Land at Park Road, Malmesbury, Wiltshire

Landscape and Ecological Management Plan

Prepared by:
The Environmental Dimension Partnership Ltd

On Behalf of:
White Lion Land (Malmesbury) Limited

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Section 1
Introduction, Context and Purpose

1.1 The Environmental Dimension Partnership Ltd (EDP) was commissioned by White Lion Land (Malmesbury) Limited (hereafter referred to as 'the Client') to prepare a Landscape and Ecological Management Plan (LEMP) in relation to the consented development of Land at Park Road, Malmesbury, Wiltshire (hereafter referred to as 'the Site').

1.2 The document should be read in conjunction with the Planting Plans included at **Appendices EDP 1** and **2**.

1.3 The Site is located on the western edge of Malmesbury, south of Park Road and with existing residential units to the south. The red line area comprises part of a semi-improved grassland field bound by hedgerows. The remainder of the field falls within the same ownership, within the blue line boundary. Small areas of scrub, an ephemeral pond, and a linear strip of woodland are also included within the blue line. The Site (blue and red line land) is centred approximately at Ordnance Survey Grid Reference (OSGR) ST 9235 8802.

1.4 Outline planning consent for the development of the Site for up to 50 residential units was granted at appeal by Wiltshire Council in September 2022 (ref: AP-36450). Condition 7 requires the production of a LEMP as detailed below:

"*The first reserved matters application shall include, a Landscape and Ecological Management Plan (LEMP) shall be submitted to, and approved in writing by, the local planning authority. The content of the LEMP shall include, but not necessarily be limited to, the following:*

i. Description and evaluation of features to be managed;

ii. Landscape and ecological trends and constraints on site that might influence management;

iii. Aims and objectives of management, including long term objectives to ensure biodiversity net gain and management in perpetuity on land outlined in red and blue on boundary plan 17021(90) 200 Rev B;

iv. Appropriate management options for achieving aims and objectives as set out in points i.-iii. above;

v. Prescriptions for management actions for the site outlined in red and blue on plan 17021(90) 200 Rev B;

vi. Preparation of a work schedule (including an annual work plan capable of being rolled forward over a 5 year period);

vii. Details of the body or organisation responsible for implementation of the plan;

viii. Ongoing monitoring and remedial measures which shall include measurable targets;

ix. Details of how the aims and objectives of the LEMP will be communicated to future occupiers of the development;

x. 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, and;

xi. In the circumstances where the results from monitoring show that the conservation aims and objectives of the LEMP are not being met, details of how contingencies and/or remedial action will be identified, agreed and implemented.

The development shall thereafter be carried out in accordance with the approved LEMP. A report shall be submitted to the local planning authority annually for a period of 5 years from commencement of the work schedule detailing the works undertaken and performance against the targets set."

1.5 The aim of this LEMP is to provide a management framework for the conservation and enhancement of site ecology specific to all areas of soft landscaping associated with the detailed design of the development, in accordance with Condition 7. This LEMP provides details of long-term design objectives, management responsibilities, maintenance schedules and procedures for the replacement of failed planting for all landscape areas.

Section 2
Scope, Aims and Responsibilities

Scope

2.1 This LEMP will extend for a period of 10 years, requiring monitoring and review of all operations set out within this document at 5 yearly intervals. A full review of this document, a walkover of the on-site landscaping and review of the management measures going forward should be completed after 10 years and a revised strategy adopted where necessary to ensure that the habitats continue to develop in line with the target habitat conditions.

2.2 This LEMP addresses all soft landscaping areas within the Site and includes management recommendations for all retained habitats and those proposed for creation, including amenity grassland, species-rich wildflower grassland, wet grassland, trees, hedgerows, and shrubs, as shown on **Appendices EDP 1** and **2.** Species specific ecological enhancement features are also included such as bird and bat boxes (refer to **Plan EDP 1**).

2.3 The management scheme defined within this LEMP is structured to take into account the following phases of the development works:

1. Construction (including any enabling works); and

2. Operation (including short- and long-term management and maintenance).

2.4 The general scope of this LEMP includes the following:

- During the construction phase, this document seeks to ensure the appropriate management and successful delivery of all new features of ecological and landscape value or interest; and

- During the operational phase, the long-term management and maintenance of the scheme seeks to ensure that the landscape and ecological framework is sustained and enhanced, such that all benefits to biodiversity, arboricultural value and visual amenity are delivered successfully throughout the lifetime of the scheme.

Aims

2.5 The rationale for this LEMP is to facilitate the establishment and management of those ecological components specific to the proposed development. Specifically, this LEMP aims to:

- Ensure the successful creation and establishment of new habitats to provide a range of resources to a variety of wildlife; and

- Set out measures for the long-term management and maintenance of all areas of soft landscaping associated with the development to ensure that such features are protected and enhanced over the long-term such that all benefits to biodiversity and visual amenity are delivered successfully throughout the lifetime of the scheme.

Objectives

2.6 To achieve the above aims the habitat creation and long-term management have the following objectives:

- To enhance parts of the existing grassland and hedgerows to deliver biodiversity gains;
- To create new grassland, hedgerow, scrub and wetland habitats, managed for the benefit of biodiversity, contributing to a Biodiversity Net Gain (BNG) within the Site;
- To create new habitats of amenity value within the scheme;
- To retain habitat suitable for the reptile populations present within the Site and to create new features suitable for these species; and
- To provide new habitat features such as bat and bird boxes to further enhance the Site for biodiversity.

