

12039: Duckmoor, Billingshurst

Bellway Homes

Landscape and Ecology Management and Maintenance Plan (LEMMP)

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Pursuant to Condition 11 of DC/20/2607

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Contents

1. Introduction	2
2. Ecological Baseline and Evaluation.....	4
3. Aims and Objectives	7
4. Mitigation, Management, Enhancement and Monitoring Measures.....	8
5. Schedule of Landscape and Ecological Works.....	28
6. Arrangements for Maintenance and Management	45

Plans

PLAN ECO1	Site Location & Ecological Designations
PLAN ECO3	Species Enhancement Measures
PLAN BNG2	Proposed Habitat Plan
PLAN ECO5	LEMMP Management Responsibility Delineations

Appendices

APPENDIX 1	Example of Suitable Bat Boxes
APPENDIX 2	Example of Suitable Bird Boxes
APPENDIX 3	Approved Planting Schedule

1. Introduction

1.1. Background

- 1.1.1. This Landscape and Ecology Management and Maintenance Plan (LEMMP) has been prepared by Ecology Solutions Ltd on behalf of Bellway Homes in respect of the proposed development known as Duckmoor, East of Billingshurst, hereafter referred to as the 'Site'.
- 1.1.2. A suite of survey work was undertaken at the Site in 2019 and 2020 by Ecology Solutions, with an Ecological Assessment produced in 2022. This information was submitted as part of the planning application for the Site. Update site visits were completed by Ecology Solutions in March 2024 and July 2024 to determine whether any significant changes had occurred since the previous survey work.
- 1.1.3. Planning permission for the site was granted by appeal on 18th January 2023 (Reference: **APP/Z3825/W/21/3283823**) for the development of 83 residential units, landscaping, access, parking and associated infrastructure on land at Duckmoor, East Billingshurst with all matters reserved except access. Ecology Solutions was instructed to complete an LEMMP to address Condition 11, which states:

"No part of the development approved at reserved matters applications pursuant to the outline planning application hereby permitted shall be occupied until a Landscape and Ecological Management and Maintenance Plan (LEMMP) has been submitted to, and been approved in writing by, the local planning authority. The content of the LEMMP shall include the following:

a) Details of long term design objectives, including description and evaluation of features and all communal landscaped areas to be managed.

b) Ecological trends and constraints on site that might influence management.

c) Aims and objectives of management.

d) Appropriate management options for achieving aims and objectives, including management responsibilities, a description of landscape components, management prescriptions, maintenance schedules, and accompanying plan delineating areas of responsibility.

e) Prescriptions for management actions.

f) Preparation of a work / maintenance schedule (including an annual work plan capable of being rolled forward over a five-year period).

g) Details of the body or organisation responsible for implementation of the plan

h) Ongoing monitoring and remedial measures.

The LEMMP shall also include details of the legal and funding mechanism(s) by which the long-term implementation of the plan will be secured by the

developer with the management body(ies) responsible for its delivery. The plan shall also set out (where the results from monitoring show that conservation aims and objectives of the LEMMP are not being met) how contingencies and/or remedial action will be identified, agreed and implemented so that the development still delivers the fully functioning biodiversity objectives of the originally approved scheme. The approved plan shall be implemented in accordance with the approved details."

1.2. Site Characteristics

- 1.2.1. The Site is located to the east of Billingshurst, in the Horsham District of West Sussex (see Plan ECO1). The Site is bordered to the west by Wooddale Lane, beyond which lies open agricultural land and occasional residential development - both of which also extend to the north and south of the Site.

1.3. Purpose of this Report

- 1.3.1. This LEMMP provides a framework for safeguarding wildlife during construction and future enhancements and guidelines for future management regimes.
- 1.3.2. The plan is intended to be an iterative process that is subject to review. Any future amendments to the plan will be dependent on prevailing conditions and the opinion and judgement of land managers on the ground. The details contained within this report are focused on those that are considered necessary for the implementation of the plan, to ensure that the document is 'user friendly' when referenced at the initiation of works. Nevertheless, the spirit of the plan and its ultimate goal is to provide effective ecological enhancement, to benefit local wildlife interests and work towards national and local Species / Habitats of Principal Importance (Priority Species / Habitats) targets.
- 1.3.3. This LEMMP has been written with reference to published guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) and with regard to relevant guidelines for protected species.
- 1.3.4. This LEMMP is set out as follows:
- Ecological baseline and evaluation of important features within the Site;
 - Aims and objectives of the LEMMP in order to safeguard wildlife during construction and maximise the ecological potential of features due to be retained and created within the Site; and
 - Management prescriptions in order to achieve objectives. These include any monitoring requirements.
- 1.3.5. A copy of this report and the management plan should be provided to all interested parties as necessary to ensure compliance with its prescriptions and the protection and enhancement of the biodiversity interest.

2. Ecological Baseline and Evaluation

- 2.1.1.** A suite of ecological surveys has been undertaken at the Site by Ecology Solutions during the period 2019 and 2020. The findings of these surveys provide the basis of the management prescriptions as set out within this LEMMP.
- 2.1.2.** Ecology Solutions habitat surveys were based on extended Phase 1 survey technique. The habitats and dominant plant species were recorded together with conspicuous faunal activity and evidence of the presence, or potential presence, of protected species.
- 2.1.3.** Specific surveys were also carried out for bats, Badgers, reptiles, birds, Great Crested Newt (GCN) and Hazel Dormouse.
- 2.1.4.** The results of these surveys are provided within this LEMMP where necessary, full details on findings of these surveys can be found in the Ecological Assessment (8745.EcoAss.vf3, dated April 2022) as well as the most recent Statutory BNG Metric assessments undertaken to inform the proposals (report ref: 12039.BNG Report.vf2 dated December 2025).

2.2. Existing Ecological Features and Wildlife Use of the Site

- 2.2.1.** The existing conditions onsite are described below based on recent update surveys undertaken in respect of habitats and protected species. No significant changes were noted to have occurred during the update site walkovers undertaken in March 2024 and July 2024.

Habitats

- 2.2.2.** The Site primarily comprises three semi-improved grassland fields (F1 to F3) which appear to be managed regularly.
- 2.2.3.** Fields F1 and F2 support a dense hay sward dominated by a modest range of coarse grass species, while Field F3 shows relatively fewer coarse grass species and increased forb distribution. Grass species present in Fields F1 and F2 include Perennial Ryegrass *Lolium perenne*, Cock's-foot *Dactylis glomerata*, Yorkshire Fog *Holcus lanatus*, Common Bent *Agrostis capillaris*, and others. Forb species are limited, including Meadow Buttercup *Ranunculus acris*, Bird's-foot Trefoil *Lotus corniculatus*, and Creeping Thistle *Cirsium arvense*. Field F3 supports grass species such as Sweet Vernal Grass *Anthoxanthum odoratum*, Couch Grass *Elymus repens*, and False Oat-grass *Arrhenatherum elatius*, along with forb species like Ragwort *Jacobaea vulgaris*, Black Knapweed *Centaurea nigra*, and Ox-eye Daisy *Leucanthemum vulgare*.
- 2.2.4.** The Site also supports a number of treelines/hedgerows bordering the grassland fields and Site boundaries. Treelines/hedgerows are dominated by Oak *Quercus* spp., with some associated with shallow, dry depressions. Various species are recorded within these features including Field Maple *Acer campestre*, Blackthorn *Prunus spinosa*, Bramble *Rubus fruticosus* agg., Elm *Ulmus procera*, Dog-rose *Rosa canina*, and Hawthorn *Crataegus monogyna*.

- 2.2.5. The Site hosts areas of dense scrub, primarily composed of bramble, occasionally encroaching into the grassland fields. Other species found in the scrub habitat include Dog-rose, Elm, Hazel *Corylus avellana*, Blackthorn, and Hawthorn.
- 2.2.6. A shallow depression occasionally holding water is present within the site, this is surrounded by dense vegetation. At the time of survey in June 2019 this feature was holding a small amount of water. However, surveys in June 2020 found this feature to be totally dry. This feature is therefore only considered to hold water on occasion (i.e. in times of heavy rainfall).

Hazel Dormouse

- 2.2.7. Nest tube surveys conducted within the Site aimed to assess the potential presence of Hazel Dormouse *Muscardinus avellanarius*, given the well-connected hedgerows to off-site woodland habitats. These surveys, carried out between October 2019 and October 2020 (excluding May), resulted in the identification of thirteen nests attributable to Hazel Dormouse within the site. Specifically, two nests were found in the northeast area within T1, five nests in the southwest corner of F2 within T8, and six nests along the northern boundary of F2 within H2. Consequently, it is concluded that Hazel Dormouse inhabit suitable habitats within the Site.

Reptiles

- 2.2.8. Refugia surveys conducted in September and October 2019 and 2020 comprised deployment of 166 tins over an area of approximately six hectares. The surveys recorded low populations of both Slow-worm *Anguis fragilis* and Grass Snake *Natrix natrix* with all reptiles being recorded within field margins at the Site boundaries, where opportunities for reptiles are more apparent. The vast majority of reptiles were recorded on the northern and western boundaries of the Site. During the surveys conducted in 2019 and 2020, peak counts for slow-worm and grass snake were nine and two respectively.

Bats

- 2.2.9. During the specific surveys undertaken three trees were observed to provide low potential for roosting bats, in the form of cracks, splits and woodpecker holes. The location of these trees can be found within the Ecological Assessment produced by Ecology Solutions (8745.EcoAss.vf3, dated April 2022). The Site also offers potential foraging and commuting opportunities in the form of hedgerows along field boundaries.
- 2.2.10. Activity surveys and automated detector surveys undertaken at the Site between June and October 2020 identified limited bat activity, comprising mostly common and widespread species. Data recorded as part of the static monitoring surveys is considered to represent low levels when averaged across each monitoring period. The results are detailed in the Ecological Assessment produced by Ecology Solutions (8745.EcoAss.vf3, dated April 2022).
- 2.2.11. The activity surveys conducted on the Site indicate that it is primarily utilized by a low number of common and widespread species, with the most frequent

registrations attributed to the Common Pipistrelle *Pipistrellus pipistrellus* and Soprano Pipistrelle *Pipistrellus pygmaeus*. Bat activity across the Site was generally evenly distributed, although relatively higher amounts were recorded in the northeast of the Site. Static monitoring surveys revealed consistent patterns, with Common Pipistrelle being the most frequently recorded species across various locations and survey periods. Although some other species such as *Myotis* sp. and Brown Long-eared Bat *Plecotus auritus* were also registered, their numbers were comparatively lower. Notable species like Barbastelle *Barbastella barbastellus* were rarely recorded, indicating the dominance of common bat species within the Site.

Birds

- 2.2.12. The Site provides some nesting opportunities for birds, particularly within hedgerows, treelines, and scrub habitats within the site, similar opportunities exist in the surrounding area.
- 2.2.13. A desk study returned bird records from the local area, including three Nightingales *Luscinia megarhynchos* recorded on the northeastern and western edges of the Site in 2012. Special attention was given to Nightingales during surveys, resulting in the observation of two individuals within the Site in April 2020, utilising hedgerow and scrub habitat along the northeastern boundary. This species was not recorded during other site visits in 2019 or 2020. Additionally, various other bird species were recorded during surveys, including Greenfinch *Chloris chloris*, Wren *Troglodytes troglodytes*, Buzzard *Buteo buteo*, Kestrel *Falco tinnunculus*, Blue Tit *Cyanistes caeruleus*, Great Tit *Parus major*, Blackbird *Turdus merula*, and Magpie *Pica pica*.

Badgers

- 2.2.14. Survey work undertaken in both 2019 and 2020 recorded no Badger *Meles meles* setts within the Site. Furthermore, no other evidence indicating the presence of Badgers (such as latrines, footprints, hairs or foraging signs) was recorded within the Site. In addition, information received from the Sussex Biodiversity Records Centre (SxBRC) returned no records for Badger within the local area.
- 2.2.15. Given the above, it is not considered the Site is of any significant value to this species and Badgers have therefore been given no further consideration within this Ecological Mitigation and Enhancement Strategy, although proposed measures including species-rich grassland creation will improve opportunities for this species should they be present in the local area in the future.

Great Crested Newt (GCN)

- 2.2.16. In order to ascertain the presence or absence of GCN *Triturus cristatus*, environmental DNA (eDNA) sample surveys were undertaken in June 2020, based on methodology set out by Freshwater Habitats Trust, which is endorsed by Natural England. The eDNA returned negative result for the presence of GCN and no further consideration is given to this species within this report.

3. Aims and Objectives

- 3.1. The aims and objectives of the LEMMP are to avoid or mitigate any harm / damage to features of ecological interest as well as to safeguard populations of protected species on Site.
- 3.2. Furthermore, the aims of the LEMMP are also to enhance features of ecological interest retained within the development, in addition to maintaining populations of protected species on Site, whilst providing for ecological / biodiversity enhancements within the proposed development.
- 3.3. The following aims and objectives have been identified:

Aim 1: Safeguard, maintain and enhance retained and newly created habitats within the Site.

The objectives set out to achieve this aim include:

- To provide native tree planting;
- To enhance (and create new) areas of native mixed scrub;
- To retain the interest in the flora of the site by creating additional hedgerow and grassland areas, alongside retaining and enhancing existing hedgerows, and grassland within open space;
- To create and establish multiple waterbodies and sustainable drainage systems (SuDS) on site;
- To enhance the interest in the flora of the site to include other neutral grassland alongside introduced shrub; and
- To ensure the successful establishment of areas of created habitats and to maximise their ecological condition.

Aim 2: Safeguard and maintain populations of protected species identified within the Site at a favourable conservation status.

The objectives set out to achieve this aim include:

- To protect existing features of value to protected species, notably bats and Hazel Dormouse; and
- To provide enhanced opportunities for protected species within the Site, including bats, reptiles, Dormouse and birds.

Aim 3: Increase biodiversity by maximising opportunities for flora and fauna.

The objectives set out to achieve this aim include:

- To enhance the variety and value of other characteristic habitats present in the site including species-rich grassland, scrub, and waterbodies.

- 3.4. Measures designed to deliver on these aims and objectives are set out within sections 4 and 5 of this report.

