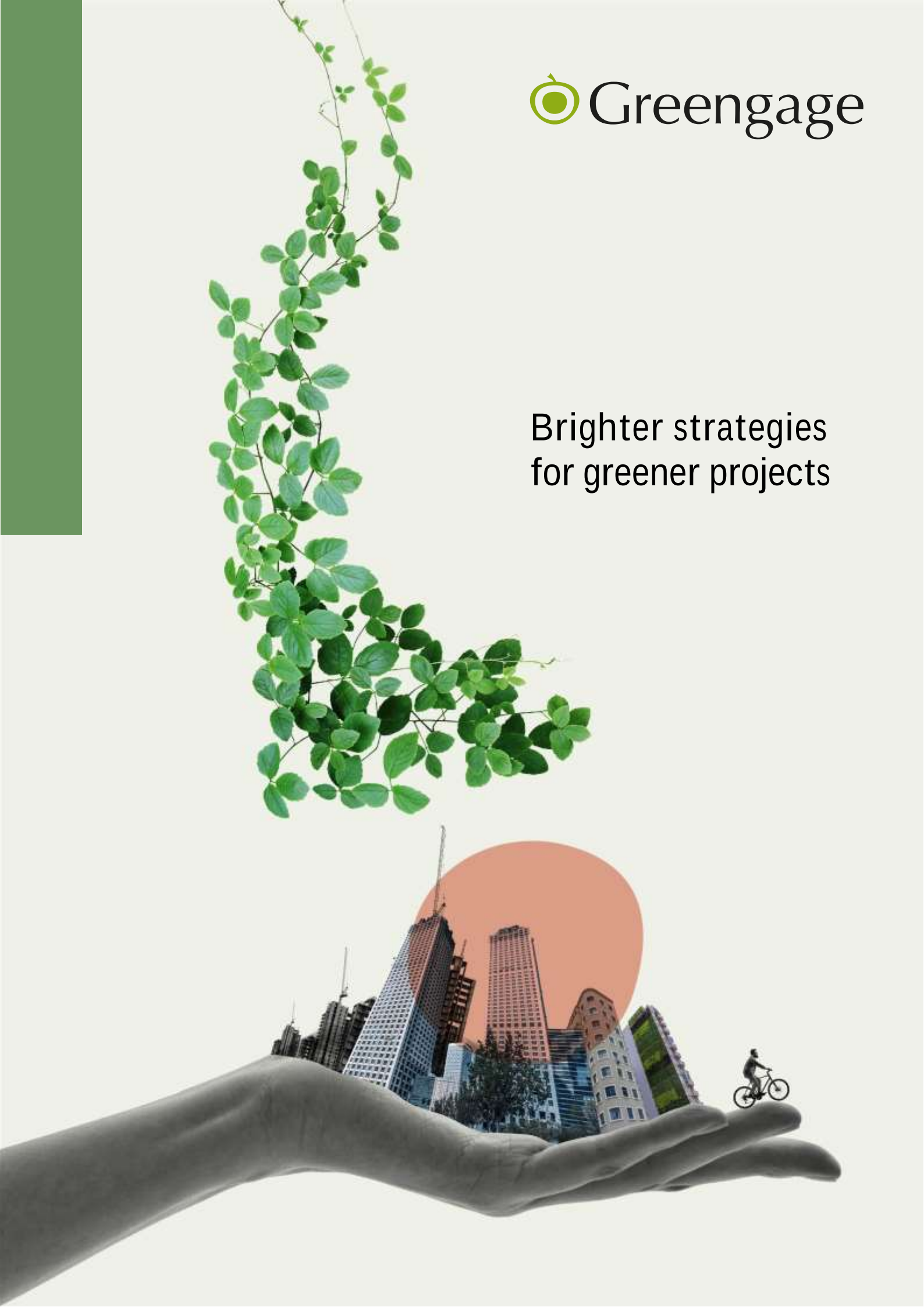




Brighter strategies
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Client: Mapletree
Project: 300 Brook Drive
Report: Ecological Appraisal (BREEAM Compliant)

QUALITY ASSURANCE

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1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd was commissioned by Mapletree to undertake an Ecological Appraisal (BREEAM Compliant) for a site at 300 Brook Drive in Reading, Berkshire.

The site survey and assessment aimed to establish the ecological value of this site and the presence/likely-absence of notable and/or legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.

This report has been produced to support a planning submission for the site which seeks to provide an integrated landscape proposal for the commercial building and its setting within the wider naturalistic Green Park Business Park.

The site predominately comprises the existing 300 Brook Drive building surrounded hardstanding car parking and soft landscaping.

The site walkover survey, undertaken on 20th December 2023, confirmed that the application site had negligible potential to support all protected/notable species with the exception of nesting birds and herpetofauna.

Recommendations have been provided to ensure existing ecological receptors are protected during the proposed works.

Ecological enhancement measures have been set out which will ensure that a net gain in biodiversity value is delivered.

