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Landscape and Ecological Management Plan & Biodiversity Impact Calculation

Reading Golf Club, Reading

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1.1	23/11/20	Additions made following comments from ecology comment submitted on 28/10/2020	OC	
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Revised submission 1.1	28/10/21	Updated to reflect latest layout plan	OC	
Revised submission 1.2	09/11/21	Updated to reflect latest layout plan	OC	





Report Summary

1. The Ecology Co-operation was commissioned by Fairfax (Reading) Limited and Reading Golf Club Limited to produce a Landscape and Ecological Management Plan detailing habitat creation, enhancement and management for a proposed residential development (comprising 223 plots) at Reading Golf Club.
2. The Ecology Co-op were also commissioned to undertake a Biodiversity Impact Calculation of the proposal, using the Biodiversity Metric 3.0, to quantify net change in biodiversity.
3. During the construction and operation phase of the development the following ecological features will be retained and appropriately protected:
 - priority woodland habitat
 - priority hedgerow habitat
4. The development will see the provision of the following new habitat:
 - 4.4ha of developed land; sealed surface
 - 3.57ha of vegetated garden
 - 0.06ha of artificial unvegetated, unsealed surface
 - 0.49ha of Sustainable Urban Drainage (SUDs) features
 - 1.92ha of other neutral grassland
 - 0.1ha of mixed scrub
 - 138 (0.35ha) new trees
 - 490m of native hedgerow
5. The development will see the enhancement of the following existing habitat:
 - 0.3ha of modified grassland
6. Species-specific mitigation and enhancements to be incorporated within the development site include:
 - sensitive timing of vegetation removal to avoid disturbance/destruction of nesting birds (including a red kite *Milvus milvus* nest)
 - sensitive lighting scheme to avoid impacts on foraging/commuting bats
 - installation of twenty new bat boxes on trees
 - integration of twenty new bat roosting features within new buildings
 - installation of twenty new bird boxes on trees
 - integration of ten swift boxes and ten house sparrow boxes within new buildings
 - creation of five large log piles within suitable habitat
 - installation of ten new hedgehog houses within gardens
 - creation of 'hedgehog highways' throughout the development



7. The Biodiversity Impact Calculation has demonstrated that in terms of habitat units the proposed scheme results in a likely increase of 4.39 Habitat units totalling a 12.1% net gain. The linear feature calculation for the proposed scheme results in a likely gain of 4.41 Hedgerow units totalling a 49.61% net gain.

This report has been prepared by The Ecology Co-operation Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

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1 INTRODUCTION

1.1 Purpose of the Report

The Ecology Co-op has been commissioned to outline mitigation, habitat creation and management plans for a residential development at Reading Golf Club, Reading. This document has been written to demonstrate how the development of up to 223 new dwellings will minimise its impact upon protected species and provide targeted enhancement measures through habitat creation and the management of these over a 10-year period.

There is a movement in planning policy and legislation towards a requirement for all new developments to demonstrate 'net gains' in biodiversity following the release of an updated National Planning Policy Framework (NPPF 2019)¹ by the Department of Housing, Communities and Local Government.

This document includes a baseline 'Biodiversity Impact Calculation' for the proposed development. The calculation utilises the Biodiversity Metric 3.0 and assigns 'biodiversity units' to the pre-existing habitats contained within a proposed development site and those that are predicted to be lost, restored and/or created once the development has been constructed. This allows an objective comparison to be made between the existing biodiversity value of a given site and the predicted biodiversity value post development, with the net change in biodiversity value subsequently quantified.

In addition to detailing mitigation, habitat creation and management, the purpose of this document is to present the findings of the Biodiversity Impact Calculation based on the most up-to date existing habitat survey information and the most current outline plans for the proposed residential development of the site. Biodiversity Impact Calculations provide an evidence base for discussions between the ecological consultant, developer and the local planning authority regarding on-site avoidance, on-site mitigation and off-site compensation requirements.

It is acknowledged that this report is intended to support an application for Outline Planning Permission. Given the likelihood of proposed changes in the design scheme, some of the recommendations will potentially be subject to change. The LEMP is designed as a dynamic strategy and will be updated accordingly following any changes to, layout, design, timeframes etc. The results of the BIC are deemed accurate for the most recent layout plan.

This report was commissioned and produced at the request of Fairfax (Reading) Limited and Reading Golf Club Limited.

1.2 Background

The application site covers approximately 12ha (the entire course covers approximately 43.5ha) and operates as an active golf course, containing: fairways, greens and tree belts. A clubhouse building and

¹ HM Government (2019). National Planning Policy Framework. Department of Housing, Communities and Local Government. Available online at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf



an adjacent dwelling, located at the south-eastern corner of the site, are included within the site and are set within an area of tarmacked hard-standing. The proposed development includes the construction of 223 residential plots within the site, along with associated soft and hard landscaping (Figure 2).

The site was subject to an extensive detailed ecological study in 2019, which included a Phase 1 habitat survey and protected species surveys including those for: bats, breeding birds and reptiles. The results of the surveys, and predicted impacts of the proposed development on designated sites, priority habitats and protected/notable species have been set out in an Ecological Impact Assessment (EclA) report, which was issued in 2020 and updated in 2021².

Habitats (UKHAB) within the site are shown in (Figure 1), these include:

- modified grassland
- other neutral grassland
- developed land; sealed surface
- artificial unvegetated, unsealed surface
- lowland mixed deciduous woodland
- bramble scrub
- urban trees

The protected species surveys identified:

- buildings with 'negligible' bat roost potential
- trees with 'low-high' bat roost potential
- common species of foraging bat (low–high activity)
- a rarer species of foraging bat (barbastelle *Barbastella barbastellus*) (low activity)
- likely absence of reptiles
- likely absence of active badger setts
- an active red kite nest
- possible breeding by 4 red-list bird species
- presence of glow worms *Lampyrus noctiluca* (a priority species within Reading)
- suitable habitat for other notable invertebrates (moths and stag beetles)
- confirmed presence of hedgehogs

² The Ecology Co-op (2021) Reading Golf Club, 17 Kidmore End Road, Reading, RG4 8SQ – Ecological Impact Assessment.