4. Mitigation, Management, Enhancement and Monitoring Measures

- 4.1. The likely operational impacts identified as well as mitigation measures to offset these impacts are set out below.
- 4.2. How each habitat should be managed and monitored is described below, in relation to each of the three aims.
- 4.3. The proposals include new landscape planting throughout the site including retained scrub, hedgerows, grassland and trees as well as new ponds, scrub, grassland, trees, and shrub planting.
- 4.4. This LEMMP and its management measures will be followed by the management company in charge of post development management of the habitat within the Site.

4.5. Measures for Designated Sites

- 4.5.1. There are no statutory designated sites of nature conservation interest within or immediately adjacent to the Site. The nearest is Upper Arun SSSI, situated approximately 2.5km west, recognized for its diverse riverine fauna and flora. Further west, approximately 5.6km away, lies The Mens SAC/SSSI, notable for its extensive Wealden Woodland and rich fungal and lichen floras.
- 4.5.2. Regarding potential impacts and mitigation, Upper Arun SSSI is not likely to be directly affected by the proposed development due to its considerable distance from the site, with no anticipated adverse effects.
- 4.5.3. In relation to The Mens SAC/SSSI, although the Site falls within the sustenance zone for Barbastelle bats, it is well-isolated by open countryside and existing development. The built mass of Billingshurst lies between The Mens SAC and the Site itself. Mitigation strategies that form part of the Site application proposals include enhancing hedgerows, implementing sympathetic lighting, and introducing habitat enhancements such as native scrub planting, other neutral grassland creation and tree planting. Post-mitigation, the development is expected to enhance rather than contradict conservation objectives, particularly by improving foraging and commuting areas for Barbastelle bats.
- 4.5.4. To ensure existing dark corridors are retained for commuting and foraging bat species, a sensitive lighting regime will be implemented. The lighting scheme for the proposed development will ensure the new areas of open space on the Site will be retained as dark corridors where possible, with minimal lighting proposed within these areas for reasons of public safety only. Where lighting is proposed for adjacent boundary features, this will be kept to as low as possible (recommended <0.5 lux), with luminaires comprising warm white LED lighting (<3000K) in order to minimise impacts on bats (and their prey species). The siting of individual street lighting columns (to comprise LED lighting with no UV content) will be done so as to avoid light-spill onto semi-natural habitats where possible. Additionally, accessories (such as baffles, hoods or louvres) will be utilised to further minimise light spillage and direct light below the horizontal plane to where it is required (limiting light to an angle of 70 degrees or below wherever possible)

- 4.5.5. The ecological mitigation and enhancements proposed for retained non-statutory designated sites therefore focus on the ecologically valuable features onsite (i.e. habitats and species). A range of ecological benefits are considered with the overarching strategy being to more robustly link all habitats of value onsite and offsite, thereby providing a larger, better-connected network of ecological assets within the Site and wider landscape.
- 4.5.6. This can be achieved through the provision of linear habitat links between features of interest as well as other open space that acts as stepping-stones through the Site. Such measures are considered in detail below with regard to specific habitat types.

4.6. **Aim 1: Measures for Habitats**

Hedgerows (with trees)

Planting & Establishment / Enhancement

- 4.6.1. Existing hedgerow features including the following: Native hedgerows; Native Hedgerows with trees; Species-rich native hedgerows (with trees); and (Ecologically Valuable) Lines of trees, are mostly being retained across the site with only minor losses to hedgerow H4A, H1, LOT3 and LOT5. The existing hedgerows will only be trimmed every three years and will be maintained at a height of at least 3 metres. The hedgerows will be managed with a thick structure, and should the hedgerows become gappy or with sparse growth at their bases, will be subject to coppicing/laying to improve their structure. Hedgerow trimming will be carried out outside the bird nesting season and Dormouse active season, i.e. will be carried out between November and February.
- 4.6.2. New hedgerow planting will comprise UK native thorny and fruit bearing species of benefit to native wildlife. See the planting schedule (Appendix 3) for detail on species.
- 4.6.3. Planting of new hedgerow species will be undertaken by the season prior to completion of the proposed development. An audit trail of the plant stock used for the scheme will be retained for biosecurity reasons and made available to the Local Planning Authority on request.
- 4.6.4. New hedgerows will be planted with 5-7 plants per metre during suitable conditions (usually autumn or spring), with mixed species hedgerows planted in groups of the same species. Whips to be fitted with rabbit spiral guards and supported with canes. A slow-release fertilizer will be applied in accordance with manufacturer's recommendations.
- 4.6.5. Selection of nursery stock, planting, and ongoing management will be guided by the recommendations set out in BS 8545:2014 Trees: from nursery to independence in the landscape and BS 4428: 1989 Code of Practice for General Landscape Operations, however by way of summary the following measures will be undertaken in order to ensure the successful delivery of proposed hedgerows.

- 4.6.6. New planting shall be inspected monthly between March and September for the first two years to ensure that they are straight, upright, healthy, not diseased or damaged, or dead. After the first two years, hedges can be inspected annually if found to be establishing well.
- 4.6.7. For the first five years after planting, regular health checks of the hedgerows will be undertaken especially during periods of dry weather, to ensure that the hedgerows are not affected by drought. The replacement of failed specimens shall take place in the following planting season; species shall be substituted out if disease is the cause of death.
- 4.6.8. New hedgerow planting will be watered between March and September during the first year, and only as required outside of this period during the first year and outside of the first year.

Long Term Management and Maintenance

- 4.6.9. When no longer necessary or after four years from planting whichever comes sooner, rabbit guards, ties and supports must be removed from the planting.
- 4.6.10. The hedgerows will be cut on a 3-year rotation. Management will be carried out between November and February, outside of the breeding bird season and dormouse active season, to avoid any potential offence.
- 4.6.11. Where possible, the hedgerows will be maintained with wide bases. The hedgerows will be managed with a thick structure, and should the hedgerows become gappy or with sparse growth at their bases, the hedgerows will be subject to bolster planting, coppicing or hedge laying as appropriate.
- 4.6.12. Ongoing management must ensure any branches within and / or overhanging the Site are safe. Where hedges are rooted off-site, any work to overhanging branches must follow the law including no works beyond the site boundary, not compromising the health of the hedges to be offered back to the owners of the hedge.
- 4.6.13. After the first year, hedgerows will be watered only as required (i.e., during droughts) between March and September only.
- 4.6.14. Any newly planted hedge species which die should be replaced in the following planting season with the same species to the same specification and quality.
- 4.6.15. Management of trees planted within hedgerow features shall adhere to management and monitoring prescriptions set out in paragraphs 4.6.13-28 below.

Table 5.4.1. Management practices to achieve targeted species-rich native hedgerow condition within the Statutory Biodiversity Metric.

Hedgerow Condition Criteria / Pass or Fail		Management Practice to Achieve Condition Criteria
A1 – The hedgerow will be above 1.5m high on average.	Pass	Hedgerows currently reach this condition and shall remain at least 3m in height in perpetuity.
A2 – The hedgerow will be above 1.5m wide on average.	Pass	Hedgerows currently reach this condition and shall be managed to ensure this width in perpetuity.
B1 – The gap between the ground and base of the canopy will be less than 0.5m.	Pass	Coppicing or laying will be used on any hedgerows that become gappy or lack dense branch cover towards their base.
B2 – Gaps will make up less than 10% of the total length.	Pass	Any plant within the hedgerow that dies is to be replaced in the following planting season with the same species to the same specification and quality to prevent any gaps from forming.
C1 – There will be an above 1m width of undisturbed ground with perennial vegetation for more than 90% of the length.	Pass	All hedgerows will be bounded with either grassland or scrub, for the entirety of their length along at least one side. Management of underlying vegetation will ensure continued coverage below the hedgerows.
C2 – Plant species indicative of nutrient enrichment of soils will dominate less than 20% cover of the area of undisturbed ground.	Pass	The bases of the hedgerows shall be kept free of species indicative of nutrient enrichment.
D1 – More than 90% of the hedgerow and undisturbed ground is free of INNS.	Pass	There are currently no invasive species within the site. Any invasive species such as Japanese Knotweed are to be removed from the site by an experienced contractor.
D2 – More than 90% of the hedgerow is free from damage caused by human activities.	Pass	All hedgerows shall be assessed to ensure an absence of litter, and remediate any damage that may arise, which may include replanting of failed or damaged species.
Additional group – applicable to hedgerows with trees only		
E1 – More than one age class of tree present	Fail	N/A
E2 – At least 95% of trees are healthy	Pass	Trees will be appropriately managed to ensure healthy growth, as detailed in paragraphs 4.6.13-28

Tree Planting

Planting & Establishment

- 4.6.16. Planting of new trees will be undertaken by the planting period prior to completion of the development. An audit trail of the plant stock used for the scheme will be retained for biosecurity reasons and made available to the Local Planning Authority on request.
- 4.6.17. Selection of nursery stock, planting, and ongoing management will be guided by the recommendations set out in BS 8545:2014 Trees: from nursery to independence in the landscape and BS 4428: 1989 Code of Practice for General Landscape Operations, however by way of summary the following measures will be undertaken during the construction phase in order to ensure the successful delivery of proposed trees.
- Removal of existing vegetation in areas of proposed planting (e.g. species-not conducive to tree establishment);
 - Re-grading and tilling of soil to create an optimal planting medium;
 - Surrounding of newly planted specimens with organic mulch (excluding the stem and root flare) to a depth of 50mm – 100mm;
 - Installation and maintenance of stakes and rabbit spiral guards;
 - Commencement of a care programme during the establishment period; and
 - Completion of regular health checks of planted stock during adverse weather periods.
- 4.6.18. New planting shall be inspected monthly between March and September for the first two years to ensure that they are straight, upright, healthy, not diseased or damaged, or dead. After the first two years, trees can be inspected annually if found to be establishing well.
- 4.6.19. For the first five years after planting, regular health checks of the trees will be undertaken to ensure successful establishment especially during periods of dry weather, to ensure that they are not affected by drought and to identify any potential gaps where plants have not survived. Any failed new tree planting will be replaced in the following planting season with native species of local provenance and of similar species content to that within the site unless disease is the cause of death in which case alternate species shall be selected of local provenance and UK-native.
- 4.6.20. The frequency of watering during establishment will take into account the prevailing weather conditions, in particular monitoring of the trees will be undertaken during any drought periods where temperatures exceed 25°C for a period of ten or more days. Watering shall take place early in the morning or later in the afternoon/evening to avoid excess evaporation.
- 4.6.21. Any arboricultural management of establishing trees e.g. pruning / lopping will be carried out between November and February, outside the bird nesting season and active dormouse season to avoid any potential offence.

Long term Management and Maintenance

- 4.6.22. Arboricultural management of the canopy will be carried out by a qualified arboriculturist, between September and February, outside the bird nesting season (March – August inclusive) to avoid any potential offence, or after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present.
- 4.6.23. Any remedial work required to ensure the health and longevity of trees and associated features that may be of value to bats will be undertaken at the earliest possible opportunity. Any such work will be undertaken on the advice of an appropriately experienced ecologist, with consideration given to any licensing requirements.
- 4.6.24. Once established, trees will be watered as required based on the prevailing weather conditions. It is unlikely that watering will be required except in extensive drought conditions
- 4.6.25. Once mature, tree groups outside of developed areas will be thinned once every 5 to 8 years as required, in order to allow for development of an understorey and ground flora. Areas of dense pernicious species such as Common Nettle and Bramble will be cleared (either by hand tools or hand pulling, dependent on the pernicious species prevalence) prior to any application of seed mixes and controlled as necessary thereafter.
- 4.6.26. Where possible any dead wood produced will be retained as an ecological feature, either as standing deadwood or as log piles, offering new habitat for saproxylic invertebrates.
- 4.6.27. Trees will be checked annually and after major storms for necessary remedial works with works undertaken as advised by a suitably qualified tree surgeon (and ecologist where necessary).
- 4.6.28. Ongoing management must ensure any branches within and / or overhanging the site are safe. Where trees are rooted off-site, any work to overhanging branches must follow the law including no works beyond the site boundary, not compromising the health of the tree and branches to be offered back to the owners of the tree.

Table 5.4.2. Management practices to achieve targeted habitat urban trees condition within the Statutory Biodiversity Metric.

Individual Tree Condition Criteria / Pass or Fail		Management Practice to Achieve Condition Criteria
A – The tree is a native species.	Pass / Fail	A mixture of trees will be planted and therefore the condition will depend on whether the individual tree is native or non-native.
B – The tree canopy is predominantly continuous.	Pass	Any trees that die are to be replaced with the same species, in the same condition and size unless diseased. Individual trees automatically pass this criterion within the BNG metric.
C – The tree is mature.	Fail	N/A
D – There is little to no evidence of adverse impacts as a result of human activities.	Pass	Spiral Guards 60cm Treebio spiral guards (or similar) to be applied to new trees
E – Natural ecological niches for vertebrates and invertebrates are present.	Fail	N/A
F – More than 20% of the tree canopy is oversailing vegetation beneath.	Pass	Management of underlying vegetation will ensure continued coverage below the tree canopy.

Other Neutral Grassland

Sowing and Establishment

- 4.6.29. New sowing consists of native species of local provenance or species of known value to wildlife wherever possible. The new landscape planting will provide additional habitats for species including bats, invertebrates, Dormouse and birds.
- 4.6.30. Other Neutral Grassland within the Site will be established and maintained in line with the supplier's recommendation, although cutting will be undertaken on a rotational basis to enhance the variation and diversity of meadow habitats. Cuttings should be left on site to dry for approximately seven days prior to removal in order to allow for seeds to disperse.

Management and Maintenance

- 4.6.31. The management of all proposed other neutral grassland swards in the first year will involve regular maintenance to ensure that seedling development is successful, and that the growth of competitive weed species is controlled. Where required, weeding will be undertaken by hand pulling. Cuttings will be removed immediately from site. For the first few years, it may be necessary to re-seed areas of wildflower meadow in order that a sufficient, self-sustainable seed-bank can develop.
- 4.6.32. Subsequent to cutting in Year 1, other neutral grasslands will be cut no more than twice a year, once in March and again in late July / August (after flowering). Cutting of wildflower grassland will be to a height of no less than 150mm on a rotational basis in order to enhance the variation and diversity of meadow

habitats, which will maximise the biodiversity value of the habitat. Cuttings will be left on site to dry for approximately seven days prior to removal in order to allow for flower seeds to disperse. Following the summer cut, the grassland can be managed to 150mm throughout autumn / winter / early spring.