A preliminary Biodiversity Net Gain assessment has been undertaken which confirms that proposals have the potential to deliver a net gain of 0.84 habitat units (equivalent to a 14.79 % net gain).

Should all recommendations be incorporated into the landscaping proposals at the detailed design stage then the proposed development would comply with relevant policy and legislation. Most notably developments would be in compliance with the Environment Act and policy 'EN12 - Biodiversity and the Green Network' of Reading Borough Council's adopted Local Plan which states: *'development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible.'*

BREEAM Ecology

For the 300 Brook Drive scheme, within *BREEAM Non-Domestic Refurbishment and Fit-out 2014* there are 3 headings (LE 02, LE 04 and LE 05) relating to the provision of four available credits for Land Use and Ecology. This report provides the information and background to the credits that are deemed suitable to be awarded. These are listed below:

- one credit for LE 02 'Protection of Ecological Features';
- one credit for LE 04 'Enhancing Site Ecology'; and
- two credits for LE 05 the 'Long Term Impact on Biodiversity'.

Therefore, it is recommended to award the development four credits at this stage with regards to BREEAM Non-Domestic Refurbishment and Fit-out 2014.

2.0 INTRODUCTION

Greengage Environmental Ltd was commissioned by Mapletree to undertake an Ecological Appraisal (BREEAM Compliant) for a site at 300 Brook Drive in Reading, Berkshire.

The site survey and assessment aimed to establish the ecological value of this site and the presence/likely-absence of notable and/or legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.

2.1 SITE DESCRIPTION

The assessment site covers an area of approximately 1.7 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.

An existing site plan is provided in Appendix A.

2.2 DEVELOPMENT DESCRIPTION

This report has been produced to support a planning submission for the site which seeks:

'External refurbishment works to an existing office building (Use Class E) including alterations to the main entrance space, elevations, installation of PV panels and electric vehicle charging points, relocation of plant equipment, erection of a new end of journey/ changing facility, cycle storage and associated landscaping works.'

2.3 BREEAM ECOLOGY

For the 300 Brook Drive project there are 3 relevant headings (LE 02, LE 04 and LE 05) relating to the provision of four available credits for Land Use and Ecology within *BREEAM Non-Domestic Refurbishment and Fit-out 2014*. This report provides the information and background to the credits that are deemed suitable to be awarded (Section 6).

This report represents compliance information for each credit heading and outlines how many credits the development is likely to obtain in total.

A Management Plan is provided in Appendix B.

3.0 APPRAISAL METHODOLOGY

The ecological assessment (which included an Extended Ecological Phase 1 Survey) was undertaken in accordance with guidance in the UK Habitat Classification System (UKHab)¹ and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal², in accordance with BS42020:2013: Biodiversity³. The overall assessment consisted of:

- Site specific biological information gained from statutory and non-statutory consultation; and
- A site walkover, protected species scoping assessment and phase 1 habitat survey.

The site-specific consultation provided the ecological context for the site survey carried out on 20th December 2023.

The survey boundary and existing site is shown at Figure A.1 (Appendix A).

Greengage undertook the site walkover during cold and dry weather conditions. Features within the site boundary and accessible features immediately bordering it were evaluated and the extent and distribution of habitats and plant communities were recorded, and supplemented with target notes on areas or species requiring further commentary. Fauna using the area were recorded and areas of habitat suitable for statutorily protected species were identified where present, with an active search carried out for evidence of such use.

3.1 DESK TOP REVIEW

A review of readily available ecological information and other relevant environmental databases (included Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) website⁴) was undertaken for the site and its vicinity. A search was also undertaken of Thames Valley Environmental Record Centre (TVERC) online resources⁵. This provided the overall ecological context for the site, to better inform the Phase 1 Survey.

3.2 ON SITE SURVEYS

Flora

The extent and distribution of different habitats on site were identified and mapped according to the standard Phase 1 Survey methodologies, supplemented with target notes describing the dominant botanical species and any features of interest. Any present protected plant species and invasive/non-natives were also noted. A habitat map has been produced to illustrate the results, as shown at Figure A.1 (Appendix A).

Fauna

Phase 1 Survey

The Phase 1 Survey specifically included assessments to identify the potential value for notable, rare and protected species at site. This involved identifying potential habitats in terms of refugia, breeding sites and foraging areas in the context of species known to be present locally and regionally.

The likelihood of occurrence is ranked as follows:

- Negligible - While presence cannot be absolutely discounted, the site includes very limited or poor-quality habitat for a particular species. The site may also be outside the known national range for a species;
- Low - On-site habitat is poor to moderate quality for a given species, with few or no information about their presence from desk top study. However, presence cannot be discounted due to the national distribution of the species or the nature of on-site and surrounding habitats;
- Moderate - The on-site habitats are of moderate quality, providing most or all of the key requirements for a species. Several factors may limit the likelihood of occurrence, habitat severance, habitat disturbance and small habitat area;
- High - On-site habitat of high quality for given species. Site is within a regional or national stronghold for that particular species with good quality surroundings and good connectivity; and
- Present - Presence confirmed for the survey itself or recent, confirmed records from information gathered through desk top study.