Figure 1. UKHAB map showing existing habitats within the site. Produced using QGIS software.



Figure 2. Proposed scheme layout for the development at Reading Golf Club, reproduced from Paul Hewett (Drawing No. 2054/PL.04 Rev. L) (Date: November 2021).

1.3 Policy & Legislation

The NPPF sets out the Government’s view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regards to the operation of the planning system.

Paragraph 174b, states that council policies should;

- “promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

Paragraph 175d, states that when determining planning applications, authorities should:

- Refuse permission “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”
- Encourage “opportunities to incorporate biodiversity improvements in and around developments, especially where this can secure measurable net gains for biodiversity.”

Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system³.

³ HM Government (2005) ODPM Circular 06/05 Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf.



In accordance with the NPPE, it is important that developments should contribute to local policies that enhance the natural environment by:

- minimising impacts on existing biodiversity and habitats and designated features,
- establishing coherent ecological networks that are more resilient to current and future pressures
- providing net gains in biodiversity and habitats, wherever possible.

1.4 Management Plan Strategic Vision

The aims and objectives for the landscape and biodiversity at this site are as follows:

- retaining and protecting green assets including the boundary hedgerows woodland and mature trees
- creation of new green assets; wildflower meadows, boundary planting, hedgerows, woodland, green roof and wildlife-friendly gardens
- enhancement of the site for bats, birds, invertebrates and hedgehogs.

2 PROTECTION OF EXISTING HABITATS OF ECOLOGICAL VALUE

2.1 Protection of Priority Woodland and Hedgerow Habitat

A 10m buffer zone will be established around the woodland located at the northern edge of the development and a 5m buffer zone will be established from the native hedgerow along the southern site boundary. This will include the establishment of appropriate root protection zones and demarking of the buffer zone with Heras fencing to prevent encroachment. No building works or storage of materials will be permitted within the buffer zones. Landscaping works will be permitted to create new gardens which will then serve as a buffer between the building and hard-landscaping and priority habitats during the operational phase of the development.



Figure 3. The extent of buffer zones (shown in red) to protect priority woodland and hedgerow habitats within the development. These will be established during the construction phase and maintained during the operational phase.

2.2 Protection of Retained Trees

All retained trees will be protected in accordance with BS 5837:2012 including the establishment of appropriate root protection zones. Heras fencing will be installed around the trees to prevent damage to roots through compaction as a result of vehicle movement. No storage of building materials will occur within fenced off areas around the trees.

3 HABITAT CREATION

The following new habitat; wildflower, hedgerow, trees and tree groups, structure edge planting, are proposed to be created during the construction phase of this project. The methods proposed for the creation of each habitat type are described in detail below.

3.1 On-site

3.1.1 Wet Grassland

Areas of Sustainable Urban Drainage Systems (SuDS) to be created within the site will create wetland habitat through provision of ephemeral waterbodies and wet grassland within the site (see Figure 4). These areas of attenuation will be sown with a wet grassland seed mix which will cover 0.49ha. The species included must all be of native British origin (an example seed mixture is EM8 – ‘Meadow mixture for wetlands’, available from Emorsgate seeds - www.wildseed.co.uk). Seed will be sown between late August and the end of September during mild and wet weather or between mid-March to mid-May, when the ground has sufficient moisture and there is very little risk of frosts, to ensure the best conditions for seedling establishment.



Table 1. Composition of EM8 – Meadow mixture for wetlands' available from Emorsgate seeds (www.wildseed.co.uk).

Wildflowers		
%	Latin name	Common name
0.5	<i>Achillea millefolium</i>	Yarrow
1	<i>Betonica officinalis</i> - (<i>Stachys officinalis</i>)	Betony
3	<i>Centaurea nigra</i>	Common knapweed
0.4	<i>Filipendula ulmaria</i>	Meadowsweet
3	<i>Galium verum</i>	Lady's bedstraw
0.5	<i>Geranium pratense</i>	Meadow crane's-bill
0.5	<i>Leontodon hispidus</i>	Rough hawkbit
1.8	<i>Leucanthemum vulgare</i>	Oxeye daisy
0.2	<i>Lotus pedunculatus</i>	Greater birdsfoot trefoil
1	<i>Plantago lanceolata</i>	Ribwort plantain
0.5	<i>Primula veris</i>	Cowslip
0.4	<i>Prunella vulgaris</i>	Selfheal
0.8	<i>Ranunculus acris</i>	Meadow buttercup
0.8	<i>Rhinanthus minor</i>	Yellow rattle
1.4	<i>Rumex acetosa</i>	Common sorrel
0.1	<i>Sanguisorba officinalis</i>	Great burnet
0.3	<i>Silaum silaus</i>	Pepper saxifrage
1.7	<i>Silene flos-cuculi</i> - (<i>Lychnis flos-cuculi</i>)	Ragged robin
0.3	<i>Succisa pratensis</i>	Devil's-bit scabious
0.6	<i>Taraxacum officinale</i>	Dandelion
0.8	<i>Vicia cracca</i>	Tufted vetch
Grasses		
10	<i>Agrostis capillaris</i>	Common bent
3	<i>Alopecurus pratensis</i>	Meadow foxtail
3	<i>Anthoxanthum odoratum</i>	Sweet vernal-grass
3	<i>Briza media</i>	Quaking grass
24	<i>Cynosurus cristatus</i>	Crested dogstail
2	<i>Deschampsia cespitosa</i>	Tufted hair-grass
32	<i>Festuca rubra</i>	Slender-creeping red-fescue
3	<i>Hordeum secalinum</i>	Meadow barley

Marginal wetland plants will be planted within the SuDS at an appropriate density (to be confirmed). The species-mix will incorporate but not be limited to:

- purple loosestrife *Lythrum salicaria*
- yellow loosestrife *Lysimachia vulgaris*
- sharp flowering rush *Juncus acutiflorus*
- carnation sedge *Carex panicea*
- water avens *Geum rivale*

The plants listed above are available in early autumn and spring, dependent upon species, and should be planted as soon as possible following the creation of the SuDS.



