BICESTER MOTION

ECOLOGYSOLUTIONS

Part of the ES Group

HOTEL SITE,
BICESTER MOTION,
BICESTER,
OXFORDSHIRE

Landscape and Ecology Management Plan

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ecology solutions for planners and developers

CONTENTS

APPENDICES

1. INTRODUCTION

1.1. Background & Proposals

1.1.1. This Landscape and Ecology Management Plan (LEMP) has been prepared by Ecology Solutions (Manchester) Limited on behalf of Bicester Motion. It sets out the management of features of ecological interest due to be retained, enhanced and/or created at Bicester Motion, Hotel Site, Bicester, Oxfordshire, hereafter referred to as the 'Site'.

1.1.2. Ecology Solutions Limited initially carried out detailed habitat surveys of the Site in June 2018, along with specific surveys (and assessments) for bats, Badgers *Meles meles*, reptiles, and birds. Updated walkover surveys have since been undertaken on numerous occasions, most recently in February 2022, in order to reaffirm the habitats present.

1.1.3. In addition to habitat surveys, it is relevant to note the wider Bicester Motion landholding was subject to a detailed suite of faunal surveys between 2018 and 2021, the results of which have been given due regard as part of this LEMP, and which are referred to where appropriate.

1.1.4. This LEMP has been specifically produced to discharge Condition 8 (reproduced below) of the planning permission (ref: 18/01253/F) for "*Erection of hotel and conference facility with associated access, parking, and landscaping*".

1.1.5. Condition 8 states:

> *"No development shall take place until a Landscape and Ecology Management Plan (LEMP) including a timetable for its implementation has been submitted to and approved in writing by the Local Planning Authority. Thereafter, the LEMP shall be carried out in accordance with the approved details.*
>
> *Reason: To protect habitats of importance to biodiversity conservation from any loss or damage in accordance with Policy ESD10 of the Cherwell Local Plan 2011 – 2031 Part 1 and Government guidance contained within Section 15 of the National Planning Policy Framework. This information is required prior to commencement of the development as it is fundamental to the acceptability of the scheme."*

1.1.6. In writing this LEMP, regard has also been afforded to Condition 4 of the planning permission; requiring compliance with the recommendations of the submitted Ecological Assessment. Condition 4 is reiterated below for completeness:

> *"The development shall be carried out in accordance with the recommendations set out in section 5 of the Ecological Assessment carried out by Ecological Solutions dated July 2018."*

1.1.7. This LEMP has been written with reference to published guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) and in accordance with Natural England (NE) guidelines for protected species.

1.1.8. This document is set out as follows:

- Ecological baseline and evaluation of important features within the development Site, including results of updated ecological surveys and any associated mitigation measures;
- Objectives of the LEMP in order to maximise the ecological potential of features due to be retained within the Site;
- Mitigation and management prescriptions in order to achieve objectives. These include any monitoring requirements; and
- The work program for 5 years.

1.1.9. The ecological value of the Site is set out in detail within the report entitled Hotel Application, Bicester Heritage, Bicester – Ecological Assessment (July 2018) produced by Ecology Solutions.

2. ECOLOGICAL BASELINE AND EVALUATION

2.1. Ecology Solutions carried out habitat surveys in June 2018 based upon an 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. The methodology and results from these habitat and faunal surveys are set out below.

2.2. Updated surveys, most recently in February 2022, have confirmed habitats within the Site remain broadly as described following the 2018 survey work.

2.3. Ecological Features

2.3.1. The following main habitat/vegetation types were identified within the Site:

- Semi-improved calcareous grassland;
- Recolonising vegetation/disturbed ground;
- Hedgerow;
- Hardstanding; and
- A single building.

2.3.2. Each habitat present is described below, with an account of their representative plant species.

Semi-improved Calcareous Grassland

2.3.3. The majority of the Site currently comprises semi-improved calcareous grassland, presently managed through regular close mowing.

2.3.4. Whilst the majority of the grassland is poor in herb species, with grasses very dominant, areas of species-rich grassland are present and limited to the margins of grassland in the north-west of the Site, within close proximity to the hedgerow present in this area, with the majority of herb species including Greater Knapweed *Centaurea scabiosa*, Common Knapweed *Centaurea nigra*, Field Scabious *Knautia arvensis*, Salad Burnet *Sanguisorba minor,* Common Restharrow *Ononis repens* and Pyramidal Orchid *Anacamptis pyramidalis* only recorded within this area.

2.3.5. The analysis results of the National Vegetation Classification (NVC) data using Modular Analysis of Vegetation Information System (MAVIS) software showed strongest correlation with MG5 (Cynosurus cristatus – Centaurea nigra grassland) communities, particularly sub-community A (Lathyrus pratensis sub-community).

2.3.6. Overall, it is considered that while the grassland, comprising the majority of the Site, has potentially supported historical communities more clearly indicative of unimproved calcareous grassland, the vast majority of this habitat now supports a low density of herb species and relatively low species richness, with little variation, across the

Site. Furthermore, the ongoing management of this habitat as a short sward, and the presence of a number of species indicative of more improved conditions, indicate the species richness of this habitat is likely to further decline in quality in the future in the absence of development. This conclusion is further evidenced by the findings of the NVC survey and analysis which indicate no clear match with particular calcareous grassland communities.

Re-colonising Vegetation/Disturbed Ground

2.3.7. In 2018 a significant area of the southern part of the Site comprised recolonising vegetation, established following a long period of use as an area of bare ground. A single immature tree is present in this area.

2.3.8. The updated walkover in February 2022 identified this habitat as having continued re-establishing, with some affinity to areas of adjoining grassland.

Hedgerow/Tree Line

2.3.9. The western boundary of the Site, adjacent to the A4421, is formed of a single gappy, irregularly managed hedgerow/immature treeline. Species present within this hedgerow include Hawthorn *Crataegus,* Blackthorn *Prunus spinosa*, English Elm *Ulmus minor var. vulgaris,* Ash *Fraxinus excelsior,* Field Maple *Acer campestre,* Wayfaring Tree *Viburnum lantana,* Spindle *Euonymus europaeus,* Wild Privet *Ligustrum vulgare,* Crab Apple *Malus sylvestris,* Cherry Plum *Prunus cerasifera,* Sycamore *Acer pseudoplatanus* and Norway Maple *Acer platanoides.*

Building

2.3.10. A single derelict pillbox building is present along the Site's western boundary. This building is constructed from red brick, and is not considered to offer any potential opportunities for roosting bats.

Hardstanding

2.3.11. Areas of asphalt and concrete are present in the south and east of the Site, in the form of the airfield track and access to adjacent buildings. These areas support a limited number of recolonising species at a low density.

2.4. Wildlife Use of the Site

Bats

2.4.1. No buildings or trees within the Site were considered to offer potential opportunities for roosting bat species.

2.4.2. Moreover, given the very limited range of habitats, the Site is not assessed as being of any heightened value for foraging and commuting bats. In any event, it is noted the feature of potentially heightened value, the boundary hedgerow, will be retained.

Badgers

2.4.3. No Badger setts were recorded within the Site. No other evidence of Badgers, in the form of setts, foraging pits, latrines, footprints or well-worn pathways were recorded within the Site or adjacent habitats (i.e. within 30m) during any of the surveys undertaken.

2.4.4. It is noted, Badgers are present in the wider Bicester Motion site.

Birds

2.4.5. The Site offers some opportunities for nesting birds in terms of hedgerows and scrub, although similar opportunities, and indeed improved opportunities, are available within the wider area.

Reptiles

2.4.6. The vast majority of habitats within the Site are considered unsuitable for reptile species. This includes areas of semi-improved grassland which are managed as a close mown sward.

2.4.7. Reptiles are known to be present in the wider Bicester Motion site, including within areas of grassland continuous with the Site.

Amphibians

2.4.8. Whilst Great Crested Newts (GCN) *Triturus cristatus* are known to be within ponds in the local area (including the wider site), these are well distanced from the Site itself (>500m). Given this separation, and that terrestrial habitats are largely unsuitable, GCN are not considered present on Site.

3. MANAGEMENT OBJECTIVES

3.1. The aims and objectives of this LEMP are to fully safeguard the existing ecological interests of the Site and ensure long-term ecological enhancements are realised through proposed landscaping and on-going Site management.

3.2. The management prescriptions, as outlined in this LEMP, will also ensure there will be no adverse impacts to protected and notable species which utilise the Site.

3.3. The following objectives have been identified:

- **Objective 1**: Maintain and enhance retained and newly created habitats within the Site;
- **Objective 2**: Maintain populations of protected species identified within the Site at a 'favourable' conservation status;
- **Objective 3**: Increase biodiversity by maximising opportunities for flora and fauna; and
- **Objective 4:** Maintain and enhance the newly planted trees and hedgerows within the Site for the purposes of visual amenity.

3.4. Appropriate management options for achieving these objectives are set out below.

3.5. A Planting Proposals plan has been produced by ASA Landscape Architects in conjunction with Ecology Solutions, and is included at Appendix 1.

Objective 1: Maintain and enhance retained and newly created habitats within the Site

3.6. The Site predominantly comprises areas of calcareous grassland that have become impoverished as a result of the Site's intensive management regime; comprising regular cuts to maintain a short, suppressed sward. Other habitats include re-colonising ground (as of 2022 now supporting an enclosed sward), a boundary hedgerow, and areas of built form and hardstanding.

