological enhancement actions in relation to habitat creation and management should be provided within a Habitat Management and Monitoring Plan for the site. Provisional management actions are set out in the Landscape and Ecology Management plan prepared in accordance with the BREEAM requirements and appended to the Ecological Appraisal (ref: 552638JB17DEC23FV04_EA).

2.0 INTRODUCTION

Greengage was commissioned by Mapletree to undertake a Biodiversity Net Gain Assessment (BNGA) of a site known as 300 Brook Drive in Reading, Berkshire.

This report is an update to one submitted with the planning application following minor post-planning amendments to landscaping proposals.

This assessment aims to quantify the predicted change in ecological value of the site in light of the proposed refurbishment of the site to assess compliance against local and national planning policy. The BNG mandate (effective February 2024) set out in the Environment Act 2021 states that a target of 10% net gain in biodiversity should be reached and biodiversity value should be 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 for a minimum of 30 years, as required by BNG, including after planning permission has been granted and throughout the construction phase.

2.1 SITE DESCRIPTION AND CONTEXT

The assessment site covers an area of approximately 1.5 hectares (ha) and is centred on National Grid Reference SU704700 and OS Co-ordinates 470462, 170059.

The existing site comprised a three-storey office building with flat roof with some plant. Landscaping and car parking surrounds the building on site. Landscaping, predominately comprising trees and mixed scrub, shrub with hardstanding car parking. Car parking includes a two-storey car park structure.

The site is located in Green Park, a business park on the outskirts of Reading, Berkshire. Naturalised soft landscaping, including Foudry Brook, extends to the northwest. Green Park sits to the north of the M4 and is approximately 2.5 miles to the west of central of Reading. In the wider area agricultural land and open green space extends to the west and north of the site.

2.2 PROPOSED DEVELOPMENT

The proposed refurbishment seeks to "*provide an integrated landscape proposal for the commercial building and its setting within the wider naturalistic Green Park Business Park*", and the overarching aim of the landscape proposal is to provide:

- A distinctive and memorable workplace destination;
- An urban greening project, including the creation of new semi-private open space for active leisure; and
- To increase biodiversity on site.

Based on the i proposals, the proposed development will deliver:

- Refurbishment of the existing grassland to provide new form and function;
- Wildflower planting;

- A new sedum green roof;
- Additional shrub and groundcover planting;
- Additional ornamental hedgerows;
- Additional trees; and
- New rain gardens.

The 'Landscape Strategy' produced by Place Design (doc ref: 1004-LS-003), dated October 2024, has been used as the basis for information regarding the proposed post-development habitats and has been used to inform the comparison against the baseline values. This has been supplemented by the 'Tree Survey and Arboricultural Impact Assessment' produced by Place Design (doc ref: 1004-DO-002), dated May 2025.

3.0 METHODOLOGY

3.1 GOOD PRACTICE PRINCIPLES

To calculate the ecological value of the pre- and post-development site, Defra's Statutory Biodiversity Metric methodology was utilised, following best practice guidance from Defra[1] and Natural England[2] , and joint guidance from CIEEM, IEMA and CIRIA[3].

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	Baseline habitats are retained and enhanced where possible. The minimal losses (e.g., one tree) are mitigated for, and further ecological enhancements are provided within the site boundary.
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	The project team have been responsive to ideas from Greengage to enhance biodiversity value on site for all users, including the public.
4. Address Risks	Greengage has worked with the project team to improve biodiversity value on site and mitigate risks.
5. Make a Measurable Net Gain Contribution	The development is likely to achieve a measurable gain in biodiversity through the use of the Statutory Biodiversity Metric.
6. Achieve the Best Outcomes for Biodiversity	The landscape design improves biodiversity value on site. The proposed development is due to achieve a biodiversity net gain for both habitats and hedgerows as discussed in Section 4.
7. Be Additional	The proposals stand to provide a biodiversity net gain of 14.22% for habitats and 24.51% for hedgerows, which both represent biodiversity gain above the target 10%.
8. Create a Net Gain Legacy	The habitats created on site will be managed to ensure they continue to provide ecological benefits in perpetuity. This will be detailed in an Habitat Management and Monitoring Plan (HMMP) secured by planning condition.
9.Optimise Sustainability	The design has been created with both biodiversity and people in mind. The design will help enhance space for biodiversity in an urban

Good Practice Principle	Discussion
	area in addition to improving aesthetics and recreational opportunities and thus contributing to people's wellbeing.
10. Be Transparent	Advice on enhancing the sites ecological value was provided during the design process.