Figure 4. The extent of new areas of wet grassland habitat (shown in blue) to be created within the development's Sustainable Urban Drainage Systems (SuDS) at Reading Golf Club.

3.1.2 Species-Rich Grassland

An approximate area of 1.92ha of new species-rich grassland will be created within areas of public open space within the developed site (Figure 5). In addition, 0.3ha of retained modified grassland will be enhanced through the surface-sowing of a species-rich seed mix and subsequent management.

Good ground preparation by rotavating the soil is essential to the success of establishing a wildflower meadow habitat, followed by sowing a suitable seed mix between late August and the end of September during mild and wet weather or between mid-March to mid-May, when the ground has sufficient moisture and there is very little risk of frosts, to ensure the best conditions for seedling establishment. The rotavating process is intended to create an area of largely bare ground to allow the wildflower seed mix to establish. A suitable seed mixture for chalk soils, containing not less than 20 wildflower and grass species should be sown across the ground at a density of four grams per square metre. The species included must all be of native British origin (an example seed mixture is EM6 – 'Meadow Mixture for Chalk and Limestone Soils', available from Emorsgate seeds (www.wildseed.co.uk)). Table 1 details the composition of this mixture. In addition, to help ensure grasses to not suppress the growth of wildflowers, the introduction of no less than 100 grams of yellow rattle *Rhinanthus minor* will be included per 0.1ha of new wildflower habitat.

Table 2. Composition of EM6 – Meadow Mixture for Chalk and Limestone Soils available from Emorsgate seeds (www.wildseed.co.uk).

Wildflowers		
%	Latin name	Common name
0.5	<i>Agrimonia eupatoria</i>	Agrimony



Reading Golf Club, Reading – LEMP & BIC

0.5	<i>Anthyllis vulneraria</i>	Kidney Vetch
0.2	<i>Betonica officinalis</i> - (<i>Stachys officinalis</i>)	Betony
2	<i>Centaurea nigra</i>	Common Knapweed
4	<i>Centaurea scabiosa</i>	Greater Knapweed
1.3	<i>Daucus carota</i>	Wild Carrot
0.2	<i>Filipendula vulgaris</i>	Dropwort
2	<i>Knautia arvensis</i>	Field Scabious
1	<i>Leucanthemum vulgare</i>	Oxeye Daisy - (Moon Daisy)
0.4	<i>Medicago lupulina</i>	Black Medick
0.4	<i>Origanum vulgare</i>	Wild Marjoram
1	<i>Pastinaca sativa</i>	Wild Parsnip
0.5	<i>Plantago media</i>	Hoary Plantain
2	<i>Poterium sanguisorba</i> - (<i>Sanguisorba minor</i>)	Salad Burnet
0.1	<i>Primula veris</i>	Cowslip
1.5	<i>Prunella vulgaris</i>	Selfheal
0.5	<i>Rumex acetosa</i>	Common Sorrel
1	<i>Silene vulgaris</i>	Bladder Champion
Grasses		
4	<i>Briza media</i>	Quaking Grass
0.2	<i>Carex flacca</i>	Glaucous Sedge
24	<i>Cynosurus cristatus</i>	Crested Dogstail
24	<i>Festuca ovina</i>	Sheep's Fescue
21.8	<i>Festuca rubra</i>	Red Fescue
2	<i>Koeleria macrantha</i>	Crested Hair-grass
2	<i>Phleum bertolonii</i>	Smaller Cat's-tail
2	<i>Trisetum flavescens</i>	Yellow Oat-grass



Figure 5. The extent of new areas of species-rich grassland habitat (shown in green), as well as enhanced areas of modified grassland (shown in orange), to be created within the development at Reading golf Club.

3.2 Mixed Scrub Creation

Within the species rich grassland, 0.1ha of mixed scrub is to be created (see Figure 9). This will provide good nesting bird habitat and foraging opportunities for a variety of species. The species listed below can be planted in small sections to provide landscaping.

- dog rose *Rosa canina*;
- blackthorn *Prunus spinosa*;
- hawthorn *Crataegus monogynia*;
- guelder rose *Viburnum opulus*; and
- common dogwood *Cornus sanguinea*.

3.3 Tree Planting

A minimum of 138 new trees will be planted within the development. The landscaping plan will incorporate a variety of trees with most species to be UK natives and all to be sourced from UK stock only. This will create greater habitat for a variety of birds and invertebrates. Given the arrival of ash dieback, it is not recommended that ash *Fraxinus excelsior* saplings are planted anywhere on the site. All trees will be planted with tree guards to prevent damaging resulting from browsing by deer. Tree species to be planted within the site are:

- silver birch *Betula pendula*
- beech *Fagus sylvatica*



- pedunculate oak *Quercus robur*
- wild service tree *Sorbus torminalis*
- field maple *Acer campestre*
- alder *Alnus glutinosa*
- midland hawthorn *Crataegus laevigata*
- crab apple *Malus sylvestris*
- wild cherry *Prunus avium*
- common whitebeam *Sorbus aria*
- rowan *Sorbus aucuparia*

3.4 Species-rich Hedgerow Planting

A minimum of 490m of new species-rich native hedgerow habitat is to be planted within the development providing increased foraging and commuting habitat for bats plus nesting areas for birds, sheltering/foraging habitat for hedgehogs and an enhancement for a variety of invertebrates. Figure 6 shows the locations of new hedgerow habitat.

These new species-rich hedgerows must use only native species from UK stock and include at least 6 species, with at least 50% of the new hedgerow comprising blackthorn *Prunus spinosa* or hawthorn *Crataegus monogyna* to remain consistent with a traditional hedge and provide a good hedge structure. The following species are recommended in addition to the hawthorn or blackthorn which will make up 50% of the hedging:

- field maple
- wild privet *Ligustrum vulgare*
- dogwood
- hazel *Corylus avellana*
- guelder rose
- purging buckthorn *Rhamnus cathartica*
- spindle *Euonymus europaea*
- Wayfaring tree *Viburnum lantana*

New hedgerows should be planted with 5 plants per linear meter as a minimum and it is best to plant the trees as bare root stock whilst they are dormant between November and March in the absence of heavy frost. Guards to protect these hedge trees from rabbits and deer may be necessary.