3.7. Notwithstanding the habitat's value is greatly tempered by its limited species diversity, levels of disturbance, and regular management, the areas of grassland are assessed as being habitats of relatively greater value within the context of the Site.

3.8. Whilst areas of calcareous grassland will be lost to the emerging Proposals, significant areas will be retained and brought under biodiversity led management, such that the qualitative value of retained habitats can be significantly enhanced in future years. This biodiversity led management will extend equally to the on-Site hedgerow, which is to be retained and enhanced as part of the Proposals.

3.9. Moreover, the Development Proposals will see the creation of a range of new species-rich habitats within the communal areas of the development, including wet meadows (SuDS, native tree and shrub planting, and ecology car parking).

3.10. Management prescriptions and monitoring requirements for these habitats are described below.

Meadow Grassland (Calcareous Grassland)

Works During Construction/Establishment

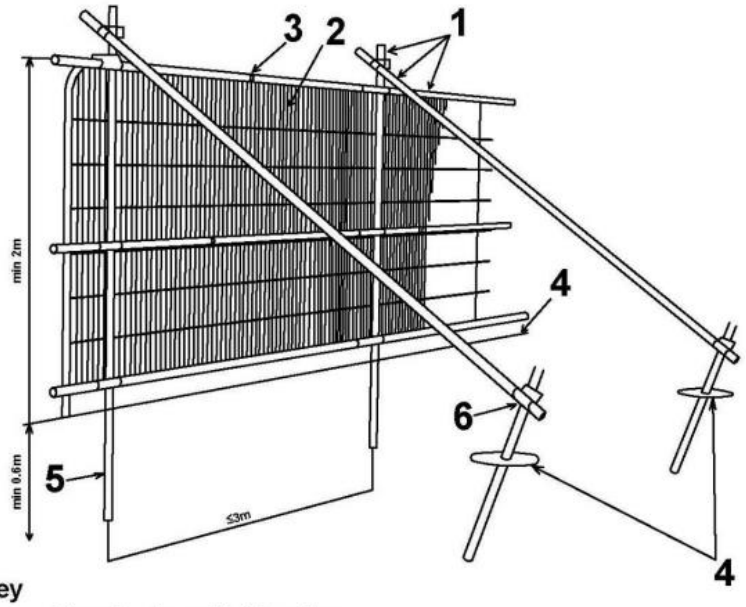
3.11. **Retained Habitat Areas.** As above, significant areas of calcareous grassland are to be retained as part of the Proposals, and are to be brought into good ecological condition through long-term management.

3.12. Where habitats are to be retained, these are to be identified, demarcated, and safeguarded prior to construction works commencing. This will include for the provision of appropriate fencing or barriers, as appropriate, in order to prevent accidental encroachment.

3.13. Where fencing is proposed, this will be erected prior to construction works commencing on Site, and will remain in-situ for the duration of the development, unless otherwise agreed with the local planning authority (LPA) and/or the project ecologist.

3.14. Protective fencing is to comprise Heras fencing and will be installed in accordance with the recommendations contained within BS5837:2012.

5 Figure 2: Default specification for protective barrier **BS5837:2012**



Key

1	Standard scaffold poles
2	Heavy guage 2m tall galvanized tube and welded mesh infill panels
3	Panels secured to uprights and cross-members with wire ties
4	Ground level
5	Uprights driven into the ground until secure (minimum depth 0.6m
6	Standard scaffold clamps

3.15. Works to retained grassland habitats will be limited to those required to facilitate ecological enhancement, with no temporary impacts (such as soil storage or vehicle movement permitted).

3.16. Noting the grassland habitats are comparatively species-poor in nature, initial enhancement works are to include for the completion of a harrowing and re-seeding exercise. Harrowing will be in the form of a chain harrow and will seek to open up the sward, creating areas of bare ground in order to maximise soil to seed contact. This will be undertaken in the late summer or early autumn months.

3.17. Where necessary, the harrowing exercise will be preceded by an initial grass cut to reduce the sward height to ground level (or as close as practical). Any cutting will give due regard to the potential presence of reptiles (see Faunal Section below), ensuring harm to this faunal group may be avoided.

3.18. Following the completion of the harrowing exercise, an appropriate seed mix will be distributed across the grassland. This seed will comprise green hay and seed materials collected from 'donor locations' within the wider site. Donor locations will be identified through a Site visit in the closest survey season to works commencing, with this to be undertaken by a suitably qualified ecologist. Donor locations will be selected where they support the most diverse calcareous grassland communities, suitable for the receptor location (noting that wet and dry habitat areas are proposed).

3.19. Hay and seeds will be collected from the donor locations, by means of a forage harvester, prior to being evenly distributed across receptor site locations, at a harvesting to spreading ratio of approximately 1:3. Seed collection should be timed to achieve a minimum period between its subsequent reapplication within the Site. This will ensure maximum viability of seeds. Approximately 5 days after the application of green hay, the receptor locations will be lightly rolled to ensure firm contact between seed and soil.

3.20. Subject to the success of any green hay or seed collections, and to further maximise the botanical diversity of the grassland (and ensure a pollen rich habitat for nectar feeding invertebrates), it may be appropriate for localised areas to be re-seeded in future years. The wider site is likely to include for a range of suitable grassland donor sites from which a seed source could be collected.

3.21. Following the completion of the harrowing/seeding exercise, the long-term management regime will be implemented (see Post Construction Management below).

3.22. **New Meadow Creation.** The Proposals seek to deliver new areas of meadow creation within the Site, with this including for the re-creation of grassland within areas subject to temporary works, including where new landscaped bunds are proposed within the Site, in addition to areas proposed as SuDS/swales within the overspill car park.

3.23. Where areas of calcareous grassland are to be (re)created, care will be taken to ensure appropriate, Site-won soils are utilised, sufficient to

support calcareous grassland communities. In all instances, topsoil will be utilised from calcareous grassland habitats already being impacted/lost as a result of the Proposals.

3.24. The soil collection/translocation works will be undertaken during the late summer to early autumn months (late July to October inclusive) in preference, once the majority of flowering plants have set seed. This timing should also ensure works avoid periods in which the land may be waterlogged.

3.25. The process of topsoil removal from a donor site will be undertaken methodically to avoid compaction to soils, and will seek to focus on donor locations supporting the most desirable floral communities/substrates. All vegetation, and the first 15cm of soil (subject to on Site conditions), will be removed by an excavator and carefully stored, un-compacted and in small discrete mounds, in a suitable location within the Site. These soils will be kept separate from other materials within the Site and will be redistributed at the earliest opportunity following completion of necessary ground works at the receptor locations.

3.26. The process of soil removal will be managed by an appropriately qualified ecologist who will advise on any Site specific requirements in order to maximise the quality of the materials to be 'translocated' and ensure their optimal storage.

3.27. Whilst land forming or 'cut and fill' works will also be informed by engineering and landscaping requirements, it will be largely guided by the requirement to retain topographical diversity, and to deliver ecological enhancements. The provision of a topographically varied 'final level' will be achieved through the following measures, and will be overseen on Site by an ecologist:

- The creation of a diverse micro-topology with varying bank gradients;
- The provision of south facing, banks or plateaus; and
- The creation of depressions or hollows likely to remain seasonally inundated.

3.28. Once necessary preparatory works in the receptor locations have been completed, topsoils will be re-distributed. The Site preparation works and distribution of topsoils will be undertaken in a methodical manner, in order to avoid unnecessary handling of the donor soils, damage to the graded subsoils or, indeed, damage to the translocated materials. The re-distribution of soils shall ideally be undertaken during the summer/autumn months, during suitable weather conditions (e.g. avoiding heavy rainfall).

3.29. Finally, hay and seed crop collected from the wider site (as per the methodology detailed for retained grassland), will be strewn in receptor areas, following the re-distribution of the translocated soils. This should be undertaken as soon as possible after harvesting (ideally in early autumn) and, as such, it is recommended the entire translocation process be completed in as short a time frame as possible.

3.30. Once the translocation has been completed, in order to maximise the likelihood of successful establishment, no further machinery, which could cause damage, will be permitted to access the area.

3.31. As set out above, any soil/hay translocation will be overseen and managed by a suitably qualified ecologist, working in conjunction with all relevant contractors, site managers, and engineers, to ensure the process maximises the likelihood of successful establishment, whilst also ensuring it is viable from both a commercial and logistical perspective, and does not cause any unnecessary delays to the construction works at the Site.

3.32. Management of these swards in the first year will involve regular maintenance to ensure seeding development is successful, and that growth of competitive weed species is controlled. Where required, weeding will be undertaken by hand or, if necessary, through the sensitive use of Glyphosate based chemicals. Cuttings should be removed immediately from Site. For the first few years, it may be necessary to re-seed areas of wet meadow in order a sufficient, self-sustainable seed-bank can develop.

3.33. Following sowing, the swards will be kept short (for approximately 6 months) such that light can assist germination. For areas sown in the autumn, the sward shall be cut three times in the first year; once each in March, May and September. For any areas sown in the spring, the sward shall be cut once after six weeks (if there is sufficient growth), and then twice more in May and September.

3.34. Upon establishment (6 months to 1 year post-seeding), the long-term management regime will commence, as detailed below.