3.3 SURVEYORS

Saul Ridley, who completed the survey, 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 2 years' experience in BNG assessments.

James Bumphrey, who wrote this report, has an undergraduate degree in Environmental Sciences (BSc Hons), a Master's degree in Environmental Consultancy and a Natural England Great Crested Newt Licence. James is a Director at Greengage and has over 10 years' experience in ecology survey and consultancy.

Paul White, who reviewed this report, has a Bachelor's degree in Marine Biology (BSc Hons), a Natural England Great Crested Newt Licence and Dormouse Licence, and is an Associate member of CIEEM. Paul has over 16 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

This report was written by James Bumphrey and reviewed and verified by Paul White 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.

4.0 RESULTS

4.1 DESK TOP REVIEW

A review of MAGIC and TVERC online resources has confirmed that there are no statutory or non-statutory designations on site or in the immediate vicinity.

There was a single granted European Protected Species licence within a 500m radius for bats (specifically common and soprano pipistrelle).

4.2 DETAILED DESCRIPTION OF SITE: HABITATS

The habitats presented across the assessment site consist of the following UKHab categories, as mapped at Figure A.1 (Appendix A):

u1b - Developed land; sealed surface

A significant proportion of the site comprises UKHab habitat 'Developed land; sealed surface' incorporating building and hardstanding. Photographs are provided below.

Photograph 1 - Building with shrubs and hardstanding in the foreground



Photograph 2 - Two storey car park



1160 - Introduced Shrub

There were areas of introduced shrub around the building and hardstanding comprising laurel (*Laurus* sp.) with ivy (*Hedera* sp.), Japanese skimmia (*Skimmia japonica* sp.) and lesser periwinkle (*Vinca minor*) providing ground cover.

1170 - Individual Trees

There were trees scattered across the site. Species present included silver birch (*Betula pendula*), white poplar (*Populus alba*), ash (*Fraxinus excelsior*), cherry species (*Prunus* sp.), sweetgum (*Liquidambar styraciflua*) and pine (*Pinus* sp.).

Photograph 3 - Tree with bird box



h3h - Mixed scrub

A band of mixed scrub runs around the southern and western edges of the site. Vegetation includes native and non-native species with trees. Species include common box (*Buxus sempervirens*), privet (*Ligustrum vulgare*), hazel (*Corylus avellana*), laurel, *Rosa rugosa* and dogwood (*Cornus* sp.). Within the scrub were multiple log/habitat piles.

Photograph 4 - Mixed scrub



g4 - Modified Grassland

The grassland on site is short and intensively managed. Species noted included perennial rye grass (*Lolium perenne*), common daisy (*Bellis perennis*), dove's-foot crane's-bill (*Geranium molle*), bristly oxtongue (*Helminthotheca echinoides*) and white clover (*Trifolium repens*).

Photograph 5 - Modified Grassland



4.3 DETAILED DESCRIPTION OF SITE: SPECIES

Bats

The nature of the existing 300 Brook Drive building makes it unsuitable for roosting bats. It also appeared to be well-maintained, lacking in any obvious roosting features such as cracks, crevices or loose tiles. The trees within the area of the proposed works were also in good condition and lacking in suitable roosting features (e.g rot or woodpecker holes). Overall, the potential for bats to be roosting on site pre-commencement of works would be considered Negligible.

Birds

The building was also assessed for bird nesting. The roof was considered unsuitable lacking in suitable crevices, ledges or entry points. There is High potential present in the trees and mixed scrub located in the landscaped areas of the site (including existing bird boxes).

Herpetofauna

The band of mixed scrub around the southern and eastern edges of the site is of Moderate suitability for reptiles and amphibians. There are multiple log piles present provide areas to rest and forage.

Other Protected or Notable Species

The potential for all other protected or notable was considered Negligible.

5.0 EVALUATION AND DISCUSSION

5.1 BASELINE SUMMARY

The assessment site has potential to support the following ecological receptors of note:

- Nesting birds; and
- Herpetofauna.

Discussion is provided below on the key ecological receptors that stand to be impacted/benefit from the proposed works; high level commentary on appropriate mitigation, compensation and enhancement actions is also provided.

5.2 DISCUSSION AND RECOMMENDATIONS

Mitigation

Nesting birds

The existing trees and shrubs present are understood to be largely unaffected by proposed works. Should any clearance be required then this should be undertaken outside of nesting bird season (March to August inclusive) or after an ecologist has confirmed absence of nesting birds.

Herpetofauna

Any reptiles or amphibians present within the band of mixed scrub will be unaffected by the proposed works. No mitigation is therefore required.

Offsite Habitat

It is noted that wetland areas, including Foudry Brook sit in close proximity to the works. Given the limited scale of works proposed, no construction phase actions are anticipated and no Construction Environmental Management Plan is deemed necessary.