Figure 6. The extent of new species-rich hedgerow habitat (shown as purple lines) to be created within the development at Reading golf Club.

4 PROTECTED SPECIES MITIGATION AND ENHANCEMENTS

The EcIA identified potential for impacts on bats, nesting birds, notable invertebrates and hedgehogs. The following sections outline the mitigation, compensation and enhancement measures proposed to comply with legislation and further the conservation of these species.

4.1 Badgers

All excavations should be covered at night to prevent badgers falling into any pits, failing that an escape mechanism should be provided to allow badgers (and other wildlife) to climb out of an excavation.

Updated badger surveys should be conducted every 6 months in order to confirm the continued absence of active setts or to inform a badger mitigation strategy.

Should badgers move on to the site and take up residence within a sett in the construction zone or its immediate zone of influence (within 30m), a badger mitigation strategy will be required which will include consideration of the need for a development licence to close the sett from Natural England.

4.2 Bats

Following the completion of a Potential Roost Feature (PRF) tree climbing inspection a total of six trees were identified as having bat roosting potential². The locations of these trees are shown in Figure 7. All of these specimens will be retained and protected within the development.



Figure 7. Trees included within the Potential Roost Feature Assessment (tree climbing survey) at Reading Golf Club. Images produced courtesy of Google maps (map data ©2019 Google).



Bright external lighting can have a detrimental impact upon foraging and commuting bats, but importantly can also cause bats to remain in their roosts for longer. At least seven species of bat, including the rare barbastelle *Barbastella barbastellus* were recorded foraging/commuting within the site². As a result, the site boundaries must be protected from artificial lighting with no streetlamps or outside lights to face towards these boundaries. A 'no light zone' must be established along the site's boundaries as shown in Figure 8.





7. All external lighting should be on motion sensors and timers.



Figure 9. An example of suitable downward shielded street lighting.

To enhance the site for roosting bats, twenty new bat boxes will be installed on retained trees within the development site. It is recommended that a combination of different bat box designs are used (Figure 10).



Figure 10. Left to right – 2F Schwegler bat box, 1 FD Schwegler bat box, 2FN Schwegler bat box, Vivara Pro Woodstone bat box, Eco Kent bat box and Improved Cavity bat box

Figure 11 shows proposed approximate positions for the bat boxes. The boxes would be hung by a suitably qualified ecologist to ensure that this positioning is most suitable, but generally locations above 3.5 metres in the most south easterly facing aspect of a tree is best.



Figure 11. Proposed locations of bat boxes to be installed on retained trees within the development site at Reading Golf Club.

As a measure to further enhance roosting opportunities for bats 'built in' roosting features will be incorporated into the dwellings. Twenty 1FR Schwegler bat tubes (Figure 12) will be integrated into the walls on the south or eastern face approximately 5 meters in height. Figure 13 shows proposed locations of these bat roosting features.

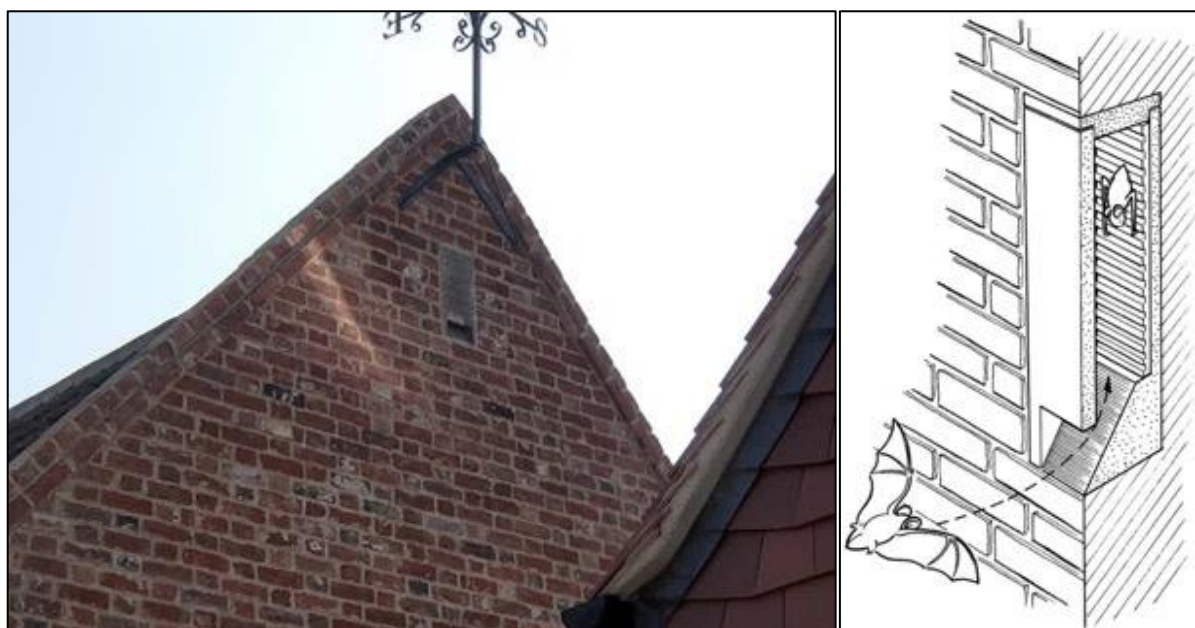


Figure 12. Left – A bat tube integrated into a brick wall. Right – a cross section diagram of a bat tube.



Figure 13. Proposed locations of bat tubes to be integrated into new buildings within the development site at Reading Golf Club.

4.3 Nesting Birds

Any scrub or trees to be cleared must be removed outside of the nesting bird season (1st March to 31st August) unless features are first hand-searched by a suitably qualified ecologist and declared clear of any active bird nests. In the event that any active nests are identified a buffer of at least 5 meters will be to be created and the nest must be left undisturbed until the young have fledged.