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 metric guidance.

Strategic significance draws upon priorities and objectives 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"[1].

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. Based on the distinctiveness and habitat type the Statutory Biodiversity Metric will also set minimum habitat creation and enhancement requirements to compensate for specific habitat losses (up to the point of no net loss). This is referred to in the metric as 'Trading Rules'. This can be used to understand and inform ecologists and developers how the site should incorporate habitats into any future site layout or landscape design.

3.3 BASELINE CALCULATION

To calculate pre-development Biodiversity Units, data collected during a site survey undertaken by Greengage in December 2023 was assessed. The areas of each habitat type were taken from the baseline habitat map created within QGIS (provided in Appendix A). The habitats are not anticipated to have changed since the survey was undertaken.

Distinctiveness values were automatically calculated for the site and habitat conditions were assessed using Defra's condition assessment criteria in the field.

Strategic significance was assessed by reviewing the following:

- Reading Borough Local Plan[4];
- Reading Biodiversity Action Plan[5]; and
- Defra's Magic map application[6].

The site is not part of any biodiversity strategies, therefore the site itself is considered to have low strategic significance. However, where habitats associated with this assessment area are specifically referenced in a local biodiversity strategy, they were assigned high strategic significance.

3.4 PROPOSED DEVELOPMENT CALCULATIONS

Landscaping habitat types were determined by Greengage with the use of the Landscape Strategy (doc ref: 1004-LS-003 Landscape Strategy) and Landscape General Arrangement (doc ref: 1004_PL_001 General Arrangement) provided by Place Design and then translated into the relevant UKHAB and Statutory Biodiversity Metric habitats by Greengage based on species composition, abiotic factors and professional judgement.

Targeted condition scores were assigned by Greengage, using the Statutory Biodiversity Metric habitat condition criteria, whilst considering the likely future use of each area.

3.5 COMPETENCIES

Saul Ridley, who undertook the assessment and prepared this report, has a Bachelor's degree in Zoology (BSc Hons) and a Research Master's degree in Conservation Biology (MRes). Saul is an ecological consultant for Greengage with three years' experience in BNG assessments.

James Bumphrey, who verified this report, has a Bachelor's degree in Environmental Science (BSc Hons) and a Master's degree in Environmental Consultancy (MSc). James is a Director at Greengage, with more than 10 years' experience in ecological survey and assessment.

This report was written by Saul Ridley and reviewed and verified by James Bumphrey 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.

Delivery of biodiversity net gain does not remove requirements for avoidance, protection and mitigation relating to protected habitats and species. The mitigation hierarchy in relation to protected and notable habitats and species must be followed.

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 BASELINE CONDITIONS

The baseline biodiversity value of the site is calculated to be 5.71 Habitat Units and 0.13 Hedgerow Units, in accordance with the Statutory Biodiversity Metric. There were no watercourse habitats on site and therefore, no corresponding Watercourse Units. None of the existing habitats are formally identified as priority habitats within the Reading Biodiversity Action Plan or Local Plan, therefore, all baseline habitats are classified as 'Low' strategic significance. A breakdown of the baseline habitats and hedgerows, and their corresponding units, is provided below in Table 4.1Table 4.1 and 4.2

Table 4.2. The Baseline Habitats Plan can be seen in Appendix A.

Table 4.1 Baseline Habitat Biodiversity Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Grassland	Modified grassland	0.3065	Low	Poor	Low	0.61
Grassland	Modified grassland	0.0177	Low	Moderate	Low	0.07
Heathland and shrub	Mixed scrub	0.1294	Medium	Moderate	Low	1.04
Urban	Artificial unvegetated; unsealed surface	0.0418	V.Low	N/A	Low	0.00
Urban	Developed land; sealed surface	0.8026	V.Low	N/A	Low	0.00
Urban	Introduced shrub	0.1442	Low	N/A	Low	0.29
Wetland	Reedbeds	0.0247	High	Good	Low	0.44

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Individual trees	Urban tree	0.2850*	Medium	Moderate	Low	2.28
Individual trees	Urban tree	0.0814*	Medium	Good	Low	0.98
*Area of individual trees assigned according to guidance from the Statutory Biodiversity Metric, and not counted the towards the total site area. **Rounding present.					TOTAL	5.71**

Table 4.2 Baseline Hedgerow Biodiversity Units

Hedgerow Type	Length (Kilometres)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Non-native and ornamental hedgerow	0.132	V.Low	N/A	V. Low	0.13
				TOTAL	0.13

Condition Assessment

In accordance with the Statutory Biodiversity Metric guidance, habitat types **'Artificial unvegetated; unsealed surface'**, **'Developed land; sealed surface'**, **'Introduced shrub'** and **'Non-native and ornamental hedgerow'** are not subject to a condition assessment.