Post-construction Management (Meadow Grassland)

3.35. **Dry Grassland.** Cutting of grassland will be undertaken in suitable weather conditions in the late summer (typically late July or August) using a strimmer or brush cutter. Cutting will be undertaken on a rotational basis with a proportion (20%) of the grassland left un-cut each year to allow tussocky areas to establish. In particular, hedge margins and 'edge habitats' will be subject to a reduced cutting regime to ensure favourable resting habitat for faunal species.

3.36. Where cutting is to occur, this should seek to reduce the sward height to no less than 10cm initially, so as to avoid potential impacts on reptiles (which may colonise the Site in future years). Subsequent to the initial cut, it is proposed for approximately 60% of the grassland to be subject to a further cut, reducing the sward height to 6 to 7cm, with a further 20% cut to 3 to 4cm, thereby creating basking spots for reptiles, as well as opportunities for solitary insects. Basking spots will be prioritised within bunded grassland areas, in particular where south facing slopes are to be created.

3.37. Selective removal of invasive or overly aggressive grassland and ruderal species will be conducted, as required following annual inspections, to retain and enhance the ecological and structural diversity of the habitats present.

3.38. Arisings from the above management (excluding invasive/undesirable species) will be retained on Site for a period of 5 days to allow seed to set. Following this timeframe, a majority of arisings will be removed. A proportion of arisings should be utilised to ensure a source of shelter and food for a range of saprophagous invertebrates. The provision of discrete habitat piles at the margins of boundary hedgerows would be suitable in this regard.

3.39. Localised patches of bare ground will also be created within the grassland. Whilst of negligible floristic value, this habitat type provides important opportunities for invertebrates and basking reptiles. The rotational creation of bare ground habitat through long-term management will complement the exposed habitats created during the initial cut and fill exercise, ensuring exposed soils at a range of orientations and gradients.

3.40. In order to create and maintain these patchworks of bare and disturbed ground on Site, pockets of grassland and ruderal vegetation will be subject to rotational disturbance such that a series of successional microhabitats can develop. Any disturbance should be through the use of hand tools only and with due regard given to the potential presence of protected species such as reptiles (see Faunal Section below).

3.41. The provision of bare ground within meadow grassland areas will be through rotavating or harrow, with this seeking to retain approximately 5% of the habitat type as bare/disturbed ground. Disturbed habitat should be delivered in a number of distinct pockets ranging from $5m^2$ to $10m^2$.

3.42. It is recommended this artificial disturbance be undertaken on an annual basis in order to maintain the desired quantum as bare open ground.

3.43. Any disturbance of habitat should seek to provide lightly compacted bare ground, within which vegetation is removed (in order to slow natural re-colonisation), and will be undertaken with due regard to the potential presence of protected species. Where these areas of disturbed ground are allowed to re-establish, management will be undertaken as required to prevent growth of undesirable species.

3.44. In summary, key principles governing long-term management of meadow grassland areas will include:

- Commencement of an annual cutting regime in the late summer (August/September), with a proportion of the grassland (20%) left un-cut each year;
- Creation and retainment of a structurally diverse grassland of varying sward heights, which includes a patchwork of transitional habitats including bare or early successional vegetation (~5%);
- Removal of a majority of arisings (first allowing for seed to set).

Wet Grassland ('SuDS/Swale Areas')

3.45. Areas of SuDS will be managed as wet meadow habitat, ensuring they may provide an increase in the biodiversity value of the Site whilst retaining their function of providing drainage to the new development.

3.46. Areas of wet grassland are envisaged to be subject to a more irregular mowing regime, with cuts of this habitat undertaken on a three yearly rotation, and a third of this habitat cut per annum (ideally in mid to late summer when water levels are lowest).

3.47. This irregular regime will allow the establishment of tussocky grass and sedge habitat, affording improved cover for faunal species. Cutting should be targeted to ensure a range of wet grassland habitats, allowing the retention of the most floristically diverse communities.

3.48. Cutting should be to a height of no less than 150mm to avoid potential impacts on reptile assemblages which are present within the wider site (and which may colonise in future years).

Amenity Grassland

3.49. Amenity grassland habitats will be created within the Site. Works during creation will include for ground preparation as detailed for Meadow Grassland above, with Site-won topsoil utilised and subject to appropriate tilling prior to seed application.

3.50. The re-distribution of soils will ideally also be undertaken during the summer/autumn months, during suitable weather conditions (e.g. avoiding heavy rainfall).

3.51. Areas of amenity grassland will be seeded with EL1 a Flowering Lawn Mix from Emorsgate – or similar approved.

3.52. Whilst amenity grassland habitats will generally be subject to an intensive cutting regime, where possible areas may be left to grow longer, allowing herb and grass species to flower and provide benefits to biodiversity.

3.53. 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. Should additional management be required, this should be in the form of either manual or mechanical vegetation removal. Where this is not possible, Glyphosate based herbicides may be applied to habitats of concern, where necessary.

Hedgerows

Works During Construction

3.54. **Retained Hedgerow.** The existing hedgerow, forming the southern boundary of the Site, is to be retained and safeguarded as part of the Proposals. Protective fencing will be installed prior to the commencement of construction, in order to protect areas of retained hedgerows, particularly those immediately adjacent to proposed built form. Fencing will be undertaken in accordance with the current British Standard (BS 5837:2012) to protect roots from compaction. This will ensure direct impacts and severance/asphyxiation of roots are avoided.

3.55. Where appropriate, the hedgerow will be subject to works, including bolster planting to infill gaps, improve structure, and increase biodiversity. Hedgerow bolster planting will include for a range of native and wildlife beneficial species including, Hawthorn, Hazel *Corylus avellana*, Field Maple, Blackthorn and Dog Rose *Rosa canina*. The detailed species mix is provided at Appendix 1.

3.56. Regular health checks of the new planting will be undertaken, especially during periods of dry weather, to ensure hedgerows are not affected by drought.

3.57. Where required, protection will be implemented to ensure young vegetation is not damaged by species such as rabbits *Oryctolagus cuniculus*. Planting will be undertaken during the autumn or spring, during suitable weather conditions, with subsequent monitoring required to identify any potential gaps where plants have not survived. Should gaps or areas of dead hedgerow be identified, then replacement planting will be undertaken.

3.58. **New Hedgerow Planting.** New hedgerow planting is proposed within the Site. Native hedgerows will support a range of species of value to wildlife including Field Maple, Hawthorn, Hazel, Holly *Ilex*, Dogwood *Cornus*, Blackthorn and Dog Rose.

3.59. New hedgerows will be planted in double staggered rows in suitably prepared and tilled soil. Where required, protection will be implemented to ensure young vegetation is not damaged by species such as rabbits. Planting will be undertaken during the autumn or spring, during suitable weather conditions, with subsequent monitoring required to identify any potential gaps where plants have not survived. Should gaps or areas of dead hedgerow be identified, then replacement planting will be undertaken.

3.60. Once planted, new stock will be watered and covered with 75mm bark mulch to inhibit weed growth. Regular maintenance will ensure these areas are kept weed-free during the establishment period, and ensure all shrubs are healthy.

3.61. Management during establishment (first 12 months) will include for a care programme involving weeding, watering (as required), and the completion of regular health checks of planted stock during adverse weather periods.

3.62. Regular health checks of the hedgerows will be undertaken, especially during periods of dry weather, to ensure the hedgerows are not affected by drought.

Long-Term Management

3.63. In Years 1 to 3, management of any new planting/stock is likely to comprise primarily for formative cutting to encourage the establishment of bushy growth. These cuts shall typically be undertaken as late into the autumn/winter period as possible.

3.64. Subsequently, all hedgerows will be cut once every two years, on a rotational basis, such that no more than 50% of hedgerows are subject to

works in any one year. This will seek to enhance their structure, and value to nesting birds. Cuts shall typically be undertaken as late into the autumn/winter period as possible, in order to ensure these features provide as much of a food resource for birds as possible. However, if management is required between March and August this will be preceded by a survey, by an ecologist, to check for nesting birds.

3.65. Cutting of native hedgerows will serve to ensure an 'A' shaped structure, with a minimum height of 2.5m.

3.66. Where possible, verges of hedgerows are to be managed to promote wildflower edges. Management will include a relaxed cutting regime in which hedge margins up to 1.5m will be cut no more than once a season, ideally between late July and August, and to a height of approximately 150mm. Hand weeding of these verges will be conducted on a monthly basis during the establishment period in order to prevent the establishment of undesirable species.

Tree Planting

Works During Construction

3.67. New native tree planting is proposed throughout various locations in the Site including for avenues, car parks, and for screening purposes, and will include a number of native species such as Crab Apple and Cherry, as well as other native species such Holm Oak *Quercus ilex*, Hornbeam *Carpinus*, Small-leaved Lime *Tilia cordata*, Field Maple, and Alder *Alnus*. Whilst these trees will be ornamental in nature, they will nonetheless comprise native specimens and wildlife beneficial species (including fruit and seeding bearing varieties) which will offer foraging source for a range of invertebrates and birds.

3.68. Where tree planting is proposed within areas of grassland, these will be at a low density and as such will have little impact on the species diversity of the surrounding grassland, furthermore providing opportunities for a range of nesting bird species

3.69. The condition of the newly planted trees within the Site will be monitored to ensure a favourable condition is maintained. All management involving tree removal and remedial arboricultural works to trees will be carried out by experienced and qualified contractors.