The identified red kite nest² should be subjected to monitoring prior to the commencement of works. If construction works are to be undertaken within a 50m radius of the nest site during the breeding bird season (March August inclusive) these will only be permitted if a suitably qualified ecologist can confirm that the nest is currently inactive, or the work has been deemed to pose an acceptably low disturbance risk.

In order to enhance the site for nesting birds twenty nesting bird boxes, incorporating a variety of designs (Figure 14), will be installed on retained trees across the site. Proposed locations for the boxes are shown in Figure 15.



Figure 14. Left to right – Vivara Pro Seville 28mm Woodstone Nest Box, Vivara Pro Barcelona Woodstone Open Nest Box, Vivara Pro Tawny Owl Nest Box, FSC Treecreeper Nest Box, 2GR Schwegler Nest Box and a Traditional Wooden Nest Box.



Figure 15. Proposed locations of bird boxes to be installed on retained trees within the development site at Reading Golf Club.

The image is a composite of two photographs. The left photograph shows a single, light-colored interlocking brick with a dark grey border. It features a large, irregularly shaped hole in the center and two small circular holes on either side. The right photograph shows a person's hands installing a similar brick onto a brick wall. The brick has two compartments, each with a circular hole. The person is using a trowel to apply mortar to the base of the brick.

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4.4 Invertebrates

In addition to the creation of new species-rich grassland and new woodland within the wider landholding of Reading Golf Club, new deadwood habitat will be incorporated within these new habitats as well as amongst areas of open space within the development site itself. These areas of deadwood will provide an enhancement for a variety of saproxylic invertebrates including stag beetles *Lucanus cervus*.

A total of five large log piles will be created in shaded areas within the development site. Alternatively, larger logs can be sunk vertically into the ground with holes drilled into the wood to create opportunities for saproxylic invertebrates. A further ten large log piles will be created off-site within the newly created species-rich grassland and existing/newly created woodland.

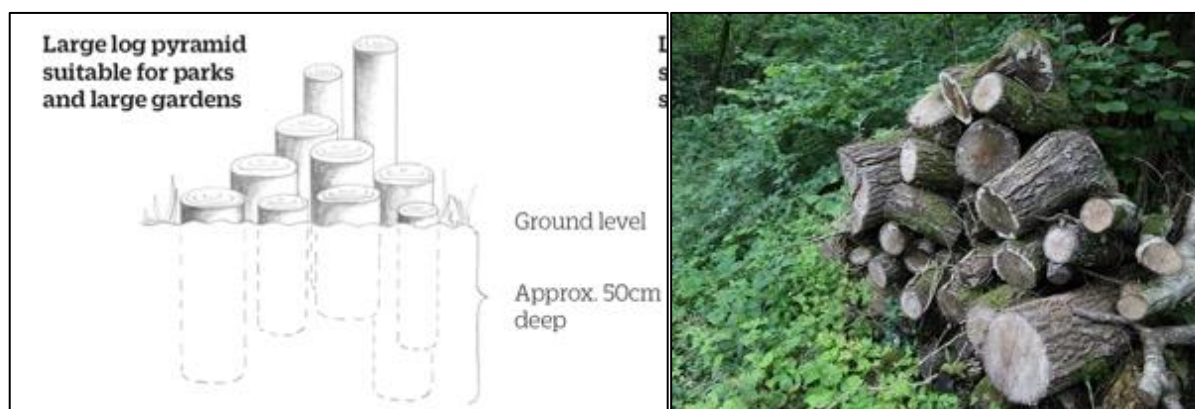


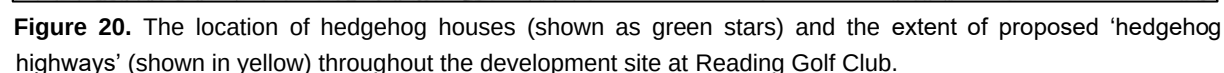
Figure 18. Left – a diagram of a vertical log pile designed specifically for stag beetles (Source: Peoples Trust for Endangered Species). Right – A traditional horizontal laid log pile.

4.5 Hedgehogs

All new garden fencing should contain accessible gaps (10cm x 15cm) at their base to allow movement of hedgehogs between garden plots. A total of ten hedgehog houses will be installed within gardens of the new development. The locations of hedgehog houses and extent of the 'hedgehog highways' created by gaps in garden fencing are shown in Figure 20.



Figure 19. Left – a hole at the base of garden fencing to allow hedgehog movement. Right – an Igloo Hedgehog Home.



5.1 On-site

5.1.1 Grassland

To create 0.49ha of species-rich grassland within areas of attenuation

The habitat will contain ephemeral pools with aquatic/hydrophytic plants providing high-value habitat for a variety of terrestrial and aquatic invertebrates.

To create 1.92ha of new species-rich neutral grassland and enhance 0.3ha of existing modified grassland into species-rich grassland.

Most sown meadow wildflower and grass species are perennial; they will be slow to germinate and grow and will not usually flower in their first growing season. There will often be a flush of annual weeds from the soil in the first growing season which may grow up and obscure the meadow seedlings beneath. This annual weed growth is easily controlled by topping or mowing.

The newly sown meadows will be mown 3-4 times throughout the first year of establishment to a height of 40-60mm, removing cuttings. This will control annual weeds and help maintain balance between faster growing grasses and slower developing wildflowers.



Avoid cutting in the spring and early summer if the mixture has been sown with a nurse cover of cornfield annuals, or is autumn sown and contains yellow rattle. These sown annuals should be allowed to flower, then in mid-summer cut back and the cut vegetation removed. It is important to cut back cornfield annuals before they die back, set seed or collapse: this cut will reveal the developing meadow mixture and give it the space it needs to develop.

Carefully dig out or spot treat any residual perennial weeds such as docks.

Yearly management

In the second and subsequent years EM8 sowings can be managed in a number of ways which, in association with soil fertility, will determine the character of the grassland. The best results are usually obtained by traditional meadow management based around a main late summer hay cut in combination with autumn and possibly spring mowing or grazing.