'Modified grassland' exists in the western lawn and around much of the perimeter of the office building. Most of the grassland has been assigned 'Poor' condition, lacking species diversity and being managed to a short even sward height. A small section of grassland within the western lawn, adjacent the ornamental Chinese silver grass, has a higher species diversity and has been assigned 'Moderate' condition.

'Mixed scrub' exists along the northern and eastern boundaries of the site. The mixed scrub comprises both native and non-native species of shrubs and trees with some groundcover planting and areas of bare ground interspersed. The mixed scrub has been assigned 'Moderate' condition.

'Reedbeds' exist along the western boundary of the site. The reedbeds were not surveyed in the site walkover. Therefore, as a precaution, the reedbeds have been assigned 'Good' condition.

'Urban trees' exist throughout the site, particularly focused around the site boundaries and within the mixed scrub habitat. There's a total of 75 individual trees. The trees are a mix of native and non-native species. The trees are not adversely impacted by human activity and all oversail vegetation, but most lack natural features that provide ecological niches for wildlife. 70 of the trees, including the trees adjacent the car park and the trees within the mixed scrub, have been assigned 'Moderate' condition, and the 5 mature trees in the west of the site, adjacent the western lawn, have been assigned 'Good' condition.

Full condition assessments for the baseline habitats are presented in Appendix B.

4.2 PROPOSED SITE LAYOUT

Based on masterplan drawings, the proposed development is predicted to provide 6.52 Habitat Units and 0.16 Hedgerow Units on site, in accordance with the Statutory Biodiversity Metric. There are no proposed watercourse habitats within the development and therefore, no corresponding Watercourse Units. None of the proposed habitats are formally identified as priority habitats within the Reading Biodiversity Action Plan or Local Plan, therefore, all proposed habitats are classified as 'Low' strategic significance.

A breakdown of the proposed habitats and hedgerows, and their corresponding units, is provided below in Table 4.3 and Table 4.4. The Proposed Habitats Plan can be seen in Appendix A.

Table 4.3 Post-Development Habitat Biodiversity Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Grassland	Modified grassland	0.0464	Low	Poor	Low	0.09
Grassland	Other neutral grassland	0.1809	Medium	Poor	Low	0.70
Grassland	Other neutral grassland	0.0403	Medium	Moderate	Low	0.26

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Heathland and shrub	Mixed scrub	0.1311	Medium	Moderate	Low	1.04
Urban	Artificial unvegetated; unsealed surface	0.0188	V.Low	N/A	Low	0.00
Urban	Developed land; sealed surface	0.8254	V.Low	N/A	Low	0.00
Urban	Introduced shrub	0.1762	Low	N/A	Low	0.34
Urban	Other green roof	0.0088	Low	N/A	Low	0.02
Urban	Rain garden	0.0143	Low	Moderate	Low	0.05
Wetlands	Reedbeds	0.0247	High	Good	Low	0.44
Individual trees	Urban tree	0.3989*	Medium	Moderate	Low	2.58
Individual trees	Urban tree	0.0814*	Medium	Good	Low	0.98
*Area of individual trees assigned according to guidance from the Statutory Biodiversity Metric, and not counted the towards the total site area. **Rounding present.					TOTAL	6.52**

Table 4.4 Post-Development Hedgerow Biodiversity Units

Hedgerow Type	Length (Kilometres)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Non-native and ornamental hedgerow	0.166	V.Low	Moderate	Low	0.16

Hedgerow Type	Length (Kilometres)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
				TOTAL	0.16

Condition Assessment

In accordance with the Statutory Biodiversity Metric guidance, habitat types **'Artificial unvegetated; unsealed surface'**, **'Developed land; sealed surface'**, **'Introduced shrub'**, **'Non-native and ornamental hedgerow'** and **'Other green roof'** are not subject to a condition assessment.

'Modified grassland' adjacent the existing pathway towards the western edge of the site will be retained in its current 'Poor' condition, with no change to management.