- 4.6.33. Areas of newly created wet tolerant (other neutral) grassland will be subject to a more irregular mowing regime, with management undertaken on a bi-annual basis where necessary in August. However, management requirements associated with the successful functioning of the SuDS may dictate more regular management in some circumstances.
- 4.6.34. The areas of other neutral grassland will be subject to a sensitive management regime such that the floristic diversity is achieved, but the habitat is suitable for reptiles (i.e. tussocky with a dense litter layer). In the first year after sowing, the amenity meadow and SuDS meadow will be cut regularly, with the grasslands topped in early May, again in June / July, and later in the year if required. The grassland will be cut to a height of 40-60mm and arisings will be removed.
- 4.6.35. By complying with the management regimes above, the need for additional management to grassland habitats in the form of weed removal or scrub clearance will be largely alleviated. However, Bramble and other scrub in tussocky grassland areas will be controlled through additional cutting every two to three years between November and February, with no more than 50% of the area cut in any one year.

Monitoring

- 4.6.36. Once established species diversity will be monitored annually, if it noted that the grassland is falling below the required 9 species per m² for this habitat and grasses are noted to be dominant, an additional cut will be made in early Spring to curtail grass growth and aid in improving diversity. Timing of the late summer cut should also be varied to target early or late flowering species depending on the species composition at the time.
- 4.6.37. The Detailed Planting Schedule with a full list of approved grass seed mixes due for sowing is included at Appendix 3.

Table 5.4.3 Management practices to achieve targeted other neutral grassland condition within the Statutory Biodiversity Metric

Grassland (Med / High Distinctiveness) Condition Criteria / Pass or Fail		Management Practices to Achieve Condition Criteria
A – The grassland is a good representation of the habitat type.	Fail	n/a
B – There is a varied sward height.	Pass	Mowing will only be carried out during appropriate weather conditions to avoid any damage to this habitat.
C – Cover of bare ground is between 1% and 5%.	Pass	Mowing will only be carried out during appropriate weather conditions to avoid any damage to this habitat. Health checks and reseedling to reestablish bare ground areas.
D – Cover of Bracken is <20% and cover of scrub is <5%.	Pass	Any Bracken or scrub that establishes in this habitat will be removed, preferably pulled up by the roots, at an early stage.
E – Combined cover of species indicative of a sub-optimal condition and physical damage are <5% cover. No INNS are present.	Pass	Any INNS that establish in this habitat will be removed, preferably pulled up by the roots, at an early stage.
F – There are >10 vascular plant species per m ² .	Fail	n/a

Waterbody Creation (Ponds – non-priority habitat / Sustainable drainage system)

- 4.6.38. New waterbody features will be created across the development. The habitat will be planted along the margins with a mix of native aquatic species that will provide a new habitat onsite for a range of different species. This feature will provide benefits for invertebrates, amphibians, birds, bats and a range of other species. Marginal/wet tolerant species shall be planted to the surrounding edges of proposed waterbodies in a tiered approach, with the most aquatic/wet tolerant species located to the bottom of the basin and the least wet tolerant planted to the basin tops. Three distinct planting mixes are proposed for the waterbodies and the marginal habitat found to their edges – “Native marginal mix – damp edge”, “Native marginals mix shallow water mix” and “Small pond native marginal mix”. See Appendix 3 for detail on species mixes.
- 4.6.39. The waterbodies will be monitored on a yearly basis to ensure no invasive species colonise. Should invasive species be noted, these will be treated appropriately and with due consideration to the wildlife present.
- 4.6.40. Aquatic vegetation will be subject to partial removal if the ponds become overgrown, particularly if aggressive species become dominant. This vegetation will be removed in the autumn and left adjacent to the ponds for a day to ensure no pond life is present within the vegetation before the vegetation is removed.
- 4.6.41. The pond will be monitored on a yearly basis to ensure no invasive species colonise the ponds. Should invasive species be noted, these will be treated

appropriately by an experienced contractor and with due consideration to the wildlife present within the pond.

- 4.6.42. Where leaf litter is noted to be negatively affecting the waterbody, this will be removed, preferably during the winter months.

Table 5.4.4 Management practices to achieve targeted pond (non-priority habitat) condition within the Statutory Biodiversity Metric.

Pond Condition Criteria / Pass or Fail		Management Practice to Achieve Condition Criteria
A – The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	Pass	Litter and pollutants will be removed where necessary.
B – There is semi-natural habitat completely surrounding the pond for at least 10m from the pond edge for its entire perimeter	Fail	Semi-natural habitat will surround the pond but for less than 10m for much of its perimeter.
C - Less than 10% of the surface is covered with Duckweed <i>Lemna</i> sp. Or filamentous algae	Pass	Duckweed will be manually removed to ensure less than 10% cover.
D - The pond is not artificially connected to other waterbodies.	Pass	The pond will not be artificially connected to other waterbodies.
E – Pond water levels can fluctuate naturally throughout the year.	Pass	Water levels will fluctuate seasonally.
F – There is an absence of listed non-native plant and animal species.	Pass	Marginal planting will consist of native species and invasive species will be removed where found to be present.
G – The pond is not artificially stocked with fish.	Pass	The pond will not be stocked with fish.
H – Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3m deep.	Fail	Criteria not targeted, although in time it is likely that vegetation would cover at least 50% of the pond area.
I – The pond surface is no more than 50% shaded by adjacent trees and scrub.	Pass	Rotational clearance of marginal vegetation and removal of shrubs will ensure no more than 50% shading of pond.

Wet Tolerant Other Neutral Grassland / Rain Garden

- 4.6.43. In tandem with the above specifications to manage the pond and SuDS habitats, the surrounding grassland areas will also be seeded with Emorsgate EM8 meadow mixture for Wetlands and Emorsgate EP1 pond edge mixture. Other drier areas of grassland located near the ponds will be seeded with Emorsgate EM2 general purpose meadow mix. Such mixtures will be sown at the suppliers'

specifications and follow the above Other Neutral Grassland Management prescriptions.

- 4.6.44. The wet tolerant grassland will be managed with a more intensive mowing regime in the first year to aid initial establishment of the wildflower species. The grassland will then only be cut no lower than 150mm every year on rotation with no more than 1/2 of the vegetation managed each year. This grassland will be cut between August and September.
- 4.6.45. Marginal vegetation will consist of native species and be managed if it becomes overgrown. This vegetation will be cut in the autumn and left adjacent to the pond for a day to ensure no amphibians are present within the vegetation before the vegetation is removed.
- 4.6.46. Rain garden habitats shall be monitored on a bi-annual basis, in which inlets, outlets and overflow points will be inspected for blockages and remove debris as needed. Furthermore, checks shall include the following: Cut back any flower heads to avoid attracting insects. Check vegetation for signs of stress, disease, or overgrowth; prune or replace as necessary. Inspect for signs of erosion or sediment build up in the basin area During the first year, monitor plant establishment and soil condition more frequently. Assess soil permeability and drainage effectiveness, amend soil if compaction or poor drainage is observed Remove accumulated sediment and regrade surface if necessary to maintain infiltration. Checks for structural damage to inlets, outlets or containment features and perform repairs if needed. An evaluation of overall plant health shall take place. Any failed planting will be replaced with native species of local provenance and of similar species content to that within the site unless disease is the cause of death in which case alternate species shall be selected of local provenance and UK-native.

Table 5.4.5 Management practices to achieve targeted wet other neutral grassland condition within the Statutory Biodiversity Metric

Grassland (Med / High Distinctiveness) Condition Criteria / Pass or Fail		Management Practices to Achieve Condition Criteria
A – The grassland is a good representation of the habitat type.	Fail	n/a
B – There is a varied sward height.	Pass	Mowing will only be carried out during appropriate weather conditions to avoid any damage to this habitat.
C – Cover of bare ground is between 1% and 5%.	Pass	Mowing will only be carried out during appropriate weather conditions to avoid any damage to this habitat. Health checks and reseedling to reestablish bare ground areas.
D – Cover of Bracken is <20% and cover of scrub is <5%.	Pass	Any Bracken or scrub that establishes in this habitat will be removed, preferably pulled up by the roots, at an early stage.
E – Combined cover of species indicative of a sub-optimal condition and physical damage are <5% cover. No INNS are present.	Pass	Any INNS that establish in this habitat will be removed, preferably pulled up by the roots, at an early stage.

Grassland (Med / High Distinctiveness) Condition Criteria / Pass or Fail	Management Practices to Achieve Condition Criteria
F – There are >10 vascular plant species per m ² .	Fail n/a

Scrub

Planting & Establishment / Enhancement

- 4.6.47. New scrub planting and enhancement of existing scrub will be based around native species and species of benefit to wildlife throughout the site. New areas of dense scrub will use a similar species mix to the retained scrub planted in a way which increases green connectivity. See the planting schedule at Appendix 3 for detail on species.
- 4.6.48. Planting of new scrub (including enhanced scrub parcels) will be undertaken during the first autumn or spring prior to completion of development, with subsequent monitoring required in order to identify where any plants have not survived, these would then be replaced.
- 4.6.49. Any failed scrub planting will be replaced in the following planting season with native species of local provenance and of similar species content to that within the site unless disease is the cause of death in which case alternate species shall be selected of local provenance and UK-native.
- 4.6.50. Management in the first 5 years will comprise periodic control of ruderal vegetation / long grassland present in close vicinity to newly planted trees and scrub. Whilst some minor trimming may be undertaken at the boundaries dense scrub blocks, it is not envisaged that any specific management would be required within these areas for the first 5 years, beyond monitoring of new planting and replacement where necessary.
- 4.6.51. Once established management of areas of native scrub will be undertaken on a rotational basis, with no more than 20% of scrub subject to coppicing works in any given year. The focus will be to deliver diversity both in terms of species coverage and age profile. Coppicing of the new and enhanced scrub shall take place and the removal of small sections so that a scalloped edge is created to provide an ecotone habitat. This management will be undertaken during the period November to February outside of the nesting bird season and the active period for hazel dormouse.

Table 5.4.6 Management practices to achieve mixed scrub condition within the Statutory Biodiversity Metric

Scrub Condition Criteria / Pass or Fail		Management Practice to Achieve Condition Criteria
A – Scrub is a good representation of its habitat type. At least 80% of scrub is native and there are at least three woody species and no single species comprising more than 75% cover.	Pass	Regular pruning of scrub at six-month intervals after three years of growth as considered necessary will promote the creation of an even and healthy growth pattern, preventing a single species from becoming dominant.
B – Seedlings, saplings, young shrubs and mature shrubs are all present.	Fail	After approximately 15 years the scrub will be cut back on rotation so that 10% is cut to ground level every year creating a diverse age range including seedlings and young and mature shrubs.
C – There is an absence of invasive non-native species and species indicative of sub-optimal condition comprise less than 5% of ground cover.	Pass	There are no INNS on site currently. If they are found to be present in the future they are to be removed from the site by an experienced contractor.
D – The scrub has a well-developed edge with scattered scrub and tall grassland present between the scrub and adjacent habitat.	Fail	N/A
E – There are clearings, glades or rides present within the scrub.	Fail / Pass	Larger areas of scrub will be managed to provide small clearings. This will not be possible for smaller areas of scrub.

Bulb Planting / Ornamental Planting (Introduced Shrub)

- 4.6.52. Bulbs shall be planted at a depth of three times their height into cultivated topsoil and backfilled with excavated material.
- 4.6.53. Planting beds shall be kept free from weeds, bark mulch areas around planting will be maintained at 75mm depth, if required. weeds will be removed within the mulch by hand, hoe or fork. Care should be taken not to disturb shrub roots and to avoid excessive treading of bed surface. Paths and parking bays will be kept clear from vegetation - prune back ornamental planting which has encroached.
- 4.6.54. Qualified horticultural staff to:
- inspect and check on condition of ornamental planting.
 - Prune dead foliage, flowers and extension growth as necessary.
 - Divide perennials as necessary.
 - Formative and seasonal pruning to shrubs to create a natural shape - do not routinely clip shrub.
 - Apply organic fertiliser if required.
 - Re-plant in an upright position and re-firm plants that suffer from wind-rock.

- 4.6.55. Condition assessment criteria are not applicable to this habitat. See the planting schedule at Appendix 3 for detail on species.

Developed land; sealed surface including hard standing pathways

- 4.6.56. All pedestrian walkways, access roads and paved area habitats shall be managed through the following:
- Empty the public area bins and remove litter from paved and planted areas
 - Wash and clean waste bins
 - Check the site for fly tipping and depending on size of items bag and remove or arrange for removal to skip
 - Sweep up leaf fall
 - Sweep to remove all dust and debris
 - Hand weed areas of weed growth
- 4.6.57. Condition assessment criteria are not applicable to this habitat.

4.7. Aim 2: Mitigation / Enhancement Measures for Species

Bats

- 4.7.1. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These include provisions making it an offence to:
- Deliberately kill, injure or take (capture) bats;
 - Deliberately disturb bats in such a way as to be likely to significantly affect:-
 - (i) the ability of any significant group of bats to survive, breed or rear or nurture their young; or to hibernate; or
 - (ii) to affect significantly the local distribution or abundance of the species concerned;
 - Damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
- 4.7.2. While the legislation is deemed to apply even when bats are not in residence, Natural England guidance suggests that certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence provided these do not damage or destroy the roost.
- 4.7.3. The words 'deliberately' and 'intentionally' include actions where a court can infer that the defendant knew 'the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 4.7.4. The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
- 4.7.5. Licences can be granted for development purposes by an 'appropriate authority' under Regulation 55 (e) of the Habitats Regulations. In England, the 'appropriate authority' is Natural England (the government's statutory advisors on nature conservation). European Protected Species licences permit activities that would otherwise be considered an offence.
- 4.7.6. **Mitigation Measures.** Checks for bats will be undertaken by an appropriately qualified ecologist (as part of the clerk of works) on any trees identified as having features to support roosting bats that are to be removed. In the event any roost is identified prior to felling then an appropriate mitigation strategy and licence from Natural England would be required.
- 4.7.7. Dark corridors will be retained for foraging and commuting bats. In addition, the enhanced planting / habitat provision along these boundaries will also enhance opportunities for bats.
- 4.7.8. A series of bat boxes in appropriate locations within retained lines of trees will also be provided. It is recommended that a model which can readily accommodate the bat species recorded within the Site is used such as

Schwegler 1FF, of these 10, two will comprise Vincent Pro bat boxes which are of a slotted design and are suitable for Barbastelle. Indicative locations for bat boxes can be found at Plan ECO3, with suitable examples found in Appendix 1.