Meadow grassland is not cut or grazed from spring through to late July/August to give the sown species an opportunity to flower and set seed. After flowering in July or August a 'hay cut' must be made with a scythe, petrol trimmer or tractor mower to c 50mm. The 'hay' must then be left to dry and shed seed for 1-7 days before removal to be appropriately composted. The re-growth through to late autumn/winter can be cut or grazed to c 50mm and again in the spring if needed.

Wetland habitats are characteristically quite variable in composition, reflecting local drainage and management. Conditions can vary, for instance, between the highs and lows in ridge and furrow grassland. Localized differences may require a targeted approach. For example, boggy areas which remain waterlogged for much of the year may be best sown with pond edge mixture EP1 (Emorsgate Seeds).

Removal of any litter which has accumulated within attenuation basins may be required between January and March depending on the quantity of leaf-litter present.

5.1.2 Woodland

Optimal Habitat

Retention and protection of existing on-site woodland habitat. Creation/maintenance of rides and glades within the woodland, with significant deadwood. Woodland must be managed to be free from non-native invasive species and young vegetation may need to be protected from browsing deer where evidence of damage is evident.

Year 1

The management of scrub understorey and pruning of canopy to prevent overshadowing of rides and glades will be undertaken outside of the bird nesting season (avoiding March – August inclusive). Grass arisings, resulting from mowing of glades and rides, will be removed to prevent soil enrichment from excess nutrients.

The creation of new deadwood habitat will be made through the installation of log piles.



The installation of deer guards will be implemented to protect young trees from damage by browsing animals.

Yearly management

A yearly check for invasive species. In the event that invasive species are identified a suitably qualified ecologist must be contacted for advice regarding the eradication of these.

Annual check of deer guards and repair/replacement as required.

5.1.3 Hedgerows

Optimal Habitat

Retain and sustain the existing hedgerows, along the southern boundary to optimum heights for breeding birds and foraging bats.

Create of 490m of new dense hedgerow, maintained at a height of no less than 1.8m throughout the site. These hedges must be native species rich and must be comprised of at least 5 species.

Year 1

Maintain protective fencing in accordance with BS5837:2012 during construction.

Tree guards, to protect the new saplings from rabbits and deer, to be inspected yearly for first 5 years and then removed if planting well established.

Year 2

All planted hedgerows must only be cut outside the bird nesting season (1st March to 31st August) and where possible hedges shouldn't be cut until February, so that valuable winter food associated with fruiting hedge trees is retained for over-wintering birds. Each hedgerow should not be cut shorter than 1.8m (h) and 1.5 m (w) each year.

Yearly management

Check for signs of disease. If disease is identified then advice should be sought from an arboriculturalist regarding the appropriate method of treatment.

5.1.4 Retained Trees

Optimal Habitat

Retain and sustain those trees to be retained within the development.

Plant at least 138 new native trees within the development site (as illustrated in Figure 6)

Yearly management

Check for signs of damage and disease. If disease is identified advice should be sought from an arboriculturalist regarding the appropriate method of treatment.



Any trees which fail within the first two years will be replaced.

5.1.5 Other

Bat and bird boxes on trees are to be inspected to check they have not become detached or damaged each year and any damaged boxes are to be replaced like for like up to at least 5 years from the date of the completion of the development.

Old bird nests are to be cleared out from bird boxes in September to reduce parasitic load build up.

5.1.6 Mixed Scrub

Optimal habitat

Areas of scrub with fruiting and flowering species, creating shelter and foraging opportunities as well as helping to shape the landscape.

Year 1

Weeding when whips are establishing helps remove competition. Avoid pulling out wildflowers.

Check for signs of damage and disease. If disease is identified advice should be sought from an arboriculturalist regarding the appropriate method of treatment. Any trees which fail within the first two years will be replaced. There should be very minimal pruning of the scrub as it establishes.

Yearly management

To prevent the areas of scrub becoming overgrown and encroaching into the species-rich grasslands or footpaths, it will need to be cut back. This should be done in rotation, keeping some areas long and some short in order to retain breeding bird habitats and foraging opportunities. When cutting, it is best to give the scrub a scalloped edge, which increases the area of scrub available and creates shelter points.

This cutting must only be timed outside the bird nesting season (1st March to 31st August) and where possible shrubs shouldn't be cut until February, so that valuable winter food associated with fruiting shrubs/trees is retained for over-wintering birds. Further detail on scrub management can be found in a guidance document from the Natural England⁴.

⁴ Natural England, 2011. *The Scrub Management Handbook*. Available at: <http://publications.naturalengland.org.uk/publication/72031>.



6 WORK SCHEDULE

Table 3 below provides the timetable for the annual management plan actions for the 10-year management period. The management operations can be continued outside of this proposed 10-year period.

Table 3. Work schedule for the 10-year management period.

Action	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Grassland cutting from year 2								X	X			
Hedge cutting from year 3		X										
Maintenance of glades and rides through scrub management and canopy pruning									X	X		
Mowing of glades and rides									X			
Inspection of woodland for invasive species						X	X					
Inspection of all retained and new trees for damage and any disease						X	X	X				
Inspection of bat and bird boxes									X	X	X	
Clearance of old bird nests from bird boxes									X	X	X	

7 TIME FRAME AND IMPLEMENTATION

A responsible party (to be confirmed) will be responsible for the management actions of the retained and new biodiversity assets over the 10-year time period.

8 MONITORING AND REVIEW

Monitoring of the retained and new biodiversity assets should be undertaken to determine the success or failure of each compartment through a site visit by a suitably qualified ecologist 2 years and 5 years post construction. If necessary, changes to management actions can be prescribed along with additional planting of hedgerows, structural boundary planting and within the pond in the event that plants or shrubs fail to establish. Furthermore, in the event that invasive species are identified within any of the compartments suitable control methods would be outlined in detail.



An internal inspection is to be undertaken 10 years post construction to assess the progress of habitat development and determine any changes required for future management as the habitats continue to mature.

9 COMPETENCIES, STANDARD AND SPECIFICATIONS OF WORKS

All tree works must be undertaken by a suitably qualified horticulturalist and the installation of bat and bird boxes must be undertaken or overseen by a suitably qualified ecologist.