3.70. All areas of new tree planting will be subject to a care programme during the establishment period, with maintenance, including cutting/pruning, undertaken where necessary to promote healthy vigorous growth ('Years 1 to 5'). Regular health checks of newly planted trees will be made during periods of dry weather to ensure trees are not affected by drought, and in order to conduct relevant pruning when and if required. BS8545: 2014 will be adhered to in respect of formative pruning, soil moisture monitoring and drought control, pest and disease control.

3.71. In the long-term, all trees within the public realm will be subject to appropriate arboriculture, where necessary, to help prolong their life and make them safe. The condition of the trees within the Site will be monitored to ensure favourable conditions are maintained. All

management involving tree removal and remedial arboricultural works will be carried out by experienced and appropriately qualified contractors.

3.72. Log and brash piles will be established using arisings taken from ongoing management of trees and scrub, and will be situated in close proximity to trees/hedges. All dead wood produced in the future will be retained as an ecological feature, offering new habitat for saproxylic invertebrates, as well as potential hibernacula for reptile species.

3.73. Any works to trees proposed during the period March to August inclusive will be preceded by a survey, by an ecologist, to check for nesting birds.

Native Shrub Planting

Works During Construction

3.74. New structural tree and shrub planting is proposed within the Site, primarily along the southern boundary adjacent to the retained hedgerow. Whilst much of this planting will play an important screening function post-development, significant opportunities exist to ensure biodiversity enhancements will be realised in these areas.

3.75. New tree and shrub planting will be provided in the construction phase and will comprise a wide range of native and wildlife beneficial species, including a number of seed and berry-bearing species (such as Hawthorn, Common Dogwood, Hazel, Hawthorn, Holly and Guelder Rose *Viburnum opulus*– see Appendix 1).

3.76. Scrub planting will be at a frequency of between 5 to 7 plants of the same species, per square meter. All plants will be planted as feathered trees, whips, and transplants, ranging from 40cm to 80cm in height, in order to encourage structural diversity.

3.77. Once planted, new stock will be watered and covered with 75mm bark mulch to inhibit weed growth. Regular maintenance will ensure these areas are kept weed-free during the establishment period and will ensure all shrubs are healthy.

3.78. All areas of new tree/shrub planting will be subject to a care programme during the establishment period, with maintenance, including cutting/pruning, undertaken where necessary to promote healthy vigorous growth.

3.79. Additionally, regular health checks of newly planted trees will be made during periods of dry weather to ensure trees are not affected by drought, and to conduct pruning of dead/damaged branches as required.

3.80. Where necessary, protective fencing or tree guards will be installed to avoid grazing by herbivores.

Long-Term Management

3.81. As for hedgerows above, works in Years 1 to 3 are likely to be primarily limited to formative pruning to ensure desired structural growth.

3.82. From 'Year 3', new planting will be subject to management, to remove overly dominant species and prevent encroachment by this habitat type into areas of adjacent species rich grassland. At this stage it is considered no more than 50% of the shrub habitat will be subject to works in any one year, thereby allowing for undisturbed habitat areas to remain each year (benefitting nesting birds).

3.83. Long-term management will target the establishment of effective visual screens, seeking dense vegetative growth with a minimum height of 3m.

3.84. Management will be via mechanical means and will be undertaken with due regard to the potential presence of protected species such as reptiles and nesting birds (with appropriate methodologies adopted as required).

3.85. Wherever possible, management will include for the creation of scalloped edges to enhance the extent of edge habitat available and increase structural diversity. Management of vegetation in these scalloped areas will again be undertaken on a rotational basis (2 year rotation). There will be a management bias for the more open habitats to be created in unshaded areas of the Site with a south-facing aspect. This will ensure these scalloped edges are of much greater value to the invertebrate communities' present within the Site and wider area.

Ornamental Shrub Planting

3.86. Ornamental shrub planting is proposed within the Site, and will comprise a mix of native and wildlife beneficial plant species, including a species list, provided at Appendix 1.

3.87. Once planted, shrubs will be watered and covered with 50mm bark mulch to inhibit weed growth. Regular maintenance will ensure these areas are kept weed-free during the establishment period (12 months) and will ensure all shrubs are healthy.

3.88. Regular health checks of these newly planted shrub species will also be made during periods of dry weather, to ensure they are not affected by drought, and to conduct pruning as required. It should be noted, pruning will be undertaken outside the main bird nesting season wherever possible (or otherwise preceded by a check for nesting birds) and for sound ecological reasons only.

3.89. Long-term management of ornamental planting will be undertaken as required in accordance with best horticultural practice and to ensure the ornamental and wildlife value of the habitat is retained. For example, management would delay pruning until after flowering or after berrying to retain food sources for insects and birds.

Ecology Car Parks

Works During Construction

3.90. The provision of 'ecology car parks' within the Site seeks to complement the known Open Mosaic Habitat (OMH) and invertebrate resources present across the wider Bicester Motion site, and to realise further opportunities for local invertebrate assemblages.

3.91. These ecology car parks will replace a subset of the conventional car parks, which comprise metalled hardstanding. The locations of 'ecology car parking' are shown on Appendix 1 (Reinforced Grass Mix).

3.92. The habitat surface will comprise 'reinforced grass', with a membrane (TERRAM or similar) and geo-grid tiles installed with a pre-seeded calcareous soil growing medium. The seed mix for these higher use areas will comprise low-lying, calcareous favouring species which are more resilient to disturbance. Indeed, many of the proposed species are recorded in the disturbed habitats currently present on Site. It is proposed for the species mix for these areas to comprise the following species (subject to availability):

- 15% Crested Dog's Tail *Cynosurus cristatus*;
- 10% Red Fescue *Festuca rubra*;
- 5% Smaller Cat's-tail *Phleum bertolonii*,
- 5% Blue Fleabane *Erigeron acris*;
- 15% Birds-foot Trefoil *Lotus corniculatus*;
- 5% Lesser Trefoil *Trifolium dubium*;
- 5% Narrow-leaved Bird's-foot Trefoil *Lotus tenuis*;
- 5% Hop Trefoil *Trifolium campestre*;
- 5% Black Medick *Medicago lupulina*;
- 5% Mouse-ear Hawkweed *Hieracium pilosella*;
- 3% Common Restharrow;
- 4% Basil Thyme *Clinopodium acinos*;
- 3% Thyme-leaved Sandwort *Arenaria serpyllifolia*;
- 5% Common Centaury *Centaurium erythraea*; and
- 10% Biting Stonecrop *Sedum acre*.

3.93. Base soils in these areas should comprise materials (topsoils) collected from areas supporting OMH or calcareous grassland in the wider site (i.e. where these are to be lost). This will not only provide an optimal growing medium but also an immediate seed source which will be of heightened importance should some of the above species not be commercially available.

3.94. In order to ensure pockets of less disturbed habitat (within which a more varied range of flora may develop), occasional raised soil bunds will be created between car parking bays, with these again identified in Appendix 1. The raised nature of the banks will minimise the likelihood of them being subject to vehicle disturbance. This will allow for the establishment of a slightly varied floral community, with species such as Oxeye Daisy and Knapweeds to be seeded here. The raised nature of these banks will also provide ideal opportunities for burrowing invertebrates. Elsewhere, raised planters or untreated deadwood (logs/trunks) may be placed between car parking spaces, the latter to provide opportunities for saproxylic species.

3.95. Annual monitoring will be undertaken to assess the condition of the car park, with additional management (targeted disturbance) undertaken should undesirable ecological succession be evident.

Future Monitoring

3.96. It is intended for the semi-natural habitats present within the Site to be subject to an annual review, conducted by an appropriately qualified ecologist, for the for the first five years post-development (i.e. following substantive completion of habitat works). This review will ensure management personal are correctly implementing the measures within this LEMP, and moreover that habitats are establishing as expected. Any remedial works or alterations to management will be identified and implemented following this review. Any required amendments will be discussed and agreed with the LPA.

3.97. This review will include consideration of continuing management activities, allowing areas of concern or of significant ecological change to be identified and addressed, in order to maximise the biodiversity value of the new and retained habitats within the Site.

Objective 2: Maintain population of protected species at a favourable conservation status.

3.98. Habitat creation within the Site, and the introduction of a management regime will provide for a net enhancement in the quality of habitats present on Site compared to the existing situation. This will be of benefit to key species/groups, such as bats, birds, and reptiles (should the latter colonise in future).

3.99. These areas will be sensitively managed in order to maximise their biodiversity value for faunal groups.

Bats

3.100. The provision of new, high quality landscape planting, including significant areas of calcareous grassland managed as meadow, alongside new native tree and shrub planting, will provide additional foraging and commuting opportunities for this faunal group. The retention and enhancement of the boundary hedgerow will moreover ensure disruption to existing feeding and commuting behaviour is avoided, and indeed will provide enhanced opportunities for bats on Site.

3.101. Whilst detailed Lighting Proposals are to be secured separately (Condition 18 of the planning permission), consideration has nonetheless been given to the Proposals at this stage, with guiding principles identified.