'Other neutral grassland' will be created in the western lawn and in small patches around the periphery of the office building. The other neutral grassland will be sown with a diverse wildflower seed mix. The majority of the other neutral grassland will be sown with a wildflower seed mix that responds well to regular mowing, such as Emorsgate EL1 Flowering Lawn Mixture, and will be managed to a short height for amenity usage and is predicted to reach 'Poor' condition. Some areas, including the raised land of the amphitheatre and the patch of grassland adjacent the ornamental Chinese silver grass, will be allowed to grow tall with a varied sward height, and are predicted to reach 'Moderate' condition.

'Mixed scrub' habitat present on site will be retained in its current 'Moderate' condition, with no change to management. Some areas adjacent to the existing mixed scrub on site that will be retained in their current state are currently sparsely vegetated and are expected to enable a slight expansion of the existing scrub habitat.

'Rain garden' will be created within the western lawn. The rain garden will be planted with a variety of species beneficial to native wildlife such as pollinators. The rain garden is predicted to reach 'Moderate' condition.

'Reedbeds' present along the western boundary of the site will be retained in their current 'Good' condition, with no change to management.

All but two of the **'Urban trees'** on site will be retained and an additional 30 new trees will be planted within the western lawn and car park. The retained trees will retain their 'Moderate' or 'Good' condition, with no change to management. The additional 30 trees will oversail vegetation and will be managed in-line with the existing trees to reach a 'Moderate' condition.

Full condition assessments for the proposed habitats are presented in Appendix B.

5.0 EVALUATION AND DISCUSSION

Under these proposals the development stands to provide 6.52 Habitat Units and 0.16 Hedgerow Units, resulting in a net gain of 0.81 Habitat Units (14.22%) and 0.03 Hedgerow Units (24.51%) over the sites baseline of 5.71 Habitat Units and 0.13 Hedgerow Units. Habitat trading rules are satisfied. The proposals are therefore in compliance with local planning policy and national legislation regarding biodiversity net gain (see Appendix C).

Detail relating to the proposed ecological enhancement actions in relation to habitat creation and management should be provided within a Habitat Management and Monitoring Plan (HMMP) for the site. Provisional management actions are set out in the Landscape and Ecology Management Plan (LEMP) prepared in accordance with BREEAM requirements and appended to the Ecological Appraisal (ref: 552638JB17DEC23FV04_EA). The HMMP 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 Mapletree to undertake a BNGA of 300 Brook Drive in order to assess the change in ecological value of the site in light of the proposed refurbishment.

This report demonstrates that the development proposals would result in a net gain of 0.81 Habitat Units (14.22%) and 0.03 Hedgerow Units (24.51%) and satisfy trading rules, should existing plans be adhered to. This is in compliance with local planning policy and national legislation regarding biodiversity net gain.

Any further changes to the design will impact upon the biodiversity score and thus 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 consent, and in and throughout the construction phase. Habitat condition criteria in Appendix B must also be adhered to.

Detail relating to the proposed ecological enhancement actions in relation to habitat creation and management should be provided within a HMMP for the site. Provisional management actions are set out in the LEMP prepared in accordance with BREEAM requirements and appended to the Ecological Appraisal. The HMMP should provide description of how habitats are to be created and managed for a period of at least 30 years.