A site inspection to review habitat performance 2 years and 5 years post construction must be undertaken by a suitably qualified ecologist.

10 BIODIVERSITY IMPACT CALCULATION

10.1 Methodology

This Biodiversity Impact Calculation uses the Biodiversity Metric 3.0 Calculation Tool published by Natural England⁵. This uses the Government Biodiversity Metric developed by DEFRA ('the DEFRA Biodiversity Metric') to calculate 'habitat units' and 'hedgerow units' by multiplying the area (ha) or lengths (km), 'distinctiveness' (habitat type), 'condition' (quality), and strategic significance (location in relation to the authority's local strategy) of each habitat parcel.

The calculation provides a negative value to the biodiversity units where habitat is being directly lost to the footprint of development. Where habitats are enhanced or created on-site, or off-site, the calculation gives a positive value but adds risk factors that account for uncertainty - difficulty in creating new habitats and time delays while they establish; habitats that are more difficult to restore or that will take a long time to reach a set target condition will score lower and therefore make a smaller positive contribution.

Where on-site gains are equal to or larger than the losses, the project is deemed to have neutral biodiversity impact or biodiversity 'net gain' respectively.

Where on-site gains do not outweigh on-site losses and a biodiversity 'net loss' is calculated, this becomes an 'offset requirement'. Offsets can be provided by further habitat creation or enhancement in-situ or elsewhere and are assessed using the same metric to balance the predicted gains against the losses to ensure no net loss will be achieved. It follows that a biodiversity net gain can still be achieved by providing higher biodiversity gains through the offset than the net loss resulting from the development.

Note that the Biodiversity Metric does not allow for 'trading down'; one of the key principles in measuring biodiversity net losses or gains is that habitats of high ecological importance cannot be offset by the

⁵ Natural England (2021) The Biodiversity Metric 3.0 – Calculation Tool. Available online at: <http://publications.naturalengland.org.uk/publication/6049804846366720>



creation of larger areas of habitats with lower value. The Biodiversity Metric 3.0 Calculation Tool includes a 'trading down correction' that deducts the number of biodiversity units that are not accounted for through the creation of equivalent high distinctive habitats than that lost. For example, the loss of a small area of unimproved hay meadow priority habitat (high distinctiveness) will not be offset by a larger area of semi-improved grassland (medium distinctiveness) and will only be offset by an equivalent area of habitat of the same distinctiveness or higher.

10.2 Data Sources

This calculation uses the most up to date survey information, using botanical data gathered during the site visit in April 2020² and specific condition assessments which were undertaken in September 2021. The areas of each habitat category were measured using GIS mapping tools (QGIS). Condition assessments were made in accordance with the Condition Tables within The Biodiversity Metric 3.0 Technical Supplement⁶ and condition assessment sheets⁷. Applying the precautionary principle, a presumption for the higher condition was used where there was any uncertainty in the condition of existing habitats.

The Biodiversity Metric 3.0 incorporates an 'Urban tree helper' function which addresses the difficulties associated with assigning area measurement to individual trees. This aid was used to calculate the habitat area of the scattered trees present across the site. Trees were counted and mapped (Figure 21) through a site visit and cross-referencing satellite imagery with a topographical survey plan which shows each specimen.



Figure 21. An aerial image with each urban tree within the site mapped. For input into the Biodiversity Metric 3.0 each specimen was categorised as small (green pin), medium (yellow pin) or large (red pin). The tree lines, as referenced in the Biodiversity Metric 3.0 and Table 4 are shown.

⁶ Natural England (2021) *Biodiversity Metric 3.0 – Technical Supplement* Available online at: <http://publications.naturalengland.org.uk/publication/6049804846366720>

⁷ Natural England (2021). *Biodiversity Metric 3.0 – habitat condition assessment sheets with instructions*. Available online at: <http://publications.naturalengland.org.uk/publication/6049804846366720>



To predict biodiversity units supported after the development is constructed, the aerial imagery was overlaid by the current proposed scheme layout (see Figure 2). This allowed direct losses of habitats to be measured where the built environment overlaps with pre-existing habitat, with gardens and amenity areas treated separately. The habitats that are 'created' after development are assumed to achieve the highest level of condition as appropriate.

The Biodiversity Metric 3.0 uses a separate calculator spreadsheet for linear features. This works under the same principles as above but replaces areas of habitat with linear length of a feature. It should be noted that because linear features often have higher ecological importance, linear habitats are assigned higher distinctiveness and must be offset with other linear features. The biodiversity units generated for linear features are not equivalent or interchangeable with biodiversity calculations for areas of habitat.

10.3 Results

10.3.1 Existing Habitats Assessment

The following Phase 1 Habitat types were identified across the site (Figure 1):

- modified grassland
- other neutral grassland
- developed land; sealed surface
- artificial unvegetated, unsealed surface
- lowland mixed deciduous woodland
- bramble scrub
- urban trees
- line of trees
- native species-rich hedgerow with trees
- ornamental non-native hedge

A summary of habitats and condition assessments is provided in Table 4. Full results of condition assessments for habitats which require it (using the Biodiversity Metric 3.0 condition assessment proforma) are provided in Appendix 1.

Overall, the on-site calculated baseline is 36.22 habitat units and 8.89 hedgerow units.