3.102. The siting of individual lighting columns (to comprise warm white LED lighting with no UV content) will be considered such that requirements for areas of built form can be met with minimal spill onto semi-natural habitats. Where necessary, screening vegetation will be provided to minimise light spill into wider semi-natural areas. 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^{o} or below wherever possible).

3.103. This will enable lighting within the development to accord with amenity and highways requirements whilst retaining dark areas for use by foraging and commuting bats.

3.104. In order to provide new roosting opportunities, currently not present within the Site, three bat roosting features will be installed within the fabric of the newly developed built form (see Appendix 2). These features will be fitted in a south-westerly and south-easterly direction, or where considered best to maximise appeal to bat species.

3.105. Bat boxes will be installed as close to the apex of the buildings as possible, with a minimum height of 12ft. Features will be installed away from artificial lighting (including glare from windows).

3.106. In addition, three Schwegler type 1FF bat boxes (or similar, subject to availability) will be attached to new or retained trees within the Site. Schwegler bat box type 1FF is designed to be attached to trees and requires no maintenance once installed. This bat box is designed to be used by Pipistrelle bat species (see Appendix 2). It is proposed this design should be installed and maintained on Site. These boxes will be checked for damage on an annual basis and, should repair or replacements be required, removal of the existing feature will be completed by a suitably licensed and experienced individual or group. Again, bat box locations are detailed at Appendix 2, and will be situated at minimum heights of 12ft, in a southerly orientation.

3.107. The provision of a high quantity of bat roosting features will further enhance the value of the Site for bats, and will provide benefits for Priority Species on the national Biodiversity Action Plan (BAP).

Badgers

3.108. On a precautionary basis, appropriate construction safeguards will be implemented to safeguard Badgers (and other mammal species) from accidental harm (noting their presence in the wider area). These measures will include:

- Any excavations left open overnight are to be fitted with a means of escape (e.g. scaffolding plank or graded edge), and be checked each morning by Site staff;
- Open pipes are to be blocked/covered at the end of each working day;
- Soil mounds are to be avoided where possible, and otherwise subject to daily inspections by Site staff.

3.109. The enhancements to grassland, the retention and enhancement of hedgerow habitat within the Site, and the new tree and shrub planting will provide an enhanced foraging resource for Badgers post-development, compared to the current baseline position.

Birds

3.110. Birds will benefit from new landscaping and planting, particularly berry bearing species, and also from the implementation of appropriate habitat

management, as this will provide additional nesting/roosting habitats in addition to an increased foraging resource.

3.111. Management of habitats (including open grassland) will be undertaken with due consideration for potential use by birds. Any necessary management of vegetation will be undertaken outside the main bird breeding season (March to August inclusive) wherever possible.

3.112. In order to allow immediate nesting opportunities for bird species, a total of three integrated nest boxes and three free hanging boxes will be provided. These include three Swift *Apus apus* bird boxes on the new hotel, and three Schwegler 1B bird boxes (or similar e.g. Woodstone Salamanca) which will be located on trees at the boundary of the Site (as shown at Appendix 2). Swift boxes will be installed in a cluster on the northern elevation of the Hotel, at the apex of the building (significantly in excess of 5m). The design of Swift box is identified at Appendix 2.

3.113. All free hanging boxes will be placed at a suitable orientation. Generally, for free hanging boxes, this will be at a minimum height of 3.5m from ground level, ideally 4.5m to 6m, with a north-east/north-west aspect. Free hanging boxes will be cleaned once a year and any damaged boxes will be repaired or replaced as necessary.

Reptiles

3.114. As detailed above, a separate Reptile Mitigation Strategy has been prepared in support of the Proposals, with this document identifying appropriate safeguards such that potential impacts on reptiles can be avoided during construction. This document is provided at Appendix 3 for ease of reference.

3.115. Post development, reptiles will benefit from the availability of new, optimal habitat in the form of calcareous meadow, shrub planting and hibernacula provision. These habitats will each provide new opportunities to promote the colonisation of reptiles from the wider site in future years, and will achieve an overall net gain in suitable reptile habitat within the Site.

3.116. The proposed management regime for these habitats will ensure they are maintained and enhanced as optimal reptile habitat in the long-term, post development.

Invertebrates

3.117. A range of pollinator and invertebrate friendly floral species are to be incorporated within the Planting Proposals, in order to increase the range of opportunities available to invertebrate species within the Site. This will include for flowering shrub species which will offer an important early season nectar source, as well as a diverse range of wildflowers within meadow grassland areas.

3.118. In particular, the provision of mounded, species rich grassland will function akin to ‘bee banks’, offering optimal nesting opportunities for solitary insects within the Site.

3.119. The provision of log piles and habitat piles as part of the Development Proposals will provide additional opportunities for saproxylic species within the Site (as shown Appendix 2).

3.120. Additional opportunities will be provided in the form of ecology car park areas, designed as floristically diverse, routinely disturbed habitats which will seek to replicate the opportunities provided by OMH in the local area (albeit on a small scale).

3.121. The establishment of these new habitats and the implementation of a sensitive long-term management for the Site will offer a significant enhancement for invertebrates' post-development.

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

3.122. The instigation of enhancements to areas of calcareous grassland, in addition to the implementation of a sensitive management regime (see above), will significantly enhance the value of retained habitats, allowing the restoration of a valuable relict resource.

3.123. Additional planting within the Proposed Development and associated public open space (POS) will utilise planting mixes based around the use of native species, or those of benefit to wildlife (berry/nut bearing varieties of shrubs and trees), improving the structural diversity of habitats within the Site.

3.124. The swale habitats associated with the SuDS will be managed as wet calcareous grassland, ensuring biodiversity of the habitat can be maximised whilst retaining its drainage function.

3.125. Bat boxes and bird boxes will be provided on suitable retained trees within open space, as well as integrated into built form, to provide new nesting/roosting opportunities for species of local conservation importance.

3.126. The provision of log-piles within the Site will provide new opportunities for faunal groups which do not currently exist within the Site, including reptiles and amphibians.

Objective 4: Maintain and enhance the newly planted trees and hedgerows within the site for the purposes of visual amenity.

3.127. All new trees are to be maintained in accordance with BS8545:2014, with hedgerows maintained in accordance with BS4428:1989 and with prescriptions detailed above at paragraph 3.63.

3.128. To maintain a tidy appearance, the Site will be regularly monitored for litter which, if found, will be removed from Site.

<u>Management Constraints</u>

3.129. Management, which compromises the survival or success of the species listed above, cannot be undertaken. This will ensure conformance with relevant legislation relating to protected species.

3.130. All birds are legally protected from disturbance whilst actively nesting (generally March to August inclusive). Management of hedgerows, scrub and trees should therefore be undertaken outside the bird breeding season wherever possible.

3.131. Should any mature trees (including trees maturing in future years), or those with obvious damage, or thick coverings of Ivy, need to be felled as part of future management. These should first be surveyed by an appropriately experienced ecologist, to check for the presence of bats. Should a bat roost be found, either during the initial survey or during felling work, work must stop immediately and cannot continue until appropriate advice has been sought. A licence from NE may be required.

4. MONITORING AND MANAGEMENT RESPONSIBILITIES

Personnel Responsible for Implementation of the Plan

4.1. Responsibility for implementation and continuation of this Management Plan will be placed with the appropriate management body who will ensure management undertaken at the Site complies with the prescriptions as set out in this document to ensure proper establishment. After this period it is expected habitat management will be undertaken on an 'as required' basis, whilst still confirming to the prescriptions (i.e. nesting bird constraints) as outlined within the document.

4.2. Long-term management will be undertaken by Bicester Motion's in house landscaping team (the appropriate management body) who will be responsible for maintaining the public realm landscaped areas. The landscaping team will ensure their operatives have received appropriate training/accreditation, hold the appropriate insurance to complete works, and provide the necessary documentation (Risk Assessments etc) ahead of commencing works on Site. Where appropriate, the management body may additionally employ the services of a specialist landscape sub-contractors.

4.3. Where required, Ecology Solutions or another suitably qualified ecologist, and ASA Landscape Architects (or other suitable landscape architect) will advise on any specific questions or queries which may arise in regard to any issues regarding ecology or nature conservation, or landscape maintenance respectively.

Monitoring and Remedial/Contingency Measures Triggered by Monitoring

4.4. On the basis there are no significant constraints related to protected species within the Site, and given the nature of the new landscape planting and management proposed, it is considered monitoring required for the development should be limited to the establishment period of the natural habitats proposed, with annual monitoring undertaken thereafter.

4.5. Annual monitoring checks will be undertaken to highlight any Site specific problems (such as disease or damage to flora, or the presence of invasive species) or to identify problems associated with past management regimes. Upon identification of such issues, suitable remedial works will be implemented.

4.6. For the first five years, these annual monitoring checks will be undertaken by an appropriately qualified ecologist. This will ensure habitat creation and management measures are being implemented as intended, and habitats are establishing as expected. Any remedial works or alterations to management will be identified and implemented following this review. Any required amendments will be discussed and agreed with the LPA.

4.7. Following monitoring checks during the first five years, and assuming appropriate habitat establishment, it is considered longer term checks need not be undertaken by a qualified ecologist/landscape architect, and could instead be undertaken by the management body undertaking the duties prescribed elsewhere in the LEMP.