APPENDIX A BASELINE HABITATS PLAN AND PROPOSED HABITATS PLAN

Figure A.1 Baseline Habitats Plan

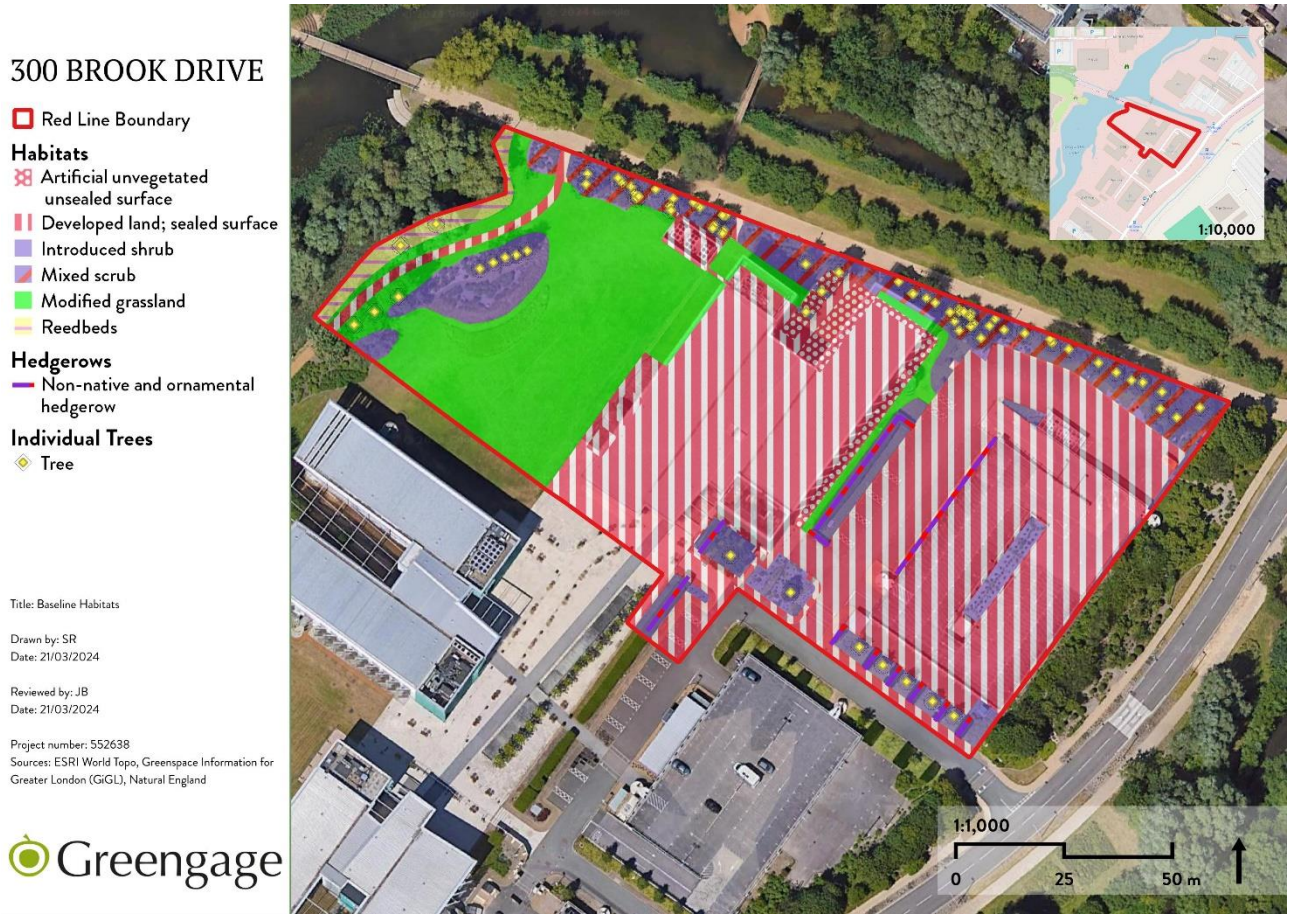
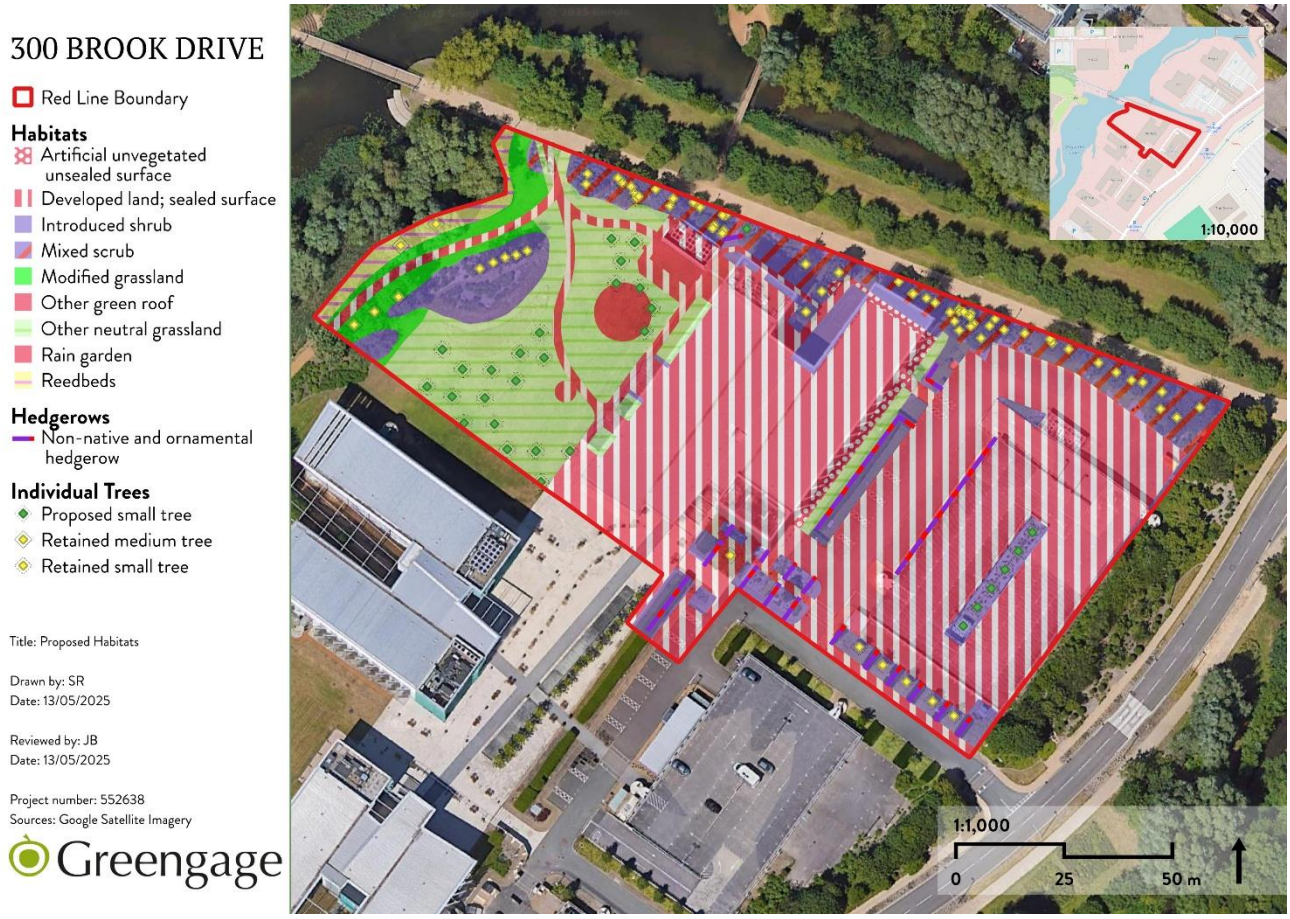