Biodiversity Enhancements

Policy 'EN12 Biodiversity and the Green Network' of the Reading Borough Council Local Plan states:

'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....'*

The following enhancement measures have either been incorporated into the landscaping or will be incorporated at the detailed design stage to ensure compliance with the above planning policy:

- Enhancement of existing grassland through sowing of wildflower meadow mix.

- Rain gardens within existing lawn areas.
- Planting of trees to provide foraging resource for invertebrates and birds.
- Ornamental planting to incorporate wildlife friendly shrub and herbaceous planting selected from the RHS plants for pollinators guide⁶. Climate resilient species should also be included within the mix. Confirmation of the planting schedule will be provided at the detailed design stage.
- Two bird nest boxes to be incorporated into existing trees on site. These will include generalist boxes which are suitable for multiple species.
- Three bee posts located in external landscaping areas close to planting.

A Biodiversity Net Gain (BNG) Assessment has been undertaken using the Natural England Statutory metric⁷ which confirms that the proposals will deliver a gain of 0.84 habitat units (see Appendix D). This equates to a 14.79% net gain. The proposals therefore comply with the Environment Act mandate for a 10% gain in biodiversity.

Further legislation and policy context is provided in Appendix C

6.0 BREEAM ECOLOGY

6.1 LE 02 - PROTECTION OF ECOLOGICAL FEATURES

Compliance with this credit is demonstrated by ensuring all existing features of ecological value within and surrounding the refurbishment or fit-out zone and site boundary area are adequately protected from damage during clearance, site preparation and refurbishment or fit-out activities in line with BS42020:2013.

In all cases, the principal contractor is required to construct ecological protection recommended by the suitably qualified ecologist (SQE), prior to any preliminary site refurbishment or fit-out or preparation works (e.g. erection of temporary site facilities).

Where there are no features of ecological value then the credit can be awarded by default.

Suitably Qualified Ecologist

Greengage include SQEs, the necessary requirement for LE 02, to establish the ecological value of the site. An SQE is defined as:

- 'An individual with a degree or equivalent qualification in ecology or a related subject;
- They should be a practicing ecologist with a minimum of three years' experience; and
- Is covered by a professional code of conduct and subject to peer review.'

SQE confirmation is provided in Section 3.3 of this report.

Awarding of Credits

With regards to LE 02 the area to be impacted by the proposals is largely covered with buildings and hardstanding, and has Negligible potential to support the majority of protected species and habitats.

There is potential for nesting birds found in the trees and shrubs located on site. However, it is understood that this vegetation will be largely unaffected by the works on site. Should any clearance be required then this should be undertaken outside of nesting bird season (March to August inclusive) or after an ecologist has confirmed absence of nesting birds.

Assuming the recommendations are followed then the maximum one credit can be awarded for LE 02 'Protection of Ecological Features'.

6.2 LE 04 - ENHANCING SITE ECOLOGY

The client has appointed Greengage, the SQE, to advise on the recommendations for enhancing the ecological value of the site.

The creation of specific habitats and attraction of notable and protected ecological receptors will complement policy targets for the area, follow best practice, and reflect targets of the UK, regional and local Biodiversity Action Plans (BAPs).

Specifically, the proposals will seek to provide on-site habitat for the following species:

- Foraging bats;
- Foraging /nesting birds; and
- Invertebrates.

Enhancement recommendations are discussed in Section 5.2.

Awarding of Credits

With regards to LE 04 'Enhancing Site Ecology', should the above recommendations be incorporated into the scheme, the redevelopment of 300 Brook Drive will provide a gain in the ecological value of the site and the maximum one credit can be awarded.

6.3 LE 05 - LONG TERM IMPACT ON BIODIVERSITY

There is a maximum number of two credits available under the BREEAM issue 'Long Term Impact on Biodiversity' (LE 05). The full two credits can be awarded where evidence is provided to demonstrate that the client has committed to achieving the mandatory requirements and at least 4 of the additional requirements. Alternatively, one credit can be awarded where evidence is provided to demonstrate that the client has committed to achieving the mandatory requirements and at least two of the additional requirements.

A summary of each requirement and an explanation of how they will be met (if applicable) are given below.

Mandatory Requirements

The mandatory requirements for LE 05 are summarised as follows:

1. Appointment of 'suitably qualified ecologist' who confirms that all relevant legislations relating to the protection and enhancement of ecology has been complied with during the design and construction process;
2. Where a landscape and habitat management plan appropriate to the site is produced covering at least the first five years after the project completion; and
3. Where measures to improve the sites long-term biodiversity are adopted.

Additional Requirements

The additional requirements for LE 05 are summarised as follows:

1. The contractor is required to nominate a 'Biodiversity Champion' who oversees site activities;

2. The contractor is required to train relevant workforce on how to protect ecology during the project;
3. The contractor is required to record and monitor the effectiveness of protecting ecological features during the project;
4. New habitat relevant to local Biodiversity Action Plans (BAP) is created; and
5. Programme site works to minimise disturbance to wildlife, a clear plan or timetable needs to demonstrate how this will happen.
6. The number of additional requirements needed to be met for the second credit is proportional to the number of additional requirements that are applicable to the proposals.