4.8. Notwithstanding the above, it is noted there may be occasions when felling or remedial measures (e.g. from a health and safety perspective) will be required in respect of trees. Checks for nesting birds will also be necessary for any works undertaken within the main bird breeding season (March to August inclusive).

4.9. Additionally, should any works be required on the buildings which either directly impact the integrated/attached bat roosting or bird nesting features, or could indirectly impact them, then Ecology Solutions, or another suitably qualified appointed ecologist, should be contacted to provide specialist advice.

5. SCHEDULE OF WORKS (POST-CONSTRUCTION)

Objective	Receptor	Management Prescription	Commencement, Timing, Frequency and Duration of Works	Extent of Works/Objective
1. MAINTAIN AND ENHANCE RETAINED AND CREATED HABITATS	Dry Calcareous Grassland	Rotational cutting of grassland.	Commence Year 1 and annually thereafter. Annually between August and September: 20% grassland to remain uncut, 60% cut to 7cm, 20% cut to 3 to 4cm. Majority of arisings to be removed after 5 days. Margins of hedgerows to 1.5m cut to 15cm.	Create a structurally varied sward to ensure continued opportunities for a range of fauna.
		Small scale rotavating or harrowing. Overseeding if required in the first year after completion (defects period) to ensure a good sward over 95% of the area.	Commence Year 1 and annually thereafter.	5% of habitat to be retained as bare ground (location to vary between years).
		Selective removal of aggressive and non-native specimens.	Commence Year 1.	-
	Wet Grassland (SuDS)	Rotational cutting (Wet Grassland). Overseeding if required in the first year after completion (defects period) to ensure a good sward.	Commence Year 1 and annually thereafter. Three year rotation, with one third subject to cut per annum (15cm sward height). Majority of arisings to be removed after 5 days.	Create a structurally varied sward to ensure continued opportunities for a range of fauna.
		Selective removal of aggressive and non-native specimens.	Commence Year 1.	-

Objective	Receptor	Management Prescription	Commencement, Timing, Frequency and Duration of Works	Extent of Works/Objective
MAINTAIN AND ENHANCE RETAINED AND CREATED HABITATS (Continued)	Wet Grassland SuDS (Continued)		As required thereon.	
	Amenity Grassland	Overseeding if required in the first year after completion (defects period) to ensure a good sward. Weed and invasive plant removal.	Monthly during establishment period. Periodically as required thereafter.	Year 1 (during establishment) and as required thereafter.
		Long term mowing regime.	Several cuts per annum, with frequency dependent on growth rates.	-
	Hedgerows	Protect/bolstering of retained hedgerows (through installation of temporary protective fencing and infill planting).	Duration of construction phase, and during planting season.	Construction phase, Year 1 (during establishment).
		Monitoring of new hedgerow bolstering to ensure establishment. Replacement of failed plants in next growing season.	Monthly during establishment period. Remedial works as required.	Year 1 (during establishment).
		Cut native hedgerows once every two years on a rotational basis where possible. Cuts to be undertaken as late as possible in autumn or winter to provide feeding resource for birds.	Every 2 years on a rotational basis. Conduct outside of main bird breeding season (March to August) wherever possible.	Every two years. 50% cut per annum.
		Reduced mowing regime for margins.	Grass margins to 1.5m cut no more than once per annum and to 15cm.	-

Objective	Receptor	Management Prescription	Commencement, Timing, Frequency and Duration of Works	Extent of Works/Objective
MAINTAIN AND ENHANCE RETAINED AND CREATED HABITATS (Continued)	Tree Planting	Monitoring of new tree and scrub planting to ensure establishment – including orchard planting. Replacement of failed plants in next growing season after completion and for the following 4 years.	Years 1 to 5. Monthly during establishment period. Remedial works/replacement as required.	
		New and retained trees, subject to appropriate arboriculture, to prolong life and make safe.	Annually as required. Conduct outside the main bird breeding season (March to August) wherever possible.	-
	Native Shrub Planting	Monitoring of new tree and scrub planting to ensure establishment – including orchard planting. Replacement of failed plants in next growing season after completion and for the following 4 years.	Monthly during establishment period. Remedial works/replacement as required.	Years 1 to 5.
		Rotational shrub management.	Annually as required. Conduct outside the main bird breeding season (March to August) wherever possible.	2 year rotation. 50% cut annually.
	Ornamental Shrub Planting	Care regime during establishment. Replacement of failed plants in next growing season after completion and for the following 4 years.	As required.	Seasonal pruning and tidying.
	Ecology Car Park	Monitoring and remedial works (removal of undesirable species).	Annually from Year 1. Habitat management (in line with that proposed for OMH above) undertaken where required to check ecological succession.	Maintain a varied OMH with areas of established floristic diversity alongside bare ground.

Objective	Receptor	Management Prescription	Commencement, Timing, Frequency and Duration of Works	Extent of Works/Objective
2. MAINTAIN POPULATIONS OF PROTECTED SPECIES AT A FAVOURABLE CONSERVATION STATUS	Bats	Inspection of free hanging bat boxes.	Bat box installation in Year 0 (during construction). Remedial works as required.	-
		Sensitive habitat management.	See above in relation to specific habitats. Trees with bat potential to be subject to appropriate surveys (and licenced where required) ahead of works commencing.	-
	Birds	Nest boxes to be installed within built form and on trees. Free hanging boxes to be cleaned once a year (in the autumn) and repaired when necessary.	Annual condition checks and replacement as necessary (free hanging features only).	-
		Any management work to trees to be sympathetic to breeding birds.	See Habitats above. Avoid undertaking management work during main bird breeding season 1 March to 31 August.	-
	Reptiles	Sensitive habitat management.	See above in relation to specific habitats.	-
		New log piles will be created to will provide new shelter and hibernation opportunities for reptiles.	Prior to completion of development.	-
	Invertebrates	Provision and maintenance of optimal invertebrate habitats (as identified through specific surveys).	Annual management from Year 1 (see relevant Habitats Sections above).	-
		Creation of log piles from any arboricultural works will provide new shelter and foraging opportunities for a range of invertebrates.	Annually as necessary.	-

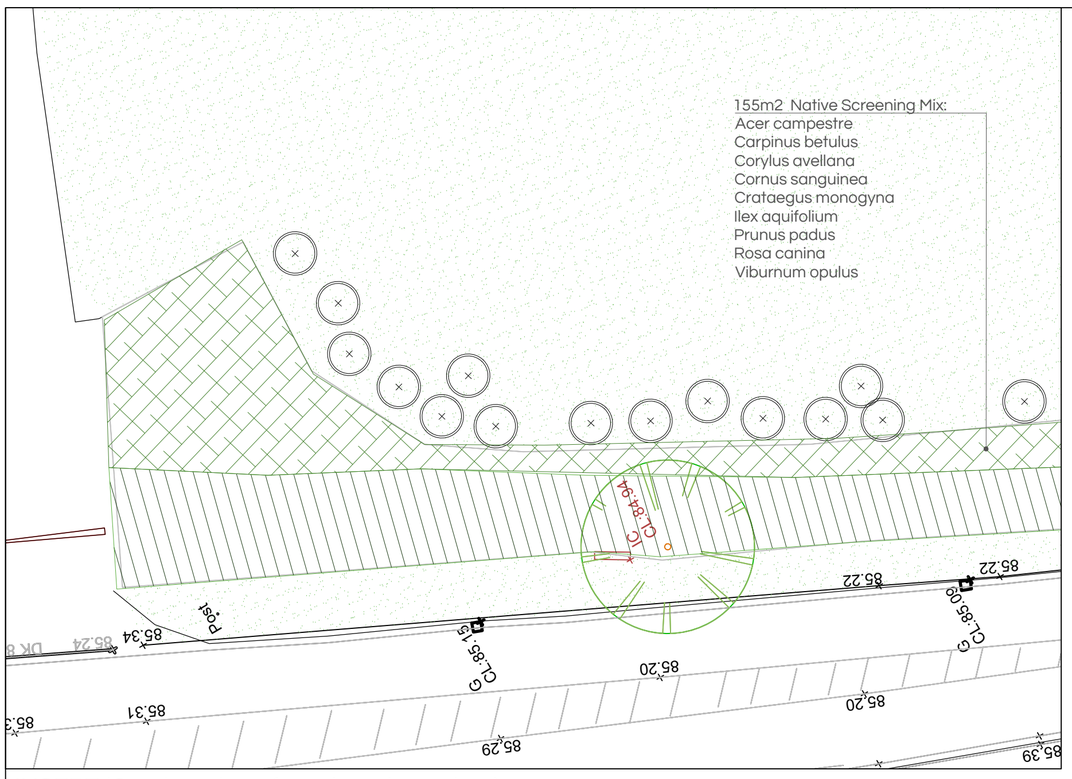
Objective	Receptor	Management Prescription	Commencement, Timing, Frequency and Duration of Works	Extent of Works/Objective
3. INCREASE BIODIVERSITY BY MAXIMISING OPPORTUNITIES FOR FLORA AND FAUNA	Enhancement of Calcareous Meadow Grassland	Restoration, enhancement and/or creation of new areas of dry and wet meadow grassland will create new opportunities for reptiles and invertebrates, and in turn provide foraging opportunities for bats and birds.	See Habitats above.	Maintain a botanically and structurally diverse sward.
	New Tree, Shrub and Hedgerow Planting	New tree and shrub planting throughout the Site, based around native species and species of benefit to wildlife, will increase the floristic diversity of the Site and provide new foraging opportunities for a range of wildlife. The provision of new fruit/berry bearing species will also provide new seasonal foraging opportunities for wildlife. Implementation of sensitive hedge management.	See Habitats above.	Maintain a botanically and structurally diverse range of habitats within the Site.
	Bats and Birds	Provision of new bird and bat boxes on trees will provide new roosting and nesting opportunities over the existing situation.	Prior to completion of development.	-
	Reptiles	Restoration of meadow and provision of log-piles will provide new opportunities for faunal groups previously unrecorded within the Site.	Prior to completion of development.	Maintain significant areas of meadow as suitable reptile habitat.
	Invertebrates	Provision and maintenance of optimal invertebrate habitats (as identified through specific surveys).	Annual management from Year 1 (see relevant Habitats Sections above).	-
4. MAINTAIN AND ENHANCE NEWLY PLANTED TREES AND HEDGEROWS ON SITE FOR THE PURPOSE	Newly Planted Trees and New Hedgerows	Weeding (hard pulling and sensitive use of glyphosate).	Annually for the first five years.	-
		Maintenance of bark mulch tree rings and hedgerow at 50 mm.	Annually for the first five years.	-
		Firming in after frost heave and strong winds.	As appropriate following climatic extremes.	-