- 4.7.9. Boxes will be provided at a minimum of height of 12ft from the ground, with higher placement achieved (between 15-20ft wherever possible). Care will be taken to install boxes at a range of heights and orientations, thereby ensuring a diverse range of conditions which will in turn maximise opportunities for a range of species.
- 4.7.10. **Management specific to Bats.** Any remedial work required to ensure the health and longevity of trees and associated features that may be of value to bats will be undertaken at the earliest possible opportunity. Any such work will be undertaken on the advice of an appropriately experienced ecologist, with consideration given to any licensing requirements.
- 4.7.11. All bat boxes erected will be subject to annual condition checks during the winter period when bats would not normally be resident. Any remedial work or replacement of boxes would be undertaken ahead of the next active season for bats (normally from April) and following advice from a suitably qualified ecologist.

Birds

- 4.7.12. **Legislation.** Section 1 of the Wildlife and Countryside Act 1981 (as amended) is concerned with the protection of wild birds, whilst Schedule 1 lists species that are protected by special penalties. All species of birds receive general protection whilst nesting.
- 4.7.13. **Mitigation Measures.** Any vegetation clearance will be undertaken with due consideration for potential use by nesting birds. Cutting of vegetation, particularly those features that provide important nesting habitats (including trees and treelines) will be undertaken outside of the bird breeding season (March to August inclusive). Should the above timing constraints conflict with any timetabled works, it is recommended that works commence only after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present as part of the clerk of works. If nesting birds are found to be present during checks then clearance would need to be delayed until young have fledged.
- 4.7.14. In order to provide new breeding opportunities 15 bird boxes will be provided, including Schwegler 1B, 2M and 1N (or similar). All nest boxes will be situated out of direct sunlight and out of the reach of predators, particularly cats.
- 4.7.15. Boxes will be provided at a minimum of height of 12ft from the ground, with higher placement achieved (between 15-20ft wherever possible). Care will be taken to install boxes at a range of heights and orientations, thereby ensuring a diverse range of conditions which will in turn maximise opportunities for a range of species. See Plan ECO3 for box locations and Appendix 2 for suitable bird box design examples.

- 4.7.16. **Management Specific to Birds.** Old nesting material to be removed from bird boxes in January and thoroughly cleaned to remove remaining parasites. No insecticides to be used when cleaning boxes. These boxes will maximise the species complement attracted to the site. Any damaged or lost bird boxes will be replaced.

Reptiles

- 4.7.17. **Legislation.** All six British reptile species receive a degree of legislative protection that varies depending on their conservation importance.
- 4.7.18. Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis* receive 'full protection' under the Wildlife and Countryside Act 1981 as well as protection under the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These receive protection from:
- Killing, injuring, taking;
 - Possession or control (of live or dead animals, their parts or derivatives);
 - Damage to, destruction of, obstruction of access to any structure or place used for shelter or protection;
 - Disturbance of any animal occupying such a structure or place;
 - Selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).
- 4.7.19. Common Lizard *Zootoca vivipara*, Grass Snake, Slow Worm and Adder *Vipera berus* are only 'partially protected' under the Wildlife and Countryside Act 1981 (as amended) and as such only receive protection from:
- Deliberate killing and injuring;
 - Being sold or other forms of trading.
- 4.7.20. The legislation relevant to common reptiles therefore protects the species, but not their habitat and any works that avoid killing or injuring any of these species, should ensure that an offence is avoided. All reptiles are also Priority Species.
- 4.7.21. **Mitigation Measures.** Low populations of slow worm and grass snake were recorded on the Site. All reptiles were recorded within field margins at the field boundaries, where opportunities for reptiles are more apparent. The vast majority of reptiles were recorded on the northern and western boundaries of the Site.
- 4.7.22. The proposals will result in some direct impacts upon reptile habitat during Site clearance and construction operations. However, given that reptiles were recorded in very low numbers, it considered any losses to these habitats would be of little significance to the local reptile population.
- 4.7.23. Given reptiles have only been recorded adjacent to existing hedgerows, it is considered that sensitive removal of suitable habitat grassland will be sufficient to avoid adverse impacts to the local reptile population. Hedgerows across the Site are being retained and protected during the development phase and, with them, the associated grassland - thus providing continued opportunities post development.

- 4.7.24. Enhancements for reptiles include new species-rich Other Neutral Grassland and wetland habitats, in addition to new eco-tone habitats associated with new scrub provision. The management regimes of these new species-rich habitats will also be designed with reptiles in mind, with areas of longer grassland encouraged, thus offering a variety of foraging and basking opportunities.
- 4.7.25. New scrub will also be created within the site providing further reptile habitat.
- 4.7.26. Moreover, the proposals will include new hibernation and basking opportunities for reptiles in the form of two log piles within areas of open space.
- 4.7.27. Subject to the above measures being implemented, it is considered the proposals will deliver a significant enhancement for reptiles, with new opportunities likely to encourage further colonisation of the Site.
- 4.7.28. Once works have been completed monitoring will take place. Any damage or disturbance to reptile habitat will be remedied such as reseeded Other Neutral Grassland as needed.
- 4.7.29. **Management Measures Specific to Reptiles.** Should any maintenance to log piles be required, this will be undertaken as soon as possible and outside the period where reptile may be hibernating (i.e. during late Spring or Summer). This will continue on a long-term basis for the life of the development.

Hazel Dormouse

- 4.7.30. **Legislation.** Hazel Dormouse are fully protected by law and are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") and receive the same level of protection and licensing provisions as detailed for bats. Hazel Dormouse are also a Priority Species.
- 4.7.31. **Mitigation Measures.** Thirteen nests considered attributable to Hazel Dormouse were recorded within the Site. Two were located in the north-east of the Site within T1. A further five nests were located in the south-west corner of F2 within T8. Six nests were located along the northern boundary of F2 within H2.
- 4.7.32. Given the presence of Hazel Dormouse within the Site, a NE licence will be required for the removal of any significant sections of hedgerow and a detailed mitigation created within the method statement of such a licence application. Approximately 0.5ha of scrub and 80.5m of native hedgerow, of which is suitable habitat for Hazel Dormouse, is to be lost as part of the proposals. The retained mixed scrub is however to be enhanced, and additional scrub planting will result in a net gain in suitable habitat for Hazel Dormouse post-development. The exact amount of dormouse habitat to be lost will inform the detailed mitigation that shall be agreed with NE. Suitable dormouse habitat shall be cleared using a two-stage methodology with a suitably qualified dormouse licenced ecologist on site during clearance works. The first stage shall take place in March and the second stage clearance shall be in May.

- 4.7.33. Any losses to Dormouse suitable habitat (0.5ha of scrub habitat and 80.5m of hedgerows) will be fully offset through the provision of new species-rich habitats, including new scrub and hedgerow planting. These newly provided habitats will provide significantly improved foraging, nesting and dispersal opportunities for Dormouse over the existing situation.
- 4.7.34. Retained hedgerows on the northern boundary of the Site, and newly provided scrub will be managed specifically for the benefit of Hazel Dormouse.
- 4.7.35. Existing hedgerows will only be trimmed every three years and will be maintained at a height of at least 3 metres. The hedgerows will be managed with a thick structure, and should the hedgerows become gappy or with sparse growth at their bases, will be subject to coppicing/laying to improve their structure. Hedgerow trimming will be carried out between November and February, outside the bird nesting season and Dormouse active season.
- 4.7.36. New native understorey planting will bolster existing treelines, using a range of scrub and shrub species known to be of value to Hazel Dormouse, including Hazel, Blackthorn and Holly, in addition to Honeysuckle *Lonicera periclymenum*.
- 4.7.37. New areas of dense scrub will also use a similar species mix planted in a way which increases green connectivity, and managed long-term to ensure a thick structure.
- 4.7.38. Stands of Hazel will be provided within the eastern part of the Site and once established, subject to rotational coppicing to provide yet another valuable habitat.
- 4.7.39. New tree planting will also utilise tree species of value to Dormouse, such as Hazel *Corylus avellana* and English Oak *Quercus robur*.
- 4.7.40. As a further enhancement, 20 new Dormouse boxes will be installed within the retained hedgerows/treelines, to provide new breeding opportunities for Hazel Dormouse. Precise details regarding location of nest boxes will be dealt with at the licensing stage.
- 4.7.41. **Management Measures Specific to Dormouse.** Long-term the retained hedgerows will be managed and maintained specifically for the benefit of Hazel Dormouse. The existing hedgerows will only be trimmed every three years and will be maintained at a height of at least 3 metres. The hedgerows will be managed with a thick structure, and should the hedgerows become gappy or with sparse growth at their bases, will be subject to coppicing/laying to improve their structure.
- 4.7.42. Hedgerow trimming will be carried out outside the Dormouse active season, i.e. between November and February.
- 4.7.43. Dormouse nest boxes will be checked for presence and condition annually during winter, with any boxes missing or in disrepair replaced. If a Dormouse box appears to be repeatedly damaged, then it will be moved to an alternative suitable habitat.

- 4.7.44. Dormouse boxes will be monitored for presence of nest twice annually in May and October in years 2029, 2031 and 2033.

Hazel Dormouse

- 4.7.45. Areas of retained habitat will be protected throughout construction by the implementation of temporary protective fencing in areas adjacent to construction activities. Once construction is complete, these habitats will be protected through the implementation of a long-term habitat management plan.

4.8. **Aim 3: Increasing Biodiversity by Maximising Opportunities for Flora and Fauna**

- 4.8.1. The new planting within the proposed development will comprise native species of local provenance or those of benefit to wildlife and will increase the floristic diversity of the site. The attenuation area, new tree/hedgerow enhancement and planting provide enhanced foraging and nesting resources for birds, foraging and navigational resources for bats and terrestrial habitats for amphibian, Dormouse and reptiles.
- 4.8.2. All retained grassland will be managed sensitively to increase its biodiversity value. See above for further detail.
- 4.8.3. Habitats will be managed to retain a diverse habitat mix. This will increase plant species diversity and will provide an important habitat matrix for a range of invertebrate species.
- 4.8.4. Additional tree planting associated with the development of the Site will comprise a significant proportion of native species, or those of benefit to Wildlife (berry/nut bearing varieties of shrubs and trees). These will be of benefit to a range of faunal species/groups including birds and invertebrates.
- 4.8.5. Tree management within the Site will increase diversity within these areas, creating a diverse ground flora which will provide benefits for faunal species/groups including invertebrates, bats and birds.
- 4.8.6. Log piles will be created within areas of open space to provide suitable hibernacula for reptiles. Their condition will be monitored with maintenance undertaken to ensure they continue to provide suitable sheltering habitat.
- 4.8.7. New bat and bird roosting / nesting provisions will be maintained to ensure a continued resource for these groups in the medium – long term.
- 4.8.8. The Biodiversity Net Gain calculation (up-to-date Statutory BNG Metric) carried out for this site shows a net gain in excess of 10% for both habitat area units and hedgerow units within the bounds of the site.

5. Schedule of Landscape and Ecological Works

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
Urban Trees	Establishment	Planting	Planting of new trees will be undertaken between the end of October and the end of March.	x	x	x							x	x	x
	Maintenance operations after planting (Year 1)	Tree guards / stakes / root barriers	Root barriers should be installed should services be located within close proximity to tree rooting areas. Tree planting is to be supported by an appropriately sized stake and protected from Rabbits by spiral guards. Ensure a 500mm radius around each tree is kept weed and grass free - Trees planted within grass shall be fitted with mower / strimmer guards or mulched with a 500mm diameter circle. To occur at time of planting.	x	x	x							x	x	x
		Health inspections	Should any trees be observed to be diseased, damaged or dead during monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season			x	x	x	x	x	x	x			
		Watering	Regular watering will occur weekly during the main growing season (May to September) and only as required outside these months.					x	x	x	x	x			
	Routine maintenance operations (Year 2)	Health inspections	Should any trees be observed to be diseased, damaged or dead during monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season			x	x	x	x	x	x	x			
		Watering	Regular watering will occur weekly during the main growing season (May to					x	x	x	x	x			

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
			September inclusive) and only as required outside these months.												
	Routine maintenance operations (Year 3 onwards)	Health inspections	After the first two years, new trees can also be inspected annually if found to be establishing well. Trees to be inspected after major storms.			x	x	x	x	x	x	x			
		Tree guards / stakes	When no longer necessary or after four years from planting whichever comes sooner, rabbit guards, ties and stakes must be removed from the planting.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	As required / during periods of drought to avoid death of the planting.	x	x	x	x	x	x	x	x	x	x	x	x
Enhanced and newly created hedgerows (including Species-rich Native Hedgerow / Species-rich Native Hedgerow with trees)	Establishment Maintenance operations after planting (Year 1)	Planting	Planting of new whips to enhance existing hedgerows / create new hedgerow will be undertaken between the end of October and the end of March. All hedgerow planting to be implemented in species groups.	x	x	x							x	x	x
		Health inspections	Should any plants be observed to be diseased, damaged or dead during monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season.			x	x	x	x	x	x	x			
		Watering	New hedgerow planting will be watered between March and September and only as required outside these months for the first year.					x	x	x	x	x			
	Routine maintenance operations (Year 2)	Health inspections	Should any plants be observed to be diseased, damaged or dead during bi-monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season			x		x		x		x			