Figure A.2 Proposed Habitats Plan



APPENDIX B CONDITION ASSESSMENT CRITERIA FOR BASELINE AND PROPOSED HABITATS

Baseline Habitats

Modified Grassland

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these 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 m^2 (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.	Y (small patch) N (majority)	A small patch adjacent the Chinese silver grass within the western lawn has 6+ plant species present per m^2. All other grassland is species poor amenity grassland.
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 vertebrates and invertebrates to live and breed.	N	It is regularly managed to a short height.
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	There is no scrub present within the grassland.
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.	Y	The is no physical damage evident.

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	N	Cover of bare ground is not between 1% and 10%.
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y	There is no bracken present.
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y	There are no invasive non-native species present.

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Passes 6 or 7 criteria including passing essential criterion A	Good (3)	
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	✓ (small patch adjacent Chinese silver grass)
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	✓ (majority)

Mixed Scrub

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	N	The mixed scrub is not a good representation of its UKHab description; more than 20% of the scrub is non-native.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	Y	There is a variety of age classes present.

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Y	There are no invasive non-native species present.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	N	The scrub doesn't have a well-developed edge. It is bordered by hardstanding.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Y	There are clearings present throughout the scrub.

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

Reedbeds

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The water table is at, or near the surface throughout the year - this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above. **Note - this criterion is essential for achieving Good condition.**	Y	Insufficient data. Criteria passed as a precaution.
B	The parcel represents a good example of its specific habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present.[1]	Y	Insufficient data. Criteria passed as a precaution.
C	The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	Y	Insufficient data. Criteria passed as a precaution.
D	Cover of scrub and scattered trees are less than 10%.	Y	Insufficient data. Criteria passed as a precaution.
E	Cover of bare ground is less than 5%.	Y	Insufficient data. Criteria passed as a precaution.
I	The reedbed has a diverse structure with between 60% and 80% reeds *Phragmites australis*. Other areas may include open water (at least 10%), species-rich fen and or wet woodland.	Y	Insufficient data. Criteria passed as a precaution.