Objective	Receptor	Management Prescription	Commencement, Timing, Frequency and Duration of Works	Extent of Works/Objective
OF VISUAL AMENITY	Newly Planted Trees and New Hedgerows (Continued)	Checking and re-securing of tree stakes/ties or replace defective elements, to allow for growth and prevent chafing.	Annually for the first five years.	-
		Re-securing/replacing canes and spiral rabbit guards.	Annually for the first five years.	-
		Watering to field capacity during drought.	As appropriate following climatic extremes.	-

APPENDICES

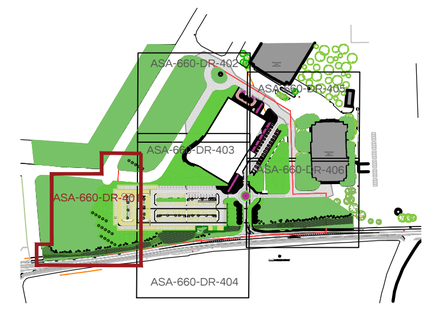
APPENDIX 1

Planting Proposals



INSERT (Continuation of southern boundary)

PLANTING SHEET LAYOUTS



KEY

Refer to drawings for ASA-660-DR-402-406

PLANT SCHEDULE **Bicester Heritage Hotel**

Ornamental Planting

PERENNIALS +GRASSES

no.	Species	Pot /bulb Size	Density
	Bergenia 'Bressingham White'	2L	7 / m^2
	Dryopteris felix-mas	2L	7/ m^2
	Echinacea Magnus superior	2L	7/ m^2
	Geranium rozzanne = 'Gerwat'	2L	9/ m^2
	Lavendula angustifolia 'munstead'	2L	7 / m^2
	Liriope muscari 'Big Blue'	2L	9/ m^2
	Miscanthus sinensi 'Adagio'	2L	6 / m^2
	Polystichum setiferum	2L	5/ m^2

BULBS

no.	Species	Pot /bulb Size	Density
	Allium 'Globemaster'	18/20 cm bulb	<50 cm apart
	Camassia leichtlinii subsp. Suksdorii 'Alba'	12/14cm bulb	20cm apart
	Galanthus nivalis	4/5cm bulb	10cm apart
	Narcissus poeticus var recurvus	10/11cm bulb	10cm apart
	Narcissus 'Obvallaris'	10/11cm bulb	10cm apart

SHRUBS

no.	Species	Pot Size	Density
	Cornus sanguinea 'Mid-winter Fire'	5L	6 / m^2
	Rosa 'Kent'	3L	7 / m^2
	Sarcococa humilis 'Winter Gem'	5L	6 / m^2
	Skimmia x confusa 'White Dwarf'	3L	7/ m^2
	Viburnum opulus 'compactum'	5L	6/m2

Structural Planting

AVENUE TREES

no.	Species	Size + form	Density
	Tillia cordata	18-20cm Standard	As shown
	Carpinus betulus	18-20cm cube-head (topiary)	As shown
	Prunus avium	18-20cm Standard	As shown
	Quercus Ilex	18-20cm Standard	As shown

CARPARK /SWALE TREES

no.	Species	Size + form	Density
	Acer campestre	14-16cm Standard	As shown
	Alnus glutinosa 'Imperialis'	14-16cm Standard	As shown
	Betula pubsecens	Multi-stemmed 3-	As shown
	Carpinus betulus	14-16cm Standard	As shown
	Acer campestre 'William Caldwell'	14-16cm Standard	As shown

NATIVE SCREENING TREES

no.	Species	Size + form	Density
	Acer campstre	10-12cm Standard	As shown
	Alnus glutinosa	10-12cm Standard	As shown
	Carpinus betulus	10-12cm Standard	As shown
	Malus sylvestris	10-12cm Standard	As shown
	Prunus padus	10-12cm Standard	As shown
	Ilex aquifolium	10-12cm bushy	As shown

NATIVE HEDGE PLANTING

no.	Species	Form	Size	Root form	Density	%
	Acer campestre	whip,	60-90cm	RB	6	6
	Crataegus monogyna	whip,	60-90cm	RB	6	40
	Corylus avellana	whip	60-90cm	RB	6	6
	Viburnum opulus	whip	60-90cm	RB	6	6
	Cornus sanguinea	whip	60-90cm	RB	6	5
	Carpinus betulus	whip	60-90cm	RB	6	6
	Ilex aquifolium	whip	60-90cm	RB	6	6
	Prunus spinosa	whip	60-90cm	RB	6	20
	Rosa canina	whip	60-90cm	RB	6	5

NATIVE SCREENING MIX - planted in groups of 5/7 same species

no.	Species	Form	Size	Root form	Density	%
	Acer campestre	feathered	60-90cm	RB	6	6
	Crataegus monogyna	feathered	40-60cm	RB	6	40
	Corylus avellana	feathered	40-60cm	RB	6	6
	Viburnum opulus	feathered	40-60cm	RB	6	6
	Cornus sanguinea	feathered	40-60cm	RB	6	5
	Carpinus betulus	feathered	60-90cm	RB	6	6
	Ilex aquifolium	feathered	40-60cm	RB	6	6
	Prunus spinosa	feathered	40-60cm	RB	6	20
	Rosa canina	feathered	40-60cm	RB	6	5

Grassland/Meadow Planting

CALCAREOUS GRASSLAND

m^2	Species Mix	Density
	Site-won Seeds. Supplementary mix where required: EM6 Meadow mix for Chalk and Limestone Soils by Emorsgate (or similar approved)	4g/m^2

BIODIVERSE AMENITY GRASSLAND

m^2	Species Mix	Density
	EL1 Flowering Lawn Mixture by Emorsgate (or similar approved)	4g/m^2

SWALE SEEDING (combined mix)

m^2	Species Mix	Density
	Site-won Seeds. Supplementary mix where required: EM6 Meadow mix for Chalk and Limestone Soils by Emorsgate (or similar approved)	4g/m^2
	EG8F Wildflowers for Wetlands by Emorsgate (or similar approved)	1.5g/m^2

REINFORCED GRASS MIX

m^2	Species	Density	%
	Cynosurus cristatus	4g/m2	15
	Festuca rubra		10
	Phleum bertolonii		5
	Erigeron acris		5
	Lotus corniculatus		15
	Trifolium dubium		5
	Lotus tenuis		5
	Trifolium campestre		5
	Medicago lupulina		5
	Hieracium pilosella		5
	Ononis repens		3
	Clinopodium acinos		4
	Arenaria serpyllifolia		3
	Centaurium erythraea		5
	Sedum acre		10

Revision description	No.	By	Date
Key updated following coordination	P02	VF	20/04/2022
First issue for planning	P01	VF	06/04/2022

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68i Innovation Drive, Milton Park, Abingdon, Oxfordshire, OX14 4RQ
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Status: For Planning

Project: Bicester Heritage Hotel

Description: Planting Plan Sheet 1 of 6

Scale(s)	1:200 @ A1	Date	29/03/2022
Drawn By	VF	Checked By	AS
Drg. No.	ASA-660-DR-401	Rev.	P02
		Draft	

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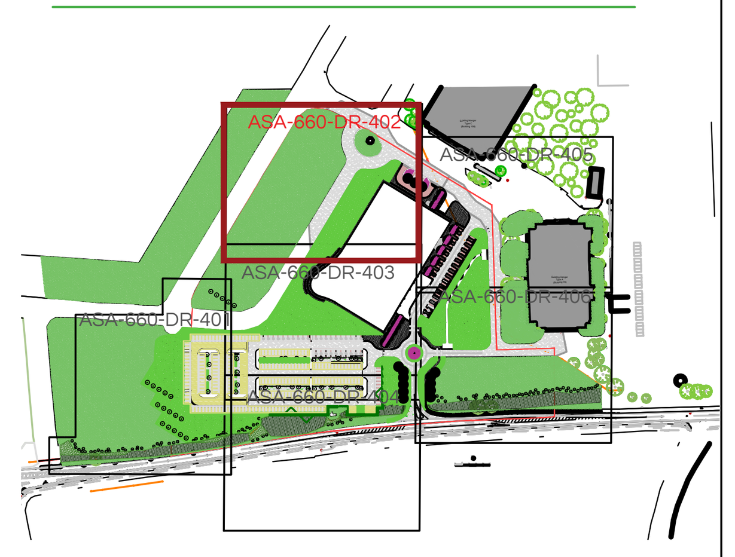
Levels and dimensions to be checked on site prior to commencement of work.
All discrepancies to be reported to the landscape architect immediately.