Awarding of Credits

If recommendations within this report are followed then all Mandatory Requirements will be achieved. Only Additional Requirement 4 is deemed applicable to the development.

A Management Plan (Appendix B) has been prepared in accordance with BS42020:2013 landscaping proposals managed appropriately.

It is therefore confirmed that the maximum two credits can be awarded for LE 05 'Long Term Impact on Biodiversity'.

7.0 SUMMARY AND CONCLUSION

Greengage Environmental Ltd was commissioned by Mapletree to undertake an Ecological Appraisal (BREEAM Compliant) for a site at 300 Brook Drive in Reading, Berkshire..

The site walkover survey, undertaken on 20th December 2023, confirmed that the application site had negligible potential to support all protected/notable species with the exception of nesting birds and herpetofauna.

Recommendations have been provided to ensure existing ecological receptors are protected during the proposed works.

A range of ecological enhancement measures have been outlined including enhancing existing grassland, wildlife value planting, rain gardens, bird boxes, and invertebrate habitat features.

A Biodiversity Net Gain assessment has been undertaken which confirms that proposals will deliver a gain of 0.84 habitat units (equivalent to a 14.79 % net gain)..

Should all recommendations be incorporated into the landscaping proposals at the detailed design stage then the proposed development would comply with relevant policy and legislation. Most notably developments would be in compliance with the Environment Act and policy 'EN12 - Biodiversity and the Green Network' of Reading Borough Council's adopted Local Plan which states: 'development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible.'

BREEAM Ecology

For the 300 Brook Drive scheme, within *BREEAM Non-Domestic Refurbishment and Fit-out 2014* there are 3 headings (LE 02, LE 04 and LE 05) relating to the provision of four available credits for Land Use and Ecology. This report provides the information and background to the credits that are deemed suitable to be awarded. These are listed below:

- one credit for LE 02 'Protection of Ecological Features';
- one credit for LE 04 ' '; and
- two credits for LE 05 the 'Long Term Impact on Biodiversity'.

Therefore, it is recommended to award the development four credits at this stage with regards to *BREEAM Non-Domestic Refurbishment and Fit-out 2014*.

APPENDIX A SITE PLAN AND HABITAT MAP

Figure A.1 Site plan and habitat map



APPENDIX B MANAGEMENT PLAN

This section provides outlines the relevant management and monitoring features of the ecological enhancements at the site.

The management plan will follow a 30-year timetable that will be used as a reference point for site maintenance, monitoring and any future planting and enhancement works that may be necessary. Table A1.1 below shows the actions to be taken each year of the 30-year period.

All habitats are dynamic, and the species composition is anticipated to change over time, due to plant selection resulting from the prevailing climatic conditions, natural colonisation, and succession. As a result, some of the actions within the first 3 years will be dependent upon rate of growth or success of initial planting/sowing and enhancements. In general, where measures have not been stated it is due to a non-intervention policy once the features have been established.

This Plan will also be iterative in the medium to long-term, adapting in a staged process to the changing habitat composition and in response to the feedback from monitoring exercises. Suggestions can be made to alter the enhancement measures or supplement the planting regime as necessary. Primarily, the Plan will include actions to maintain the ecological objectives for the habitat strategy, which are:

- Created habitats to achieve their targeted condition criteria in line with the good practice guidance from Natural England^{8,9}, as per the Biodiversity Net Gain Assessment (Doc Ref: 552638sr18Jan24FV03_BNGA);
- Encourage invertebrates through diverse range of floral species and suitable invertebrate niche habitats; and
- Encourage species highlighted in the UK and Reading BAPs and Red Data Book.

It is recommended for a Suitably Qualified Ecologist undertakes the monitoring programme, observing any natural colonisation of the planting areas, the success of the seed mix and use of the habitats on site by birds and invertebrates as key biodiversity indicators. The monitoring for birds and invertebrates in particular will occur annually for the first 3 years, then once every three years thereafter. Monitoring will focus on the diversity and abundance of these species.

At or just after Practical Completion of the site, an ecologist should inspect the ecological enhancements implemented as a result of the recommendations in this strategy. Three further site surveys over the following 3 years after practical completion to monitor the effectiveness for increasing biodiversity are proposed.

Indicators of success will include the successful establishment of a wide variety of plant species, natural colonisation of floral species in the bare areas on the roofs, evidence of invertebrates inhabiting the ecological features, evidence of bird activity such as birds using the nest boxes.

The management actions are summarised in Table A1.1. below.