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
		Pruning	Only applicable to non-boundary hedgerows (LOT3 and LOT5). Hedge thinned, trimmed and shaped twice yearly, dependent on growth rates, to reach desired specifications. Pruning should avoid the nesting bird season (March to August inclusive) and, if done in the fruiting season, should only be performed on one side of the hedgerow.	x	x							x	x	x	x
		Litter	To be removed as necessary before any cutting or pruning works.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	After the first year, hedgerows will be watered only as required (i.e., during droughts) between March and September only.					x	x	x	x	x			
	Routine maintenance operations (Year 3 onwards)	Supports / spiral guards	When no longer necessary or after four years from planting whichever comes sooner, rabbit guards, ties and supports must be removed from the planting.	x	x	x	x	x	x	x	x	x	x	x	x
		Health inspections	Should any plants be observed to be diseased, damaged or dead during bi-monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season.			x		x		x		x			
		Pruning	Only applicable to non-boundary hedgerows (LOT3 and LOT5). Hedge thinned, trimmed and shaped twice yearly, dependent on growth rates, to reach desired specifications. Pruning should avoid the nesting bird season (March to August inclusive) and, if done in the fruiting season, should only be performed on one side of the hedgerow.	x	x							x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
		Cutting	Hedgerows cut once yearly on a three-year rotation as required between November and February (outside of the nesting bird season and dormouse active season). To be maintained at height of 3m and width of at least 1.5m for screening.	x	x							x	x	x	x
		Litter	To be removed as necessary before any cutting or pruning works.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	Hedgerows will be watered only as required (i.e., during droughts) between March and September only.					x	x	x	x				
New Mixed Scrub Enhanced Mixed Scrub	Establishment of New Mixed Scrub Maintenance operations immediately post planting (Year 1 and 2)	Planting	Planting of scrub will be completed in autumn, or spring. Dead and damaged branches will be removed from plants post-planting. Planting to be protected from rabbits with spiral guards.			x	x	x				x	x	x	
		Health Inspections	Should any plants be observed to be diseased, damaged or dead during monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season.			x	x	x	x	x	x				
		Weeding	Understorey planting will be maintained through the removal of undesirable species on a monthly basis. Removal will be undertaken by hand.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	Regular watering will occur weekly during the main growing season (May to September inclusive) and only as required outside these months.					x	x	x	x				
	Routine maintenance operations (Year 3 to 5)	Weeding	Understorey planting will be maintained through the removal of undesirable species on a monthly basis. Removal will be undertaken by hand.	x	x	x	x	x	x	x	x	x	x	x	

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
		Litter	To be removed as necessary before any pruning / weeding works	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	Scrub will be watered only as required (i.e., during droughts) between March and September only.					x	x	x	x	x			
	Routine maintenance operations (Year 6 onwards)	Thinning	Once established, consideration will be given to thinning struggling individuals to allow natural regeneration to occur. This process should be undertaken in September or October, outside of nesting bird season but during the active dormouse season to avoid impacts on hibernating individuals.									x	x		
		Coppicing	Once established after approximately 6 years, the species within the scrub that react well to coppicing (e.g., hazel) will be coppiced on rotation so that 10% is cut to a stump at a height no lower than 150mm every year creating a diverse age range including seedlings and young and mature shrubs. This process should be undertaken during the period November to February, outside of nesting bird season and active dormouse season.	x	x									x	x
		Weeding	Understorey planting will be maintained through the removal of undesirable species on a monthly basis. The use of pesticides (herbicides, insecticides, fungicides, and slug pellets etc.) will be avoided, and any removal will be undertaken by hand.	x	x	x	x	x	x	x	x	x	x	x	x
		Litter	To be removed as necessary before any pruning / weeding works	x	x	x	x	x	x	x	x	x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
		Watering	Scrub will be watered only as required (i.e., during droughts) between March and September only.					X	X	X	X	X			
Introduced Shrub,	Establishment Maintenance operations after planting (Year 1)	Planting	Planting of ornamental species will be undertaken during the autumn, winter or spring. Dead and damaged branches will be removed from plants post-planting. All perennial planting to be implemented in random species groups of 3-5 species.	X	X	X	X	X				X	X	X	X
		Mulching	All planted beds will be mulched with bark to a depth of at least 50mm to discourage weed growth. To occur at time of planting.	X	X	X	X	X				X	X	X	X
		Weeding	Undesirable species will be removed on a monthly basis. Any removal will be undertaken by hand.	X	X	X	X	X	X	X	X	X	X	X	X
		Health inspections	Should any plants be observed to be diseased, damaged or dead during monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season.			X	X	X	X	X	X	X			
		Watering	Watering will be undertaken as required to maintain healthy plant growth.	X	X	X	X	X	X	X	X	X	X	X	X
	Routine maintenance operations (Year 2 onwards)	Health inspections	Should any plants be observed to be diseased, damaged or dead during bi-monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season.			X		X		X		X			
		Pruning	Pruning to occur twice yearly and should avoid the nesting bird season (March to August inclusive). Formative pruning and cutting back of plants will be used to maintain a neat, tidy form.	X	X							X	X	X	X

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
		Cutting	All dead stems of grasses and perennial species from the previous summer's growth will be cut back after the winter period (mid to late March) on an annual basis, with all arisings removed and disposed of off-site. Deadheading of herbaceous plants will be undertaken following flowering and when flower heads have died off. This will be done on an annual basis between August and November depending on the species used. All arisings will again need to be removed.			x					x	x	x	x	
		Weeding	Monthly hand removal of undesirable species. Pesticides (herbicides, insecticides, fungicides and slug pellets etc.) to be avoided.	x	x	x	x	x	x	x	x	x	x	x	x
		Litter	To be removed as necessary before any pruning / weeding works.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	Watering will be undertaken as required to maintain healthy plant growth.	x	x	x	x	x	x	x	x	x	x	x	x
Modified Grassland	Establishment	Seeding	New grassland seeding should occur as per manufacturer's guidance during autumn or spring.			x	x	x				x	x	x	
	Maintenance operations after seeding (Year 1)	Health inspections	Seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the following planting season.			x		x		x		x			
		Cutting	Amenity grass cut when it reaches 75mm long back to a length of 35mm, approximately three times per year in March, August and October.			x					x		x		

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
Other Neutral Grassland			Grass cuttings will be collected and removed, in order to reduce nutrient enrichment and encourage low-growing plants to flourish.												
		Watering	Regular watering will occur weekly during the main growing season (May to September inclusive) and only as required outside these months.					x	x	x	x	x			
	Routine maintenance operations (Year 2 onwards)	Health inspections	Lawn seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the following planting season.			x		x		x		x			
		Cutting	Amenity grass cut when it reaches 75mm long back to a length of 35mm, approximately three times per year in March, August and October. Grass cuttings will be collected and removed, in order to reduce nutrient enrichment and encourage low-growing plants to flourish.			x				x	x		x		
		Weeding	Monthly hand removal of weeds unwanted species.	x	x	x	x	x	x	x	x	x	x	x	x
		Litter	To be removed as necessary before any cutting works.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	As required during periods of drought to avoid death of the planting.	x	x	x	x	x	x	x	x	x	x	x	x
Other Neutral Grassland	Pre-seeding preparation	Ground preparation	Topsoil levelled as required. Remove debris and stones above 30mm diameter. De-compact ground.	x	x	x	x	x	x	x	x	x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
	operation (Year 0) Establishment maintenance operations (Year 1)	Seeding	New grassland will be sown in autumn of year 0 or spring of year 1.	x	x	x	x	x				x	x	x	x
		Health inspections	Seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the following planting season			x		x		x		x			
		Cutting	The meadow will be allowed to grow and flower, before being cut in mid-summer. The wildflowers for hedgerows mixture will be mown as required through late autumn and early spring until April. The sward will be maintained at 50mm in height. The grass will then be left until July / August. A 'hay cut' will then be taken and the grass then cut in mid-autumn and mid-spring. All arisings to be removed.							x	x				
	Routine maintenance operations (Year 2 onwards)	Watering	Regular watering will occur weekly during the main growing season (May to September inclusive) and only as required outside these months.					x	x	x	x	x			
		Health inspections	Seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the following planting season.			x		x		x		x			
		Cutting	From year two onwards, the wildflower meadow (excluding hedgerow margins) will be managed to allow for species to grow tall, flower and seed from May through to July / August. A 'hay cut' will then be taken and the grass then cut in mid-autumn and mid-spring.			x					x	x	x		

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
			All arisings will be left in situ for five days to allow seed release and ensure the continued renewal of the floristic diversity of the site. The arisings will then be turned and removed from site.												
			Hedgerow margins will be allowed to grow 'tussocky' in character. They will be cut every two to three years between October and February. This cutting is best done on a rotational basis so that half the area remains undisturbed for wildlife. All arisings removed as above.	x	x								x	x	x
		Weeding	Monthly hand removal of weeds unwanted species.	x	x	x	x	x	x	x	x	x	x	x	x
		Litter	To be removed as necessary before any cutting works.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	As required during periods of drought to avoid death of the planting.	x	x	x	x	x	x	x	x	x	x	x	x
Rain Garden / Wet Tolerant Other Neutral Grassland	Pre-seeding preparation operation (Year 0)	Ground preparation	Removal of undesirable species. Soil shall be levelled.			x	x	x				x	x	x	
	Establishment maintenance operations (Year 1)	Seeding	Planting / sowing should occur as per manufacturer's guidance during autumn, or spring.			x	x	x				x	x	x	
		Health inspections	Plants / seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the next planting season.			x		x		x		x			
		Cutting	Cutting of annual weeds will be avoided until mid to late summer. This will ensure sown seedlings are protected by annual	x	x	x					x	x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
			weeds, which will be beneficial for invertebrates. Annual weeds will be cut in mid-August, making way for the young grassland beneath. Any unwanted species such as Docks will be removed, and any arisings taken away from the site. The grassland can then be mown through to the end of March the following year.												
		Weeding	Monthly hand removal of weeds unwanted species as required.	x	x	x	x	x	x	x	x	x	x	x	x
		Litter	To be removed as necessary before any cutting works.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	As required during periods of drought to avoid death of the planting.				x	x	x	x	x	x			
	Routine maintenance operations (Year 2 onwards)	Health inspections	Plants / seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the following planting season.			x		x		x		x			
		Cutting	Following the initial year, the grassland will be managed to allow for species to grow tall, flower and seed from May through to at least late July. A 'hay cut' will then be taken between late July and late August and then managed short throughout autumn and winter until April the following spring. Following any grassland maintenance all arisings will be left in situ for five days to allow seed release and ensure the continued renewal of the floristic diversity of the site. The arisings will then be turned and removed from site to prevent nutrient enrichment at the detriment to floristic diversity.	x	x	x				x	x	x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
		Weeding	Monthly hand removal of weeds unwanted species as required.	x	x	x	x	x	x	x	x	x	x	x	x
		Litter	To be removed as necessary before any cutting works.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	As required during periods of drought to avoid death of the planting.	x	x	x	x	x	x	x	x	x	x	x	x
Pond (Non-priority Habitat) / Sustainable Drainage System	Establishment maintenance operations after planting and seeding (Year 1)	Seeding	New pond edge seeding should occur as per manufactures guidance during autumn or spring.	x	x	x	x	x				x	x	x	x
		Planting	New emergent, submerged and floating planting should occur during autumn or spring prior to, or within 12 months, of the completion of the development.	x	x	x	x	x				x	x	x	x
		Health inspections / Monitoring	Ponds to be monitored for excessive coverage of filamentous algae and duckweed monthly during the summer months Should any plants be observed to be diseased, damaged or dead during monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season. Pond edge seeding found to have not established during monthly health visits between March and September will be reseeded with the same seed mix in the following planting season.			x	x	x	x	x	x	x			
		Weeding	Monthly hand removal / cutting of any undesirable species as required.	x	x	x	x	x	x	x	x	x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
			duckweed and filamentous algae is to be removed as required to limit cover of these species below 10% cover.												
		Watering	Regular watering will occur weekly during the main growing season (May to September inclusive) and only as required outside these months.					x	x	x	x	x			
	Routine maintenance operations (Year 2)	Health inspections / Monitoring	Ponds to be monitored for excessive coverage of filamentous algae and duckweed monthly during the summer months. Should any plants be observed to be diseased, damaged or dead during bi-monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season. Pond edge seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the following planting season.			x		x	x	x	x	x			
		Cutting	Pond edge seeding to be cut back in 1/3 sections to a height of 100mm on a three-year rotational basis between September and November.									x	x	x	
		Trimming	Manual trimming of aquatic planting as required but ensuring that aquatic planting (excluding duckweed) does not fall below 50% of the pond cover. All arisings to be placed adjacent to the pond edge for 24 hours before being removed.	x	x						x	x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
		Litter	To be removed as necessary before any cutting or trimming works.	x	x	x	x	x	x	x	x	x	x	x	x
		Weeding	Monthly hand removal / cutting of any undesirable species as required. Pond weed and filamentous algae is to be removed as required to limit cover of these species below 10% cover.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	As required during periods of drought to avoid death of the planting.					x	x	x	x	x			
	Routine maintenance operations (Year 3)	Health inspections / Monitoring	Ponds to be monitored for excessive coverage of filamentous algae and duckweed monthly during the summer months Should any plants be observed to be diseased, damaged or dead during bi-monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season. Pond edge seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the following planting season.			x		x	x	x	x	x			
		Cutting	Pond edge seeding to be cut back in 1/3 sections to a height of 100mm on a three-year rotational basis between September and November.									x	x	x	
		Trimming	Manual trimming of aquatic planting as required but ensuring that aquatic planting (excluding duckweed) does not fall below 50% of the pond cover. All	x	x						x	x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
			arising to be placed adjacent to the pond edge for 24 hours before being removed.												
		Litter	To be removed as necessary before any cutting or trimming works.	x	x	x	x	x	x	x	x	x	x	x	x
		Weeding	Monthly hand removal / cutting of any undesirable species as required.	x	x	x	x	x	x	x	x	x	x	x	x
			Pond weed and filamentous algae is to be removed as required to limit cover of these species below 10% cover.												
		Watering	As required during periods of drought to avoid death of the planting.					x	x	x	x	x			
	Routine maintenance operations (Year 4 onwards)	Health inspections / Monitoring	Ponds to be monitored for excessive coverage of filamentous algae and duckweed monthly during the summer months			x		x	x	x	x	x			
			Should any plants be observed to be diseased, damaged or dead during bi-monthly visits between March and September they will be replaced with the same species to the same specification in the following planting season.												
			Pond edge seeding found to have not established during bi-monthly health visits between March and September will be reseeded with the same seed mix in the following planting season.												
		Cutting	Pond edge vegetation to be cut back in 1/3 sections to a height of 100mm on a three-year rotational basis between September and November.									x	x	x	
		Trimming	Manual trimming of aquatic planting as required but ensuring that aquatic	x	x						x	x	x	x	x

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
			planting (excluding duckweed) does not fall below 50% of the pond cover. All arisings to be placed adjacent to the pond edge for 24 hours before being removed.												
		Litter	To be removed as necessary before any cutting or trimming works.	x	x	x	x	x	x	x	x	x	x	x	x
		Weeding	Pond weed and filamentous algae is to be removed as required to limit cover of these species below 10% cover.	x	x	x	x	x	x	x	x	x	x	x	x
		Watering	As required during periods of drought to avoid death of the planting.					x	x	x	x	x			
Hard Landscaping	General Maintenance Operations	Litter Collection	Empty the public area bins and remove litter from paved and planted areas	x	x	x	x	x	x	x	x	x	x	x	x
		Bin Cleaning	Wash and clean waste bins	x	x	x	x	x	x	x	x	x	x	x	x
		Fly tipping	Check the site for fly tipping and depending on size of items bag and remove or arrange for removal to skip	x	x	x	x	x	x	x	x	x	x	x	x
		Leaf collection	Sweep up leaf fall	x	x	x	x	x	x	x	x	x	x	x	x
		Detritus removal	Sweep to remove all dust and debris	x	x	x	x	x	x	x	x	x	x	x	x
		Weed removal	Hand weed areas of weed growth	x	x	x	x	x	x	x	x	x	x	x	x
Management and maintenance of wildlife provisions	Bird boxes		Any damage should be repaired or box replaced with the same specification outside of nesting season. Project ecologist can advise on suitable box alternatives where necessary.	x	x							x	x	x	x
	Bat boxes		Largely maintenance free as the box contains gaps at its base which will allow any droppings to fall out. If damaged, bat box must be replaced with similar specification or repaired by a licensed bat worker preferably outside the maternity and / or hibernation bat			x	x								

Duckmoor, Billingshurst
 Landscape and Ecology Management and Maintenance Plan
 April 26

12039.LEMMP.RevA

Habitat	Item	Sub-category	Description	Timings											
				J	F	M	A	M	J	J	A	S	O	N	D
			periods (depending on box type) during suitable weather conditions. An ecologist can complete pre-removal checks and advise on timings and suitable box alternatives where necessary.												