Levels an [illegible] hecked on [illegible] mmencement of work.
All discrepancies to be reported to the landscape ar[illegible]ect immediately.

PLANTING SHEET LAYOUTS



KEY

- EXISTING TREE *To be protected and retained*
- EXISTING SHRUB VEGETATION *To be protected and retained*
- EXISTING GRASSLAND *To be protected,retained and managed for biodiversity*
- AVENUE TREE 18-20cm girths
- CARPARK /SWALE TREES 14-16cm girths
- NATIVE SCREENING TREES 10-12cm
- SWALE with Swale Seeding
- HEDGE TYPE 2 Mixed native hedge *450mm topsoil depth* *150mm subsoil depth*
- CALCAREOUS GRASSLAND Seeded species rich grass *150mm topsoil depth* *150mm subsoil depth*
- BIODIVERSE AMENITY GRASS Turfed amenity grass *300mm topsoil depth* *150mm subsoil depth*
- SWALE SEEDING *300mm topsoil depth* *150mm subsoil depth*
- REINFORCED GRASS MIX *300mm topsoil depth* *150mm subsoil depth*
- NATIVE SCREENING MIX Native trees and shrubs *400mm topsoil depth* *150mm subsoil depth*
- ORNAMENTAL PLANTING Grasses, perennials and shrubs *400mm topsoil depth* *150mm subsoil depth*
- BULB MIX Within grass areas

NOTES

PLANT SCHEDULE: Refer to ASA-660-DR-401

Revision description	No.	By	Date
Key updated following coordination	P02	VF	20/04/2022
First issue for planning	P01	VF	06/04/2022

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Status	For Planning
Project	Bicester Heritage Hotel
Description	Planting Plan Sheet 2 OF 6
Scale(s)	1:200 @ A1
Date	29/03/2022
Drawn By	VF
Checked By	AS
Drg. No.	ASA-660-DR-402
Rev.	P02
	Draft

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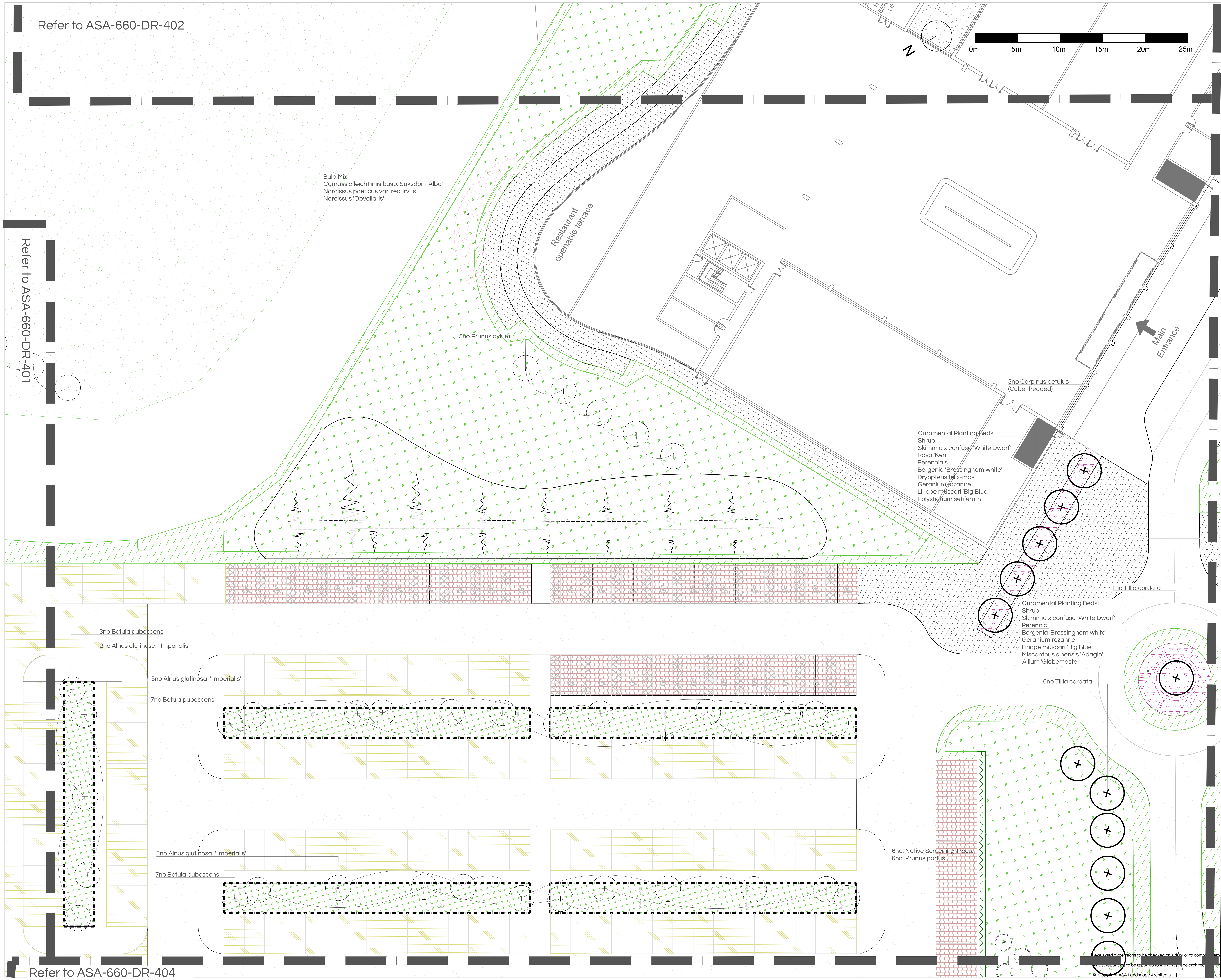
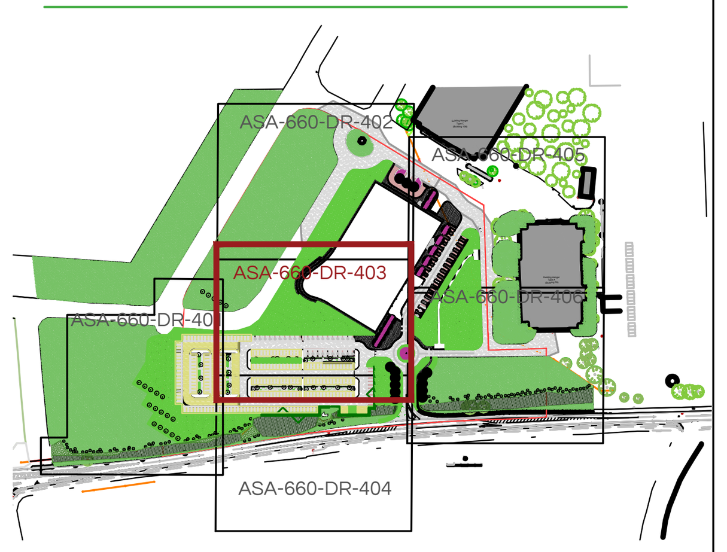


PLANTING SHEET LAYOUTS



KEY

EXISTING TREE
To be protected and retained

EXISTING SHRUB VEGETATION
To be protected and retained

EXISTING GRASSLAND
To be protected,retained and managed for biodiversity

AVENUE TREE
18-20cm girths

CARPARK /SWALE TREES
14-16cm girths

NATIVE SCREENING TREES
10-12cm

SWALE
with Swale Seeding

HEDGE TYPE 2
Mixed native hedge
450mm topsoil depth
150mm subsoil depth

CALCAREOUS GRASSLAND
Seeded species rich grass
150mm topsoil depth
150mm subsoil depth

BIODIVERSE AMENITY GRASS
Turfed amenity grass
300mm topsoil depth
150mm subsoil depth

SWALE SEEDING
300mm topsoil depth
150mm subsoil depth

REINFORCED GRASS MIX
300mm topsoil depth
150mm subsoil depth

NATIVE SCREENING MIX
Native trees and shrubs
400mm topsoil depth
150mm subsoil depth

ORNAMENTAL PLANTING
Grasses, perennials and shrubs
400mm topsoil depth
150mm subsoil depth

BULB MIX
Within grass areas

NOTES

PLANT SCHEDULE:Refer to ASA-660-DR-401

Revision description	No.	By	Date
Key updated following coordination	P02	VF	20/04/2022
First issue for planning	P01	VF	06/04/2022

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Status: For Planning

Project: Bicester Heritage Hotel

Description: Planting Plan Sheet 3 of 6

Scale(s)	1:200 @ A1	Date	29/03/2022
Drawn By	VF	Checked By	AS
Drg. No.	ASA-660-DR-403	Rev. P02	Draft

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