Table A1.1 Summary of yearly Management Actions to be undertaken each year for 30-years

Season	Management actions
Spring/summer	General Actions
	Check enhancement measures are intact such as species bird boxes and bee posts etc
	Check if any litter needs removing and dispose where necessary.
	Re-plant or supplement shrub planting, where plants have died or failed to grow etc
	Weed out competitive species if necessary (e.g. Buddleia (Buddleja davidii))
	Irrigate areas of planting during extended periods or dry hot weather.
	Fertilise areas of planting, using exclusively peat-free sustainable and organic options, such as locally sourced mulch, to encourage new growth and continual growth of vegetation.
	Focused Actions
	It is anticipated that the grassland will largely be subject to regularly mowing in accordance with the proposed amenity use. In areas outside of amenity use then, when established, the wildflower grassland should be cut once in spring and once in summer. The spring cut should aim to get the sward to a height of approximately 7.5cm. then the summer cut, or hay cut, to take place after the main flowering season should aim to remove the bulk and prepare the sward for the cooler months. Any cuttings should contribute to the creation of mulch which can be used to fertilise other planting e.g. introduced shrub and mixed scrub.
Autumn/winter	General Actions
	Cut back and trim any growth of shrub, scrub or tree planting that blocks sunlight, entrance holes to bird boxes or invertebrate habitat feature or hinders the use of the space by people.
	Focused Actions
	The wildflower grassland (outside of amenity use) should be cut short in Autumn (approximately 5cm) and maintained like this throughout the winter months. The cuttings should be retained to create mulch.

B.1 ECOLOGICAL CONSTRAINTS TO MANAGEMENT

The features to be implemented of site, specifically, bird boxes and shrub and tree planting will provide habitat to support nesting birds. To avoid disturbing, harming or killing any nesting birds or their young, any maintenance and management of these features should take place outside of the breeding bird season (the breeding season is taken to run from March-September inclusive). If this is not possible an inspection for nesting birds must take place, by a suitable qualified ecologist, prior to any works on taking place.

This principle has been embedded in within the above maintenance timings table.

B.2 ECOLOGICAL MONITORING AND REMEDIATION

Habitats are dynamic, and the species composition is anticipated to change over time, owing to prevailing climatic conditions, natural colonisation, and succession. As a result, it is necessary to ensure a feedback process is in place to ensure the long-term ecological success of the implemented ecological enhancements.

It is recommended for a SQE to undertake a monitoring survey annually for the first three years then once every three years thereafter. During these surveys the SQE would observe indicators of success and deficiency in the habitats, and habitat features, on site. The SQE will then make any remedial recommendations accordingly.

Indicators of success include all habitats achieving their targeted condition criteria as per as per the updated BNGA (Doc Ref: 552638sr18Jan24DV01_BNGA), as well as

- Little to no evidence of littering;
- The effective establishment of a wide variety wildlife friendly of plant species in the scrub and shrub planting;
- Evidence of invertebrates inhabiting the ecological features (bee posts);
- Evidence of bird activity, particularly target species, foraging on site and using the nest boxes;
- Little to no bare patches in areas of meadow planting; and
- High levels of species diversity in the areas of wildflower meadow planting.

APPENDIX C RELEVANT LEGISLATION AND POLICY

C.1 LEGISLATION

Current key legislation relating to ecology includes The Environment Act¹⁰ Wildlife and Countryside Act 1981 (as amended)¹¹; The Conservation of Habitats and Species Regulations 2019 ('Habitats & Species Regulations')¹², The Countryside and Rights of Way Act 2000 (CRoW Act)¹³, and The Natural Environment and Rural Communities Act, 2006¹⁴.

The Environment Act, 2021

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, secured through planning condition as standard. 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.

Under the Act, the enhancements must be maintained for at least 30 years.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Conservation of Habitats & Species Regulations replace The Conservation (Natural Habitats, etc.) Regulations 1994 (as amended)¹⁵, and transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive')¹⁶, and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive')¹⁷ into UK law (in conjunction with the Wildlife and Countryside Act).

Regulation 43 and 47 respectively of the Conservation of Habitats & Species Regulations makes it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2 (European protected species of animals), or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5 (European protected species of plant). Development that would contravene the protection afforded to European protected species requires a derogation (in the form of a licence) from the provisions of the Habitats Directive.

Regulation 63 (1) states: 'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which —

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of that site;

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats¹⁸ (the 'Bern Convention') and the Birds Directive and EU Habitats Directive are implemented in Great Britain.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act has been updated by the CROW Act. The CROW Act amends the law relating to nature conservation and protection of wildlife. In relation to threatened species it strengthens the legal protection and adds the word 'reckless' to the offences of damaging, disturbing, or obstructing access to any structure or place a protected species uses for shelter or protection, and disturbing any protected species whilst it is occupying a structure or place it uses for shelter or protection.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 states that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Biodiversity Action Plans provide a framework for prioritising conservation actions for biodiversity.

Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity. The list, a result of the most comprehensive analysis ever undertaken in the UK, currently contains 1,149 species, including for example, hedgehog (*Erinaceus europaeus*), and 65 habitats that were listed as priorities for conservation action under the now defunct UK Biodiversity Action Plan¹⁹ (UK BAP). Despite the devolution of the UK BAP and succession of the UK Post-2010 Biodiversity Framework²⁰ (and Biodiversity 2020 strategy²¹ in England), as a response to the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020²² and EU Biodiversity Strategy (EUBS)²³, this list (now referred to as the list of Species and Habitats of Principal Importance in England) will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

Biodiversity Action Plans

Non-statutory Biodiversity Action Plans (BAPs) have been prepared on a local and regional scale throughout the UK over the past 15 years. Such plans provide a mechanism for implementing the government's broad strategy for conserving and enhancing the most endangered ('priority') habitats and species in the UK for the next 20 years. As described above the UK BAP was succeeded in England by Biodiversity 2020 although the list of priority habitats and species remains valid as the list of Species of Principal Importance for Nature Conservation.

Regional and local BAPs are still valid however and continue to be updated and produced.

Reading BAP

The plan aims to ensure that by 2030 Reading will be richer in wildlife, be better connected to the wider landscape and that biodiversity loss will have been reversed. Notable themes for action include:

- Woodlands, trees & hedgerows
- Grasslands and road verges

Legislation Relating to Nesting Birds

Nesting birds, with certain exceptions, are protected from intentional killing, destruction of nests and destruction/taking of eggs under the Wildlife and Countryside Act 1981 (as amended) and the CROW Act. Any clearance of dense vegetation should therefore be undertaken outside of the nesting bird season, taken to run conservatively from March to August (inclusive), unless an ecologist confirms the absence of active nests prior to clearance.

C.2 PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2023²⁴ 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

Policy EN12 – Biodiversity and the Green Network

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.

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.

APPENDIX D BIODIVERSITY NET GAIN ASSESSMENT



Brighter strategies
for greener projects



Client: Mapletree
Project: 300 Brook Drive
Report: Biodiversity Net Gain Assessment

QUALITY ASSURANCE

Issue/Revision:	Draft	Final
Date:	January 2024	October 2024
Comments:		
Prepared by:	Saul Ridley	Saul Ridley
Authorised by:	James Bumphrey	James Bumphrey
File Reference:	552638sr18Jan24DV01_BNG A	552638sr18Jan24FV03_BNG A

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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.

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 0.84 Habitat Units (14.79%) 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 secured by planning condition. 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: 552638JB17DEC23FV03_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 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.

Within the Landscape Strategy provided by Place Design (doc ref: 1004-LS-003 Landscape Strategy), produced October 2024, newly provided green landscaping on site includes:

- 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.

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 DEFRA¹ and Natural England², and joint guidance from CIEEM, IEMA and CIRIA³.

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 14.79% 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 Plan⁴;
- Reading Biodiversity Action Plan⁵; and
- DEFRA's Magic map application⁶.

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 2 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 4.1 and

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
Individual trees	Urban tree	0.2850*	Medium	Moderate	Low	2.28

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
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 6.55 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
Heathland and shrub	Mixed scrub	0.1311	Medium	Moderate	Low	1.04

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
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	Rain garden	0.0143	Low	Moderate	Low	0.05
Wetlands	Reedbeds	0.0247	High	Good	Low	0.44
Individual trees	Urban tree	0.4030*	Medium	Moderate	Low	2.62
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	6.55**

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
				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’** and **‘Non-native and ornamental hedgerow’** 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.

‘Urban trees’ throughout the 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 6.55 Habitat Units and 0.16 Hedgerow Units, resulting in a net gain of 0.84 Habitat Units (14.79%) 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 secured by planning condition. 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: 552638JB17DEC23FV03_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 0.84 Habitat Units (14.79%) 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 secured by planning condition. 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

300 BROOK DRIVE

 Red Line Boundary

Habitats

-  Artificial unvegetated unsealed surface
-  Developed land; sealed surface
-  Introduced shrub
-  Mixed scrub
-  Modified grassland
-  Reedbeds

Hedgerows

-  Non-native and ornamental hedgerow

Individual Trees

-  Tree

Title: Baseline Habitats

Drawn by: SR
Date: 21/03/2024

Reviewed by: JB
Date: 21/03/2024

Project number: 552638
Sources: ESRI World Topo, Greenspace Information for Greater London (GIGL), Natural England



Figure A.2 Proposed Habitats Plan

300 BROOK DRIVE

 Red Line Boundary

Habitats

-  Artificial unvegetated unsealed surface
-  Developed land; sealed surface
-  Introduced shrub
-  Mixed scrub
-  Modified grassland
-  Other green roof
-  Other neutral grassland
-  Rain garden
-  Reedbeds

Hedgerows

-  Non-native and ornamental hedgerow

Individual Trees

-  Proposed small tree
-  Retained medium tree
-  Retained small tree
-  Lost tree