Table 4. Existing habitat conditions

Habitat types			Condition assessment
UK Habitat Classification System	UKHA	Location/Reference (habitat parcels split multiple areas with different condition assessments)	Condition
Modified grassland		N/A	Poor
Other neutral grassland		Northern site boundary / ONG 1	Poor
Other neutral grassland		Southern site boundary / ONG 2	Moderate
Developed land; sealed surface		N/A	N/A
Artificial unvegetated unsealed surface		N/A	N/A



Lowland mixed deciduous woodland	N/A	Moderate
Bramble scrub	N/A	Poor
Urban tree	Within site – TL 1	Moderate
Urban tree	Within site – TL 2	Moderate
Urban tree	Within site – TL 3	Poor
Urban tree	Within site – TL 4	Poor
Urban tree	Within site – TL 5	Moderate
Urban tree	Within site – TL 6	Moderate
Urban tree	Within site – TL 7	Moderate
Urban tree	Within site – TL 8	Moderate
Line of Trees	South-western boundary – LoT 1	Moderate
Line of Trees	Southern boundary – LoT 2	Moderate
Native species-rich hedgerow with trees	Southern boundary – H1	Good
Native hedgerow	Eastern boundary – H2	Good
Native hedgerow with trees	Eastern boundary – H3	Poor
Hedge ornamental non-native	Northern boundary – H4	Poor

10.3.2 Habitat Losses and Gains

The proposed development scheme at this site will result in the loss of:

On-site

- 9.6ha of Grassland – Modified grassland
- 0.1ha of Grassland – Other neutral grassland
- 0.48ha of Urban – Developed land; sealed surface
- 0.28ha of Urban – Artificial unvegetated, unsealed surface
- 0.08ha of Heathland and shrub – Bramble scrub
- 0.39ha of Urban – Urban trees

The scheme will see retention of:

On-site

- 1.1ha of Grassland – Modified grassland
- 0.15ha of Woodland and forest – Lowland mixed deciduous woodland
- 0.5ha of Urban – Urban trees

The scheme will see enhancement of:

On-site

- 0.3ha of Grassland – Modified grassland

Post intervention the following habitats will be created:

On-site

- 4.4ha of Urban – Developed Land; Sealed Surface
- 3.57ha of Urban – Vegetated Garden
- 0.06ha of Urban – Artificial unvegetated, unsealed surface



- 0.49ha of Urban Sustainable Urban Drainage Feature
- 1.92ha of Grassland – Other neutral grassland
- 0.35ha of Urban – Urban trees
- 0.1ha of Heathland and shrub – Mixed scrub
- 490m of Native species-rich hedgerow

The overall results of the calculations are presented in Please refer to the Biodiversity Metric 3.0 – Calculation Tool supplied with this document (submitted separately) for full details of the calculation.

Table 5. Headline results of the Biodiversity Impact Calculation for the proposed development at Reading Golf Club.

On-site baseline	<i>Habitat units</i>	36.29
	<i>Hedgerow units</i>	8.89
	<i>River units</i>	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	40.69
	<i>Hedgerow units</i>	13.30
	<i>River units</i>	0.00
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	12.10%
	<i>Hedgerow units</i>	49.61%
	<i>River units</i>	0.00%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	4.39
	<i>Hedgerow units</i>	4.41
	<i>River units</i>	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	12.10%
	<i>Hedgerow units</i>	49.61%
	<i>River units</i>	0.00%
Trading rules Satisfied?	Yes	

10.4 Conclusions

The Biodiversity Metric 3.0 Calculation has demonstrated that in terms of habitat units the proposed scheme results in a likely increase of **4.39 Habitat units** totalling a **12. 1% net gain**.

The linear feature calculation for the proposed scheme results in a likely gain of **4.41 Hedgerow units** totalling a **49.61% net gain**.

The net gain in both habitat and hedgerow units are well above the 10% and no further offsetting will be necessary for the proposed development of Reading Golf Club.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



11 APPENDIX 1 – Habitat Condition Assessment Pro-forma

CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)									
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Modified grassland					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Grassland (low distinctiveness)					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	F	F	F	F	P	P							2/7
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	Y				Condition (Good/Moderate/Poor):				Poor					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				ONG 1					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Other neutral grassland					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Grassland (medium, high & very high distinctiveness)					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	F	F	P	P									2/4
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N					Condition (Good/Moderate/Poor):				Poor				
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				ONG 2					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Other neutral grassland					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Grassland (medium, high & very high distinctiveness)					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	P	P	P	P									5/5
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Good					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)									
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Lowland mixed deciduous woodland					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Woodland					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	2	3	3	3	3	2	2	3	2	1	1	1	2	28/39
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Moderate					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				TL 1					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Urban tree					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Urban trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	F	F	P	F	P								3/6
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Moderate					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21					Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)								
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM					Unique polygon reference(s)				TL 2				
Project / development name	Reading Golf Club					Metric 3.0 habitat type				Urban tree				
Site name or location						Condition assessment required? (y/n)				Y				
Onsite or offsite?	ON					Condition sheet used				Urban trees				
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	F	P	F	F	P								3/6
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N					Condition (Good/Moderate/Poor):				Moderate				
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				TL 3					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Urban tree					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Urban trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	F	F	F	P									1/6
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Poor					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				TL 4					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Urban tree					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Urban trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	F	P	F	F	P								2/6
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Poor					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				TL 5					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Urban tree					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Urban trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	F	P	F	P	P								4/6
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Moderate					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				TL 6					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Urban tree					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Urban trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	F	P	F	P	P								4/6
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Moderate					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				TL 7					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Urban tree					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Urban trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	F	P	F	F	P								3/5
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Moderate					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				TL 8					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Urban tree					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Urban trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	F	P	F	F	P								3/6
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Moderate					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				H1					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Native species-rich hedgerow with trees					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Hedgerow					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	P	P	P	P	P	P	P	P	P				10/10
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Good					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				H2					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Native hedgerow					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Hedgerow					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	P	P	P	F	P	P	P						7/8
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Good					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				H3					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Native hedgerow with trees					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Hedgerow					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	F	P	F	F	P	P	F	F	P				4/10
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Poor					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				LoT1					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Line of trees					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Line of Trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	F	P	F	P									3/5
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Moderate					
Suggested enhancement interventions to improve condition score														



CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date	07/09/21				Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)									
Weather conditions	22°C, dry, cloud cover 0%, calm (BF0)													
Surveyor name(s)	Owen Crawshaw BSc (Hons) MCIEEM				Unique polygon reference(s)				LoT2					
Project / development name	Reading Golf Club				Metric 3.0 habitat type				Line of trees					
Site name or location					Condition assessment required? (y/n)				Y					
Onsite or offsite?	ON				Condition sheet used				Line of Trees					
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	P	P	F	P									4/5
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N				Condition (Good/Moderate/Poor):				Moderate					
Suggested enhancement interventions to improve condition score														