6. Arrangements for Maintenance and Management

- 6.1. This section of the LEMMP outlines the arrangements for the delivery, maintenance and management of the LEMMP area. This section should be considered in the light of the Section 106 agreement for this planning application.
- 6.2. The initial capital works shall be implemented and funded by the developer (**Bellway Homes Southern Counties**) and would be delivered prior to first occupation of development. The developer is to instruct appropriate experienced contractors to establish the various features and implement the management procedures proposed. It is their responsibility to also instruct appropriate experienced ecologists and / or landscape contractors to check / carry out the work as set out in this management plan, where necessary.
- 6.3. Clear channels between these parties and their associates on the ground will be in operation at all times, by email and telephone as appropriate.
- 6.4. The ongoing funding and management of the LEMMP area would be undertaken by a Management Company appointed by the developer, with works funded by an ongoing service charge on new properties, with step-in rights for the Council should there be any issues regarding the management of the site or in the unlikely event that the Management Company goes becomes insolvent and / or ceases to exist.
- 6.5. The details of ongoing management of the site in relation to the LEMMP would be outlined and secured via legal agreement (i.e., section 106 agreement).

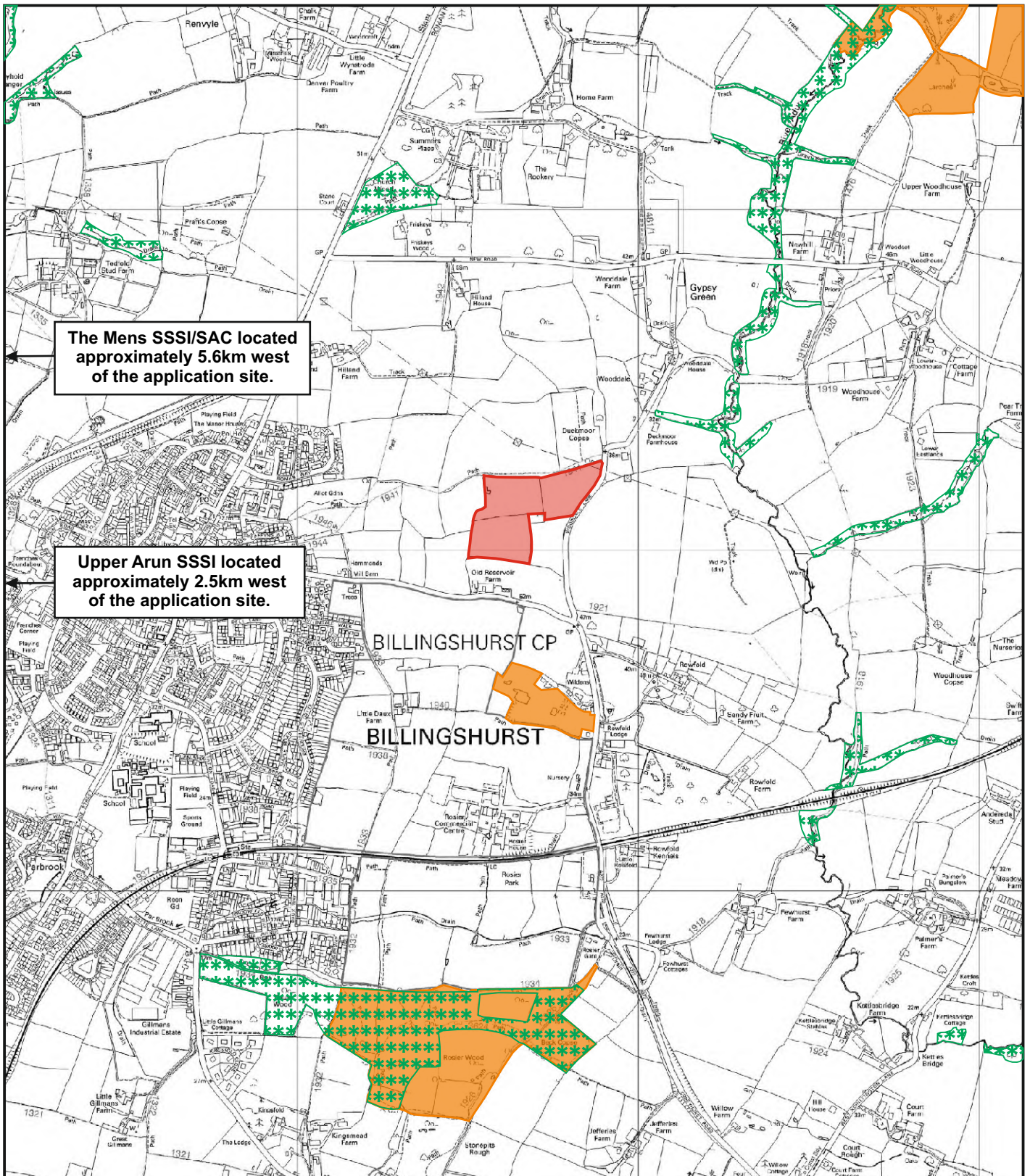
Contractor Responsibilities

- 6.6. All materials used during the development of the site, as well as any operations will be in accordance with British Standards, Codes of Practice and legislation. A review of the management plan will be undertaken in years 1, 3, 5, 10, 15, 20, 25 and 30 to determine its success with changes made as required. If warranted, appropriate remedial actions to the management plan will be undertaken to ensure that the landscaping and ecological aims of the management plan are achieved going forwards. See Plan ECO5 for site management responsibility delineations.

Plans

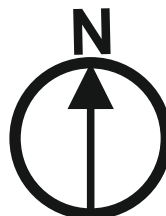
PLAN ECO1

Site Location and Ecological Designations



KEY:

- APPLICATION SITE LOCATION
- ANCIENT SEMI-NATURAL WOODLAND
- LOCAL WILDLIFE SITE (LWS)



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PLAN ECO1: SITE LOCATION AND
ECOLOGICAL DESIGNATIONS

DEC
2020

PLAN ECO₃

Species enhancement measures

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- KEY:
- REDLINE
 - VINCENT PRO BAT BOX
 - SCHWEGLER 1FF
 - SCHWEGLER 1B
 - SCHWEGLER 1N
 - SCHWEGLER 2M
 - REPTILE LOG PILE
 - DORMOUSE BOXES



 **ECOLOGY SOLUTIONS**
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12039: Duckmoor, Billingshurst

PLAN ECO3: Species Enhancement Plan	Rev: B April 2026
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PLAN BNG2

Proposed Habitat Plan

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KEY:

- Red Line Boundary
- Proposed Trees
- Hedgerows
- Lines of Trees
- Marginal planting
- Mixed Scrub
- Modified grassland
- Other Neutral Grassland
- Pond
- Proposed Residential
- Developed land; Sealed surface
- Sustainable Drainage System
- Developed land; Unsealed surface
- Other Neutral Grassland Wet Meadow
- Other Neutral Grassland Pond Edge
- Enhanced Mixed Scrub
- Enhanced Other Neutral Grassland
- Introduced Shrub
- Vegetated Garden



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**12039: Land at Duckmoor,
East Billingshurst**

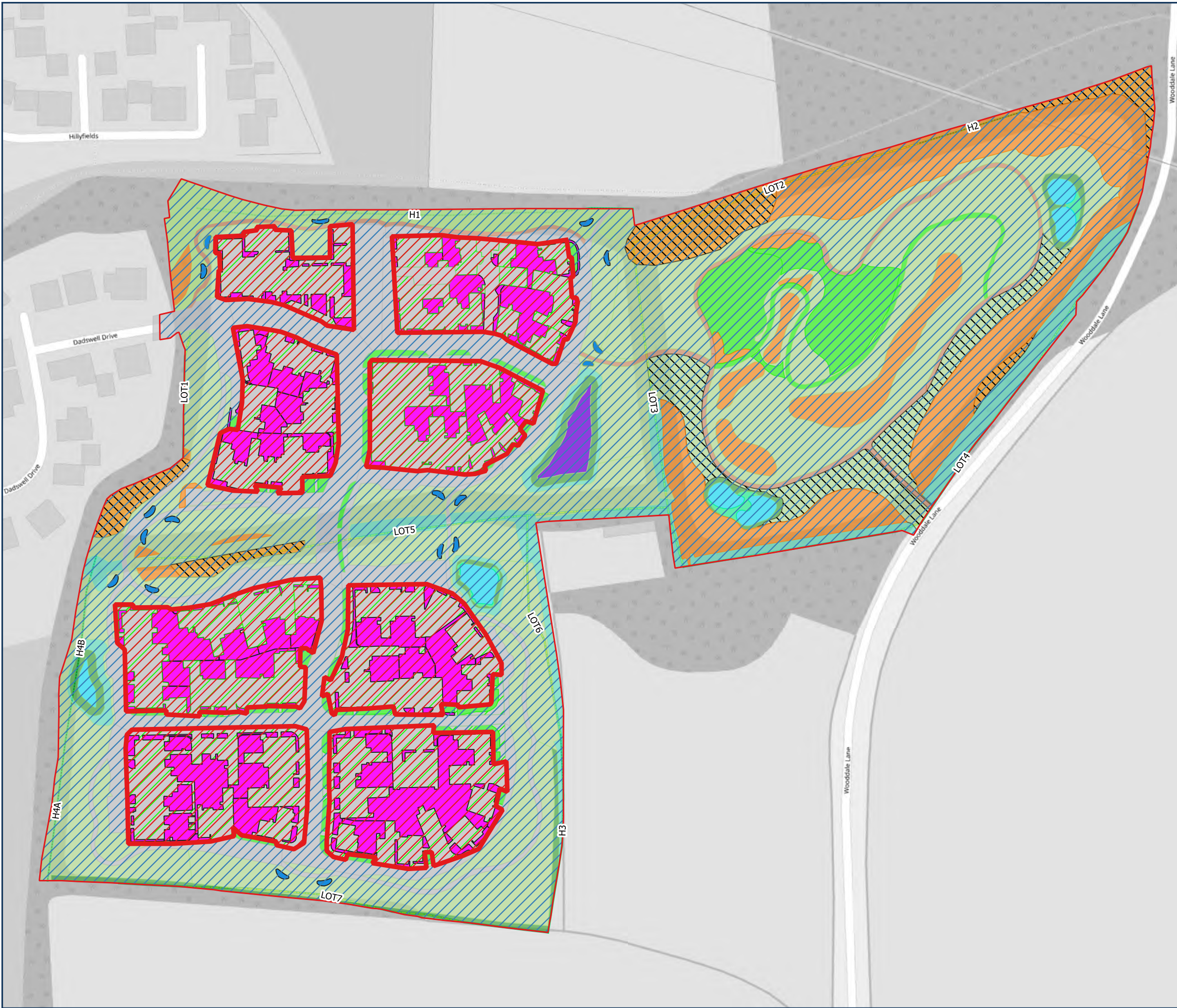
PLAN ECO3: Proposed Habitat Plan

Rev: B
Oct 2025

PLAN ECO5

Management Responsibility Delineations

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- KEY:**
- Site Boundary
 - Management Responsibility of Residential Dwellers
 - Management Responsibility of Bellway Appointed Management Company
 - Marginal planting
 - Mixed Scrub
 - Modified grassland
 - Other neutral grassland
 - Pond
 - Residential Units
 - Developed land; sealed surface
 - SuDS
 - Developed land; unsealed surface
 - ONG wet
 - ONG pond
 - Mixed Scrub enhanced
 - ONG enhanced
 - Introduced Shrub
 - Vegetated garden



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LANDSCAPE, MITIGATION & BIODIVERSITY
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12039: Duckmoor, East Billingshurst

LEMMP: Management Responsibility Delineations	Rev: A Mar 2026
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Appendices

APPENDIX 1

Examples of suitable bat boxes

Bat Boxes

Schwegler bat boxes are made from 'Woodcrete'. This is 75% wood sawdust, clay and concrete mixture, and is breathable and very durable, making these bat boxes rot and predator proof, and extremely long lasting. They can be expected to last 25 years or more without maintenance. Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminium nails.



1FF Flat Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, through it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats. This box is maintenance-free (i.e., it does not have to be cleaned).