Title: Proposed Habitats

Drawn by: SR
Date: 15/10/2024

Reviewed by: JB
Date: 15/10/2024

Project number: 552638
Sources: Google Satellite Imagery

 Greengage



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 m² 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 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.	Y (small patch) N (majority)	A small patch adjacent the Chinese silver grass within the western lawn has 6+ plant species present per m². 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 <i>Rubus fruticosus</i> 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 <i>Pteridium aquilinum</i> 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 <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	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 x/✓
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 <i>Phragmites australis</i> . 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 x/✓
• 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 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	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 <i>Rubus fruticosus</i> 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 <i>Pteridium aquilinum</i> 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 <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> 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 <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	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 x/✓
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 WCA¹) and others which are to the detriment of native wildlife (using professional judgement)² cover less than 5% of the total vegetated area³. 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 x/✓
• 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 <i>Phragmites australis</i> . 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 x/✓
• 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 (100)	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)	✓ 100 trees
Passes 2 or fewer criteria	Poor (1)	

APPENDIX C LEGISLATION AND POLICY

C.1 LEGISLATION

The Environment Act, 2021⁷

Following secondary legislation, the Environment Act 2021 will mandate 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) 2023⁸ 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;

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- 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>

⁸ GOV.UK. (2023). *National Planning Policy Framework*. [online] Available at: <https://www.gov.uk/guidance/national-planning-policy-framework>

REFERENCES

- ¹ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020) *The UK Habitat Classification User Manual Version 2* CIEEM (2017); *Guidelines for Preliminary Ecological Appraisal, 2nd Edition*. Chartered Institute of Ecology and Environmental Management, Winchester.
- ³ BSI (2013); *British Standard 42020:2013: Biodiversity – Code of practice for planning and development*, BSI Standards Publication
- ⁴ MAGIC (2019); *Interactive Map*. (Partnership project involving six government organisations: Defra (Department for Environment, Food and Rural Affairs); English Heritage; Natural England; Environment Agency; Forestry Commission; Department for Communities and Local Government). Available at: www.magic.gov.uk.
- ⁵ [LWS 'living list' & locations | Thames Valley Environmental Records Centre \(tverc.org\)](http://www.tverc.org)
- ⁶ Royal Horticultural Society (2017). *Perfect for Pollinators*. RHS, London
- ⁷ Natural England (2021). *The Biodiversity Metric 3.1 (JP039)*. Available at: <http://publications.naturalengland.org.uk/publication/6049804846366720>
- ⁸ Stephen Panks, Nick White, Amanda Newsome, Jack Potter, Matt Heydon, Edward Mayhew, Maria Alvarez, Trudy Russell, Sarah J. Scott, Max Heaver, Sarah H. Scott, Jo Treweek, Bill Butcher & Dave Stone (2021). *Biodiversity Metric 3.1: Auditing and Accounting For Biodiversity – User Guide*. Natural England
- ⁹ Stephen Panks, Nick White, Amanda Newsome, Jack Potter, Matt Heydon, Edward Mayhew, Maria Alvarez, Trudy Russell, Sarah J. Scott, Max Heaver, Sarah H. Scott, Jo Treweek, Bill Butcher & Dave Stone (2021). *Biodiversity Metric 3.1: Auditing and Accounting For Biodiversity – Technical Supplement*. Natural England
- ¹⁰ GOV.UK. (2021). *Environment Act 2021*. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>
- ¹¹ HM Government, (1981); *Part I and Part II of Wildlife and Countryside Act (as amended)*. HMSO
- ¹² HM Government, (2017); *The Conservation of Habitats and Species Regulations 2017*. Statutory Instrument 2017 no. 490 *Wildlife Countryside*. OPSI
- ¹³ HM Government, (2000); *The Countryside and Rights of Way Act*. HMSO
- ¹⁴ HM Government, (2006); *Natural Environment and Rural Communities Act 2006*. HMSO
- ¹⁵ HM Government, (1994); *The Conservation (Natural Habitats, &c.) Regulations*. HMSO
- ¹⁶ CEC (Council of the European Communities), (1992); *Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora*
- ¹⁷ The European Parliament And Of The Council, (30 November 2009); *Directive 2009/147/EC On The Conservation Of Wild Birds (Codified Version)*
- ¹⁸ CEC (Council of the European Communities), (1979); *Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 19.IX.1979)*. EC
- ¹⁹ UK Biodiversity Action Plan (2007). *UKBAP Priority Species and Habitats*. <http://www.ukbap.org.uk/newprioritylist.aspx>
- ²⁰ JNCC and Defra (on behalf of the Four Countries' Biodiversity Group) (2012). *UK Post-2010 Biodiversity Framework*. July 2012. Available from: <http://jncc.defra.gov.uk/page-6189>
- ²¹ Defra (2011). *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*
- ²² Convention on Biological Diversity (CBD) (2010). *Decision X/2 Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets*. Available at <https://www.cbd.int/decision/cop/?id=12268>
- ²³ European Commission (2012). *Our life insurance, our natural capital: an EU biodiversity strategy to 2020* European Parliament resolution of 20 April 2012 on our life insurance, our natural capital: an EU biodiversity strategy to 2020 (2011/2307(INI))
- ²⁴ GOV.UK. (2023). *National Planning Policy Framework*. [online] Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>