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
• Passes 5 or 6 core criteria including criterion A; AND • Passes additional criterion I or.	Good (3)	✓
• Passes 4 or 5 of 7 criteria; OR • Passes 6 of 7 criteria but fails criterion A or additional criterion I.	Moderate (2)	
• Passes 3 or fewer criteria.	Poor (1)	

Urban Trees

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The tree is a native species (or more than 70% within the block are native species).	Y N	The majority of the trees are native species, however, non-native trees such as Norway maple trees are present adjacent the carpark and within the mixed scrub.
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	Individual trees automatically pass this criterion.
C	The tree is mature or veteran (or more than 50% within the block are mature or veteran).	Y (5 trees) N (70 trees)	The majority of the trees are not mature and do not have veteran features, however, the 5 trees in the western end of the site, adjacent the western lawn, are mature.
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	Y	The trees do not show evidence of adverse human impact.
E	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark	N	The trees lack features that provide substantial micro-habitats.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	The trees are planted within and oversail vegetation.

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Passes 5 or 6 criteria	Good (3)	✓ (5 trees)
Passes 3 or 4 criteria	Moderate (2)	✓ (70 trees)
Passes 2 or fewer criteria	Poor (1)	

Proposed Habitats

Modified Grassland

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	There are 6-8 vascular plant species per m^2 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 m^2 (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	The retained modified grassland will continue to be species poor.
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 vertebrates and invertebrates to live and breed.	N	It will continue to be regularly mown to a short height.
C	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	There will be no scrub encroachment.
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.	Y	The modified grassland will continue to be managed for amenity use and is unlikely to have high levels of physical damage.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	N	Cover of bare ground is unlikely to be between 1% and 10%.
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y	There will be no bracken present.

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y	There will be no invasive non-native species present. If invasive non-native species colonise the habitat they will be removed.

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Passes 6 or 7 criteria including passing essential criterion A	Good (3)	
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	✓

Other Neutral Grassland

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y N	The grassland on the raised land for amphitheatre and adjacent the Chinese silver grass will be managed for biodiversity and will be a good representation of other neutral grassland, as per the UKHab description. The grassland regularly managed and kept short for amenity usage will not be a good representation of other neutral grassland, as per the UKHab description.
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.	Y N	The grassland managed for biodiversity will not be regularly mown and will be allowed to grow tall and develop an uneven sward height with a mix of

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
			different species and varied structure. The grassland regularly managed for amenity usage will be kept short and will not have a varied sward height.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	N	Cover of bare ground will not be managed and cannot be guaranteed to be between 1% and 5%.
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	There will be no bracken present.
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Y	Species indicative of sub-optimal condition, including common nettle and creeping thistle, will not be present and will be removed in case of their encroachment.
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	All of the other neutral grassland will be sown with a wildflower seed mix, but it cannot be guaranteed that there will be 10 or more plant species per m^2.

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	✓ Grassland on the raised land at the amphitheatre and adjacent the Chinese silver grass that will be managed for biodiversity.
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	✓ Grassland that will be managed short for amenity usage.

Mixed scrub

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	N	The mixed scrub will not a good representation of its UKHab description; more than 20% of the scrub is non-native.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	Y	There will remain a variety of age classes present.
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Y	There will be no invasive non-native species present.

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	N	The scrub will not have a well-developed edge. It will remain bordered by hardstanding.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Y	There will be clearings present throughout the scrub.

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

Rain Gardens

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	N	The vegetation structure in the rain gardens will not provide substantial structural variation.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Y	The rain gardens will be planted with a variety of plant species that are beneficial for wildlife, including species on the RHS Plants for Pollinators list.

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
C	Invasive non-native plant species (listed on Schedule 9 of WCA[1]) and others which are to the detriment of native wildlife (using professional judgement)[2] cover less than 5% of the total vegetated area[3]. **Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).**	Y	There will be no invasive non-native species present.

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.	Good (3)	
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)	✓
• Passes 0 or 1 of 3 core criteria.	Poor (1)	

Reedbeds

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The water table is at, or near the surface throughout the year - this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above. **Note - this criterion is essential for achieving Good condition.**	Y	Insufficient data. Criteria passed as a precaution.
B	The parcel represents a good example of its specific habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present.[1]	Y	Insufficient data. Criteria passed as a precaution.

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
C	The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	Y	Insufficient data. Criteria passed as a precaution.
D	Cover of scrub and scattered trees are less than 10%.	Y	Insufficient data. Criteria passed as a precaution.
E	Cover of bare ground is less than 5%.	Y	Insufficient data. Criteria passed as a precaution.
I	The reedbed has a diverse structure with between 60% and 80% reeds *Phragmites australis*. Other areas may include open water (at least 10%), species-rich fen and or wet woodland.	Y	Insufficient data. Criteria passed as a precaution.