External Dimensions:

Height: 43 cm, Width: 27 cm, Depth: 14 cm

Weight: ~9 kg

2FN Bat Box

A large bat box featuring a wide access at the base as well as an access hole on the underside. Particularly successful in attracting Noctule and Bechstein's bats. This box can be installed on tree-trunks or buildings, and is easily cleaned using the removable front panel.

External Dimensions:

Height: 36 cm, Diameter: 16 cm



2F Bat Box

A standard bat box, attractive to smaller British bat species. Simple design with a narrow entrance slit on the front. The front panel is removable for inspection and cleaning purposes. Can be installed on tree-trunks or buildings.

External Dimensions:

Height: 33 cm, Width: 16 cm, Depth: 16 cm

Weight: ~ 3.8 kg



Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box. The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting. Boxes can be hung from existing external walls at a height of 5-6 metres.



Vincent Pro Bat Box

The Vincent Pro Bat box is designed specifically to be used by a variety of species, containing three vertical chambers and a roughened ladder below these. Known to support at least seven species including Brown Long-eared bat.

FSC timber with a recycled plastic top

Width: 18cm

Height: 72cm

Depth: 23.5cm

Weight: 4.1kg

APPENDIX 2

Examples of suitable bird boxes

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of boxes. They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This is 75% wood sawdust, clay and concrete mixture, and is breathable and very durable, making these bird boxes extremely long lasting. They can be expected to last 25 years or more without maintenance.



1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree friendly' aluminium nail.

Available in four colours, and three entrance hole sizes: 26 mm for small tits, 32 mm standard size and oval (29 x 55 mm) for redstarts. Weight: ~3.6 kg

2H Bird Box

This box is attractive to robins, pied wagtails, spotted flycatcher, wrens, and black redstarts. Best sited on the walls of buildings with the entrance on one side (at an angle of 90° to the wall).

External Dimensions:

Height: 200 mm, Width: 150 mm, Depth: 200 mm, Weight: 2.5 kg



2M Bird Box



A free-hanging box offering greater protection from predators. Supplied complete with hanger which loops and fastens around a branch.

Available in four colours, and three entrance hole sizes: 26 mm for small tits, 32 mm standard size and oval (29 x 55 mm) for redstarts.

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of boxes. They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This is 75% wood sawdust, clay and concrete mixture, and is breathable and very durable, making these bird boxes extremely long lasting. They can be expected to last 25 years or more without maintenance.

2GR Nest Box



Because of the special design of the large nesting area and front panel, this box is especially well protected against predators.

Available as shown with three 27 mm holes for small tits or with a single oval entrance hole. Nesting area: 140 mm x 190 mm

External Dimensions:

Height: 310 mm, Width: 200 mm, Depth: 270 mm, Weight: 6.7 kg

1ZA Roundhouse Wren Box

This nest box provides an enclosed space preferred by wrens. This nest box provides excellent protection from predators. This box also provides a sheltered place for wrens in the winter.

Available as shown with a 30 x 27 mm entrance hole. Supplied with hanging cable.

External Dimensions:

Diameter of sphere: ~185 mm, cable length: ~200 mm



1N Deep Nest Box

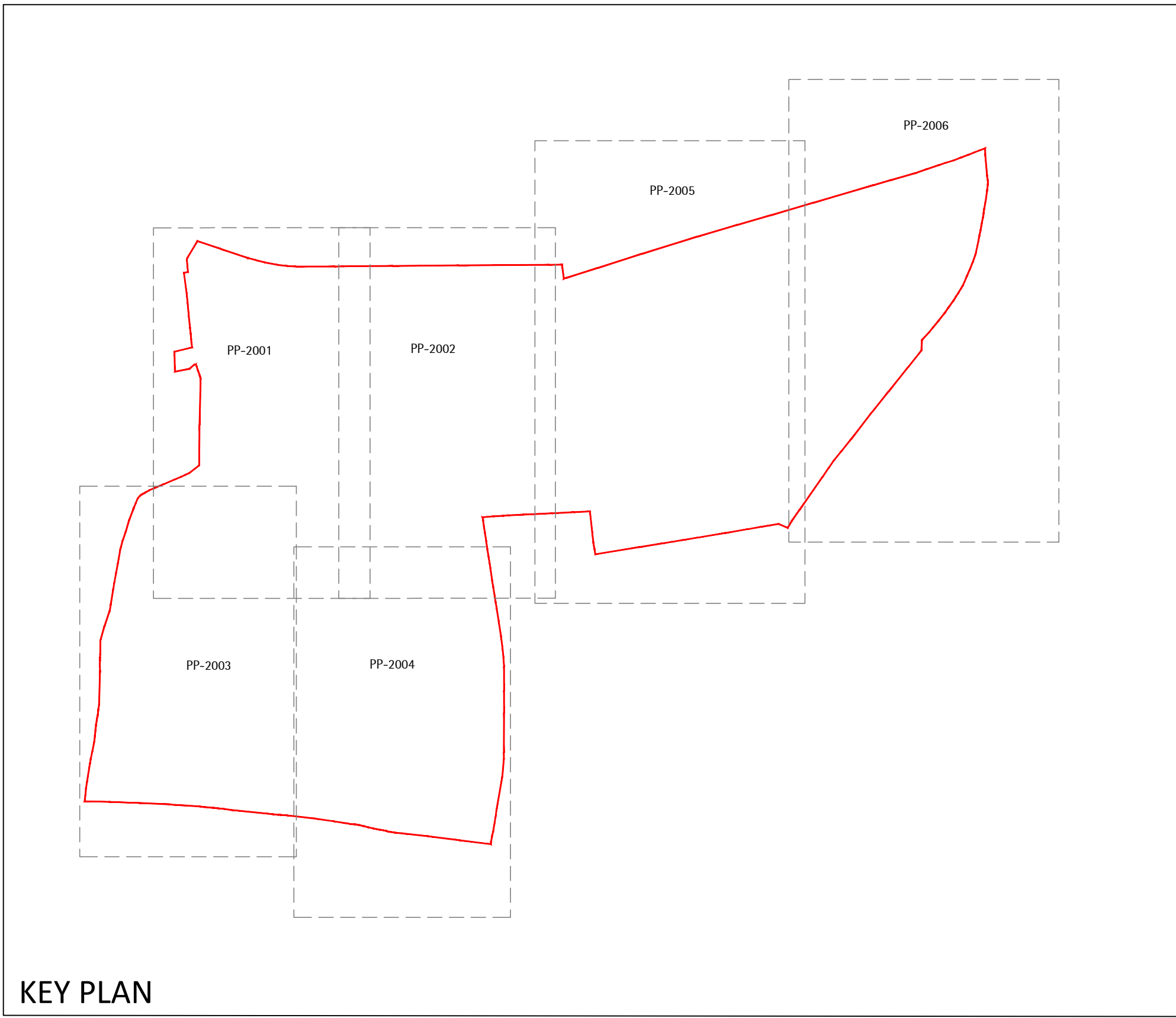


A deeper than standard nest box which is ideal for robins, spotted flycatchers, pied wagtails, tits and sparrows. Its depth offers protection from cats, magpies, jays, and martens. Can be placed on trees, buildings, and walls.

Available as shown with two 30 x 50 mm entrance holes. Weight: ~ 6kg

APPENDIX 3

Planting Schedule



Plant Schedule

Trees							
QTY	UNIT	PLANTNAME	STOCK	FORM	GIRTH/HEIGHT	SPECIFICATION	
6 No		Aesculus hippocastanum	RB	STD	14-16cm	clear stem min. 200cm	
12 No		Acer campestre	RB	STD	14-16cm	clear stem min. 200cm	
7 No		Ainus glutinosa	RB	STD	14-16cm	clear stem min. 200cm	
12 No		Betula pendula	RB	STD	14-16cm	clear stem min. 200cm	
4 No		Betula pubescens	RB	STD	14-16cm	clear stem min. 200cm	
3 No		Carpinus betulus	RB	STD	14-16cm	clear stem min. 200cm	
3 No		Corylus avellana	RB	STD	14-16cm	multi-stem; bushy; 3 stems minimum	
5 No		Crataegus monogyna	C	STD	10-12cm	2x Selected Standard; clear stem minimum 200cm; 4 breaks	
7 No		Liquidambar styraciflua	RB	STD	18-20cm	clear stem min. 200cm	
2 No		Liriodendron tulipifera	RB	STD	16-18cm	clear stem min. 200cm	
4 No		Magnolia 'Susan'	C35-45L	STD	200-250cm	branched; 7 breaks	
3 No		Malus sylvestris	RB	STD	16-18cm	400-450cm height; clear stem min. 200cm	
2 No		Malus trilobata	RB	STD	16-18cm	3x Extra Heavy Standard; clear stem minimum 200cm	
2 No		Ostrya carpinifolia	C	STD	14-16cm	clear stem min. 200cm	
5 No		Populus nigra subsp. betulifolia	RB	STD	14-16cm	clear stem minimum 200cm	
7 No		Prunus avium	RB	STD	18-20cm	clear stem min. 200cm	
5 No		Prunus sargentii	RB	STD	16-18cm	clear stem min. 200cm	
4 No		Prunus coccinea	RB	STD	16-18cm	clear stem min. 200cm	
9 No		Quercus robur	RB	STD	14-16cm	clear stem min. 200cm	
5 No		Salix alba	B	STD	14-16cm	clear stem min. 200cm	
5 No		Sorbus torminalis	RB	STD	16-18cm	clear stem min. 200cm	
9 No		Tilia cordata 'Green Spire'	RB	STD	18-20cm	clear stem min. 200cm; Min. height 450cm	
9 No		Ulmus 'New Horizon'	RB	STD	14-16cm	clear stem min. 200cm	

Hedge Mixes				
PERCENT	QTY	PLANTNAME	STOCK	SIZE
311m LOW WATER DEMAND NATIVE HEDGE MIX planted @5m in a double staggered row				
15%	233 No	Corylus avellana	B Trans	100-120cm
15%	233 No	Cornus sanguinea	B Trans	100-120cm
25%	389 No	Carpinus betulus	B Trans	100-120cm
5%	78 No	Ilex aquifolium	B Trans	100-120cm
25%	389 No	Ligustrum vulgare	B Trans	100-120cm
15%	233 No	Viburnum opulus	B Trans	100-120cm

To be planted in species groups of 5-7. Prune to 80cm after planting

Shrubs					
QTY	UNIT	PLANTNAME	STOCK	SIZE	SPECIFICATION
75 No		Abelia x grandiflora 'Francis Mason'	C3L	30-40cm	4/m2 bushy; 3 breaks
153 No		Choisya ternata 'Sundance'	C3L	30-40cm	4/m2 bushy; 4 breaks
143 No		Ostus corbariensis	C5-7 5L	40-60cm	3/m2 bushy; 6 breaks
261 No		Hedera 'Nicolas Bush'	C3L	30-40cm	4/m2 Bushy; 5 brks
153 No		Hedera 'White Gem'	C3L	30-40cm	3/m2 Bushy; 5 brks
153 No		Hedera 'Sutherlandii'	C3L	20-30cm	3/m2 Bushy; 7 brks
108 No		Hedera helix	C1L	10/m2	
115 No		Ilex aquifolium 'Golden vein Tol'	C5L	60-80cm	3/m2 Leader with laterals
221 No		Lavandula angustifolia 'H'dcote'	C5L	20-30cm	4/m2 Bushy; 7 brks
150 No		Lavandula angustifolia 'Nana Alba'	C5L	30-40cm	5/m2 Bushy; 7 brks
208 No		Leucothoe Scarietta	C5L	30-40cm	5/m2 Bushy; 5 brks
94 No		Lonicera nitida 'Maigrun'	C5L	30-40cm	4/m2 Bushy; 8 brks
282 No		Lonicera pileata	C3L	30-40cm	3/m2 Bushy; 6 brks
65 No		Pachysandra terminalis	C2L	15-20cm	4/m2 Several shoots; 7 brks
5 No		Philadelphus 'Belle Etoile'	C5-7 5L	40-60cm	2/m2 Branched; 5 brks
102 No		Pittosporum tenuifolium 'Bannow Bay'	C5L	20-30cm	5/m2 Bushy; 5 brks
198 No		Pittosporum tenuifolium 'Gold Ball'	C5L	20-30cm	4/m2 Bushy; 5 brks
11 No		Potentilla fruticosa 'Abbotswood'	C2L	15-20cm	3/m2 Bushy; 3 brks
50 No		Rosmarinus officinalis	C3L	30-40cm	5/m2 Bushy; 4 breaks
22 No		Rosmarinus officinalis 'Miss Jessop's Upright'	C5L	30-40cm	1/m2 Bushy; 5 breaks
133 No		Rosmarinus officinalis 'Prostratus'	C3L	20-30cm	3/m2 Bushy; 4 brks
538 No		Sarcococca confusa	C5L	30-40cm	5/m2 Bushy; 6 breaks
249 No		Skimmia japonica 'Rubella'	C5L	30-40cm	5/m2 Bushy; 4 brks
238 No		Skimmia x confusa 'Kew Green'	C5L	30-40cm	3/m2 Bushy; 4 brks
82 No		Viburnum davidii	C3L	20-30cm	4/m2 Bushy; 3 brks
6 No		Viburnum opulus 'Compactum'	C3L	30-40cm	3/m2 Bushy; 4 brks
75 No		Viburnum tinus	C3L	30-40cm	2/m2 Bushy; 4 brks
92 No		Vinca minor 'Gertrude Jekyll'	C2L	20-30cm	5/m2 Several shoots; 3 brks

Plant Mixes				
PERCENT	QTY	PLANTNAME	STOCK	SIZE
152m2 BLUE MIX SUN planted @20m2				
25%	760 No	Ocous speciosus 'Conqueror'		5-6cm
25%	760 No	Ocous chrysanthus 'Cream Beauty'		5-6cm
20%	608 No	Ocous 'Vanguard'		5-6cm
15%	456 No	Narcissus pseudonarcissus		10/12cm
15%	456 No	Narcissus poeticus var. recurvus		10/12cm