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
• Passes 5 or 6 core criteria including criterion A; AND • Passes additional criterion I or.	Good (3)	✓
• Passes 4 or 5 of 7 criteria; OR • Passes 6 of 7 criteria but fails criterion A or additional criterion I.	Moderate (2)	
• Passes 3 or fewer criteria.	Poor (1)	

Urban Trees

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The tree is a native species (or more than 70% within the block are native species).	Y N	The majority of the trees are and will be native species, however, non-native species such as Norway maple trees are present adjacent the carpark and within the mixed scrub.

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
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	Individual trees automatically pass this criterion.
C	The tree is mature or veteran (or more than 50% within the block are mature or veteran).	Y (5) N (98)	The 5 trees in the western end of the site, adjacent the western lawn, are mature. All other retained trees are not mature, and the newly planted trees will not be mature at time of planting.
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	Y	The trees will be managed in-line with the current management and are unlikely to be adversely impacted by human activity.
E	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark	N	It is unlikely substantial micro-habitats will form on the trees within 30 years.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	All trees will be planted within and oversailing vegetation.

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Passes 5 or 6 criteria	Good (3)	✓ 5 trees
Passes 3 or 4 criteria	Moderate (2)	✓ 98 trees
Passes 2 or fewer criteria	Poor (1)	

APPENDIX C LEGISLATION AND POLICY

C.1 LEGISLATION

The Environment Act, 2021[7]

Following secondary legislation, 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 Statutory Biodiversity Metric), 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.

C.2 POLICY

National

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) 2024[9] 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.

Local

Reading Local Plan 2019

Policy EN12 – Biodiversity and the Green Network

a) The identified Green Network, the key elements of which are shown on the Proposals Map, shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted for

development that negatively affects the sites with identified interest or fragments the overall network. The Green Network comprises:

- Sites with identified biodiversity interest - Local Wildlife Sites, Local Nature Reserves, Biodiversity Opportunity Areas, protected and priority species and their habitats, Priority and Biodiversity Action Plan habitats, and the River Thames and all its tributaries (including the River Kennet and the Kennet & Avon Canal); and
- Areas with potential for biodiversity value and which stitch the Green Network together – designated Local Green Space and open green spaces, and existing and potential Green Links. New development shall demonstrate how the location and type of green space, landscaping and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map.

b) On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible. Development should:

- Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and
- Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.

In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is "no net loss" of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats, and should be provided prior to development.

Policy CC3 – Adaptation to Climate Change

All developments will demonstrate how they have been designed to incorporate measures to adapt to climate change. The following measures shall be incorporated into development:

- Wherever possible, new buildings shall be orientated to maximise the opportunities for both natural heating and ventilation and reducing exposure to wind and other elements;
- Proposals involving both new and existing buildings shall demonstrate how they have been designed to maximise resistance and resilience to climate change for example by including measures such as solar shading, thermal mass, heating and ventilation of the building and appropriately coloured materials in areas exposed to direct sunlight, green and brown roofs, green walls, etc;

- Use of trees and other planting, where appropriate as part of a landscape scheme, to provide shading of amenity areas, buildings and streets and to help to connect habitat, designed with native plants that are carefully selected, managed and adaptable to meet the predicted changed climatic conditions; and
- All development shall minimise the impact of surface water runoff from the development in the design of the drainage system, and where possible incorporate mitigation and resilience measures for any increases in river flooding levels as a result of climate change.

REFERENCES

[1] *Defra (2023). Statutory Biodiversity Metric Draft User Guide.*
[2] *Natural England (2023). The Statutory Biodiversity Metric and Small Sites Metric – QGIS Template and QGIS Import Tool User Guide (JP039).*
[3] *Julia Baker, Rachel Hoskin & Tom Butterworth (2019). Biodiversity Net Gain. Good practice principles for development: A practical guide. CIRIA, London.*
[4] *Reading Borough Council (2019). Reading Borough Local Plan.*
[5] *Reading Borough Council (2021). Reading Biodiversity Action Plan.*
[6] *Defra (2023). Magic Map. Available at: https://magic.defra.gov.uk/magicmap.aspx*
[7] *GOV.UK. (2021). Environment Act 2021. Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted*
[9] *GOV.UK. (2024). National Planning Policy Framework. [online] Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2*