Individual varieties to be planted in clusters of 10-15

3600m2 NATIVE SCRUB EDGE MIX planted @1m centres				
10%	361 No	Acer campestre	B Trans	100-125cm
15%	571 No	Corylus avellana	B Trans	100-125cm
15%	571 No	Cornus sanguinea	B Trans	100-125cm
15%	571 No	Crataegus monogyna	B Trans	100-125cm
15%	571 No	Eunymus europaeus	B Trans	60-80cm
2.50%	55 No	Lonicera periclymenum	C3L	60-80cm
5%	190 No	Prunus spinosa	B Trans	100-125cm
2.50%	55 No	Quercus robur	B FTH	125-150cm
2.50%	55 No	Rosa canina	B Trans	60-80cm
5%	190 No	Sambucus nigra	B Trans	80-100cm
10%	361 No	Sorbus aucuparia	B Trans	80-100cm
2.50%	0 No	Oematis vitalba		

Individual varieties to be planted in groups of approximately 7-10. Quercus plants to be sited individually

318m2 RAIN GARDEN MIX - LOW planted @5m2				
10%	156 No	Ajuga reptans	C2L	20-30cm
10%	156 No	Bergenia cordifolia	C2L	20-30cm
10%	156 No	Deschampsia cespitosa	C2L	20-30cm
10%	156 No	Iris sibirica	C2L	20-30cm
10%	156 No	Iris unguicularis	C2L	20-30cm
10%	156 No	Geranium macrorrhizum 'Spessart'	C2L	20-30cm
5%	80 No	Hakonechloa macrochaeta	C2L	20-30cm
10%	156 No	Luzula sylvatica	C2L	20-30cm
5%	80 No	Persicaria amplexicaulis	C2L	20-30cm
10%	156 No	Rudbeckia fulgida 'Goldsturm'	C2L	20-30cm
10%	156 No	Vinca minor	C2L	20-30cm

Individual varieties to be planted in groups of 10 or more. Tall species such as Deschampsia and Bistorta to be planted further from the road

Herbaceous plants					
QTY	UNIT	PLANTNAME	STOCK	SPACING	SPECIFICATION
45 No		Anemone hepatica 'September Charm'	C2L	5/m2	Full pot
88 No		Bergenia 'Bressingham White'	C2L	5/m2	Full pot
58 No		Euphorbia amygdaloides robbiae	C5L	4/m2	Full pot
337 No		Geranium 'Rozanne'	C2L	7/m2	Full pot
38 No		Helleborus orientalis	C2L	5/m2	Full pot
166 No		Liriope muscari	C5L	6/m2	Full pot
123 No		Polystichum setiferum	C5L	4/m2	Full pot
49 No		Rudbeckia fulgida sylvatica 'Goldsturm'	C2L	4/m2	Full pot
102 No		Salvia nemorosa 'Ostrifolia'	C2L	6/m2	Full pot
17 No		Stachys byzantina 'Silver Carpet'	C2L	6/m2	Full pot
52 No		Tiarella cordifolia	C2L	5/m2	Full pot

Aquatics/Marginals				
QTY	UNIT	PLANTNAME	STOCK	SPECIFICATION
20 No		Ceratophyllum demersum	B	1/m2 Bunched and Weighted; 4-5 strands; British native-origin

HORTICULTURAL NOTES

- All work to be carried out to the satisfaction of the Landscape Architect. No planting position shall be altered without the approval of the Landscape Architect.
- Planting will commence during the first planting season (mid Nov-mid March) after substantial completion of the site. Should planting commence outside the dormant period (October to mid-March), allow for all bare root stock to be supplied container grown and an intensive watering regime.
- All topsoil and subsoil is to be analysed by a qualified soil scientist and the findings supplied in report form including recommendations to bringing soils up to specification. The soil survey shall include analysis of representative topsoil and subsoil samples (sample numbers to be determined by the soil scientist) in accordance with the testing schedule. Test results without soil scientist's analysis for compliance against the specification and recommendations will not be acceptable.
- The soil profile for landscape areas shall be as follows: Amenity grass areas - 100mm Topsoil over 350mm Subsoil; Shrub areas - 300mm over 300mm Subsoil; Tree pits - 300mm Topsoil over 600mm-800mm Subsoil (depending on size of rootball). Topsoil to BS 3882:2015, Subsoil to BS 8601:2013. All landscaped areas to be free draining.
- Contractors to ensure all planting beds and tree pits are free draining. Prior to topsoiling all compacted ground is to be fully de-compacted and deep ripped (400-600mm) to allow good drainage.
- All areas where soil is to be incorporated over formerly hard areas or compacted ground, these are to be excavated a further 300mm, or as required to remove all sub-base aggregate and backfilled to below topsoil level with free draining subsoil to match PH of topsoil used on site. Following settlement of subsoil, top up areas and cultivate to depth of topsoil.
- Contractor to only work with or over topsoil when dry to avoid compaction and the need for lengthy remedial operations to re-create a friable, free-draining soil.
- Trees to be selected and planted in accordance with BS 8545:2014. Tree pits in soft areas should be no deeper than the existing rootball or container depth and should have a diameter at least 75mm greater than the root system. The base of the tree pit, if sub-soil, should remain undisturbed, unless additional measures are specified, to avoid sinking of the rootball. Sides of the tree pit should be scarified to promote lateral root growth. The root-flare should be proud of the soil and easily visible after planting. Tree stock should be supplied with nursery line marked on tree if available from nursery and line planted flush with ground level. Existing soil horizons (where visible/ apparent) should be replicated as far as practicable.
- Unless specified otherwise, trees are to be secured by stakes: 14-16cm girth trees and below by single stake and 18-20cm girth trees and larger to be double staked. Multi-stem trees to be secured with single angled stake to main leader. Trees to be secured at low level (500-750mm) with biodegradable ties. Stakes to be placed outside of the rootball and extend at least 450mm into the ground. Once the tree has established stakes are to be removed (minimum 5 years).
- Each new tree in soft landscape shall be fitted with a tree watering bag to enable the slow releases of water, reducing the watering frequency. Bags may need to be replaced during the first two to three years, after which point trees should be established an irrigation no longer required. All trees planted in grass shall be fitted with mower/ trimmer guards and 50mm well composted bark mulch at a min 1m diameter circle away from the main stem/trunk to protect stem/ trunk from trimmer damage, with a 120mm collar left free of mulch to prevent rotting of the stem/trunk. Trees within hard landscape (where the surface is less permeable) shall incorporate a seep hose system to facilitate a hose being inserted to avoid unnecessary water loss.
- Where trees are to be planted in close proximity to public services such as foul, surface and mains water, an appropriate root barrier such as ReRoot600 to 2000 or equivalent is to be installed to a depth below invert levels of services. Root barrier to be located as far from the tree as possible to maximise root growth and stability of the tree.
- Meadow/ Wildflower areas to be installed on min 200mm graded, de-compacted and cultivated subsoil.
- Where manhole covers are located in shrub beds or hedge planting ensure that plants are spaced appropriately so they are not immediately adjacent to the cover.
- All preparations, both hard and soft under/ around trees to be retained must be carried out by hand to protect roots.
- Climbers to be planted min 250mm away from supporting structure, nursery canes removed and attached to climber support using appropriate ties.
- All plant material procedures are to conform to the relevant British Standards (3936/4428) codes of practice and the specification.
- All shrubs are to be furnished with at least 3 strong breaks and supplied container grown. Shrubs to be planted in holes big enough to accommodate the plant without damaging the roots. Plants to be firmed, watered in and dead/damaged branches removed after planting.
- Pesticides (herbicides, insecticides, fungicides and slug pellets etc) should not be used to prevent cumulative fatal effects to animals via the food chain, particularly invertebrates, birds and/or mammals. Weeds should be removed by hand or by alternative methods such as hot water or foam systems, details of which can be found at <https://www.pan-uk.org/>. Any pesticides use for invasive weeds should be non-residual.
- A slow-release biological based fertilizer shall be applied after planting in accordance with manufacturer's instructions.
- All plant beds where access to ground floor windows is required are to have 400mm gravel strip offset from building facades. Gravel to be pea shingle or similar approved.
- All planted areas to be mulched with a medium grade bark mulch such as Melcourt Amenity Bark Mulch, 3-35mm, or similar, to a minimum depth of 50mm after plants have been well watered. Where perennials are used a fine composted mulch such as Melcourt Composted Fine Bark or similar shall be applied to a depth of 50mm Care must be taken not to smother the plants.
- Where appropriate hedge species shall be pruned by up to one third to promote bushy growth.
- Bulbs shall be planted at a depth of three times their height into cultivated topsoil and plant hole to be backfilled with excavated material.
- Any tree, shrub or area of grass shall be replaced within a period of five years if they die within the next planting season after planting with another such plant of similar size and species.
- Should the site be at risk of rabbits, deer or badger appropriate measures should be agreed, prior to planting, to ensure successful plant establishment - spiral rabbit protection guards, staking turf, appropriate stock fencing etc. If such guards are used then they must be removed upon successful establishment or after 4 years of planting, whichever is sooner.

Aquatic/Marginal Mixes

PERCENT	QTY	PLANTNAME	STOCK
34m2 NATIVE MARGINAL MIX - DAMPEGE planted @7m2			
10%	24 No	Brija media	C1L
10%	24 No	Eupatorium cannabinum	C1L
15%	36 No	Filipendula ulmaria	C1L
10%	24 No	Iris pseudacorus	C1L
10%	24 No	Lychnis flos-cuculi	C1L
10%	24 No	Lythrum salicaria	C1L
10%	24 No	Primula verticillata	C1L
10%	24 No	Ranunculus flammula	C1L

Marginal species to be planted at 35cm centres in staggered rows just above water line

48m2 NATIVE MARGINAL MIX - SHALLOW WATER planted @7m2			
20%	67 No	Aizisma plantago-aquatica	C1L
20%	67 No	Butomus umbellatus	C1L
20%	67 No	Callitha palustris	C1L
20%	67 No	Menyanthes trifoliata	C1L
20%	67 No	Sparganium angustifolium	C1L

Individual varieties to be planted in groups of approximately 5 along the water's edge below water level.

19m2 SMALL POND NATIVE MARGINAL MIX planted @12m2			
10%	23 No	Callitha palustris	Plug 125
2.50%	6 No	Iris pseudacorus	Plug 125
10%	23 No	Filipendula ulmaria	Plug 125
12.50%	29 No	Glyceria fluitans	Plug 125
15%	34 No	Juncus acutiflorus	Plug 125
12.50%	29 No	Lythrum salicaria	Plug 125
15%	34 No	Mentha aquatica	Plug 125
12.50%	29 No	Myosotis scorpioides	Plug 125
10%	23 No	Veronica beccabunga	Plug 125

To be planted in groups of approximately 5-7

Notes and Abbreviations

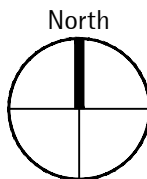
- B = Bare root (bagged).
- C = Container (or pot) grown, followed by size of the container (or pot).
- FORM = Shape of tree as supplied by the nursery.
- Fth = Feather.
- QTY = Quantity.
- RB = Rootballed (balled and wrapped).
- SIZE = Height or Spread of juvenile plant. (clear stem) Standard.
- STOCK = Root condition/protection method eg Bare root.
- Trans = Transplant (or undercut seedling).
- Refer to specification for further information.
- All plants to be completely hardened off.
- Substitutions to be agreed with Landscape Architect.

APAL FILE REFERENCE
3360-APA-ZZ-XX-PP-L-2000.dwg

Notes

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Do not scale from this drawing.

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Drawing number 7276-SMA-XX-XX-DR-C-0500



LEGEND

- Application boundary
- Existing Vegetation to be retained, refer to arboricultural drawings for RPA's and tree protection

PROPOSED ELEMENTS

PLANTING

- Tree, refer to plant schedule
- Native Scrub Mix, refer to plant schedule
- Ornamental Shrubs, refer to plant schedule
- Hedge, refer to plant schedule
- Bulb planting
- General purpose amenity turf
- General purpose meadow mix; EM2 Emorsgate or equivalent
- Mown amenity grass, hard wearing seed mix
- Wetland meadow mix; EM8 by Emorsgate or equivalent
- Marginal and aquatic planting
- Wildflower meadow mix for pond edges; EP1 Pond Edge Mixture by Emorsgate or equivalent
- Flowering lawn mix; EL1 by Emorsgate or equivalent
- Specimen Shrub or climber, refer to plant schedule

ECOLOGY ENHANCEMENT FEATURES

- Log piles - Logs cut from felled site trees, min 100mm dia, verticals pathway buried in ground to stabilise pile, horizontal stacked within. Cover top with grass sod/soil to prevent drying out. Max 600mm high.

- Bird box - mounted on existing tree at approx. 3m height above ground. Ref: BB 1: Schwegler 1B or equivalent BB 2: Schwegler 1N or equivalent BB 3: Schwegler 2M or equivalent

- Bat box to existing trees. Ref: Ba 1: Vincent Pro or equivalent Ba 2: Schwegler 1FF or equivalent

TRIM TRAIL PLAY EQUIPMENT

All play items to be supplied by Miracle Design and Play

- Balance Walk, MAEBW and Stepping Posts, MAEL520
- Wobble bridge, MAEWBR and Walk and Stretch Posts, MAELWSP
- Three Bar Balance, MAETBB

MISCELLANEOUS

- Indicative proposed contours and levels for pond creation.
- Litter and Recycling Bin, MBX45 2562 Athena Double Litter & Recycling Bin by Broxap or equivalent
- Dog waste bin (BX45G 2591-PM) by Broxap or equivalent
- B1 - Timber seat with back and arm rest, Litchard Seat by Broxap or equivalent. B2 - Timber bench, Litchard Bench by Broxap. Material: Hardwood timber and powder coated steel frame. Colour: Black frame, natural timber with preservative. Length: 1800mm
- B1 Picnic bench, Malvern Picnic Unit by Broxap or equivalent. Material: Hardwood timber and powder coated steel frame. Colour: Black frame, natural timber with preservative. Length: 1800mm

P07	Amenity grass added to legend	02/10/25	TB	TB
P06	Native climbers added to scrub mix	23/09/25	TB	TB
P05	DISC/25/0239 Landscape comments (28/08/2025) addressed	05/09/25	TB	TB
P04	Planning issue	24/06/25	CG	TB
P03	Planning issue	03/06/25	CG	TB
P02	Trees coordinated with drainage, lighting and foundation design. Indicative levels and contours added to ponds in eastern POS.	01/05/25	CG	TB
Rev	Description	Date	Drawn	Checked



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