Management Responsibilities

2.7 The responsibility for carrying out the functions of this LEMP will vary throughout the duration of the management period as follows:

- Construction works phase – all management and maintenance works of all features of landscape and ecological importance are the responsibility of the Developer, and are to be continued through to practical completion; and
- Long-term management – the responsibility for the management and maintenance works of all features and species of ecological importance associated with the development post-adoption will be the responsibility of either the Developer or an appointed management company.

2.8 The management scheme detailed within this LEMP will cover the provision, management, inspection, maintenance, repair and replacement as necessary, taking into account factors including landscape, ecological, social, wildlife and amenity use for the land.

Communication to Residents

2.9 The aims and objectives of this LEMP should be communicated to future occupiers of the development though the installation of an interpretation board within the open space at the west of the Site. This will provide information on the current wildlife value of the Site (e.g. presence of reptiles) and how the landscape management is designed to benefit these species as well as providing a range of other biodiversity gains.

Review Period

2.10 The provisions and responsibilities for the plan will be reviewed on an annual basis during the first five years (known as the establishment period), by those responsible for landscape management and maintenance, with adjustments made as required. A review by an ecologist as well as those responsible for landscape management and maintenance should be completed every five years thereafter, or as required. Any substantial amendments will be approved in writing by Wiltshire Council.

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Section 3
Landscape and Ecological Resource

3.1 In preparing the management objectives and management and maintenance operations for the Site, the existing landscape and ecological resource has been considered, together with the new landscape elements implemented as a part of the proposal. The intention is for the integration of these new elements within the new development to provide a cohesive wildlife and amenity resource.

3.2 This LEMP incorporates pertinent baseline information and recommendations documented within the Update Ecological Appraisal prepared by EDP in August 2020 (Reference: edp1168_r007c) and the original Ecological Appraisal produced by EDP in 2011 (Reference: C_EDP1168_02a) as summarised below. An update ecology walkover of the Site was undertaken in May 2023 to confirm that the habitats remain as previously documented and that there are no new ecological considerations to the production of this LEMP. During the update ecology survey, habitat conditions were assessed according to the Defra Metric 4.0 data requirements for calculating BNG/loss, with reference to the Metric user guide.[1]

Landscape and Ecological Baseline

3.3 The Site is bordered by Park Road to the north and a large residential area to the south, currently known as White Lion Estate. The Site is enclosed to the north by a maintained hedgerow with large mature hedgerow trees. Adjacent to the southern corner of the Site is an unmaintained, poor quality tree group with a scrub understorey. There is no existing vegetation along the southern boundary where the Site abuts existing development. The eastern site boundary consists of numerous mature tree groups with a scrub understorey, of which the majority are defined as low quality.

3.4 The Site comprises habitats of low intrinsic ecological value, albeit supporting protected and notable species. In summary, the ecological survey work identified the following ecological features and suitability for protected species at the Site:

- **Habitats** – Boundary hedgerows and the woodland (within blue line land) are of local level ecological value; remaining habitats are of site level ecological value;
- **Birds** – Common and widespread bird species potentially breeding within woody vegetation on the Site;
- **Bats** – Roosting opportunities present within mature trees at the field boundaries and the boundary features are utilised by low levels of foraging and commuting bats; and

[1] Natural England Joint Publication JP039. *The Biodiversity Metric 4.0 User Guide. March 2023*

- **Reptiles** – A good population of slow-worm (*Anguis fragilis*) and a low population of grass snake (*Natrix helvetica*) has been recorded within the Site, associated with field boundaries.

Habitat Retention

3.5 The vast majority of the boundary hedgerows as well as the band of woodland will be retained within the proposals, as shown on the plan in **Appendix EDP 1**. The ephemeral pond is located within the southern boundary hedgerow and therefore will also be retained.

3.6 A portion of the grassland within the blue line land at the west of the Site will be retained as part of the open space and sensitively managed to enhance botanical diversity and opportunities for invertebrates and reptiles.

Habitat Creation

3.7 As a result of recommendations made by EDP, the development has been designed to include landscaped areas along the boundaries, as well as within the green space provided within the blue line land, as illustrated on **Appendices EDP 1** and **2**. This includes the following habitats (the following should be read in conjunction with **Appendices EDP 1** and **2**, and **Plan EDP 1**):

- Species-rich wildflower grassland;
- Amenity grassland;
- Wet grassland;
- Bulb planting;
- Native shrub and tree planting;
- Native hedgerow planting; and
- Ornamental planting.

3.8 In addition to the landscaped areas, the following ecological enhancements will also be included:

- Provision of bird boxes;
- Provision of bat boxes; and
- Provision of log piles for reptile refugia.

Landscape Typologies

3.9 The landscape elements provided within the proposed development include:

Grasslands:

- Amenity grassland will promote visual amenity throughout the Site;
- The landscape and ecological enhancements include areas of wildflower grassland and enhancements to the existing agricultural grassland. Overall, the maintenance regime will be reduced compared to that of the amenity grassland with infrequent cutting allowing the wildflowers to establish. The wildflower grassland will provide greater opportunities for biodiversity; and
- The new attenuation basin will be seeded with a native wildflower mix suitable for ephemerally wet areas and planted with marginal species. The maintenance regime will ensure biodiversity benefits are provided though infrequent cutting.

Trees and Hedgerows:

- New trees, comprising a selection of native species that reflect the key characteristics found within the local context; and
- New privet (*Ligustrum vulgare*) hedgerow planting will provide linear vegetation cover within the development footprint.

Shrub Areas:

- Shrub planting species at the Site boundary and at the boundary between residential properties and the open space will be selected for their native providence, aesthetic value and suitability.

Biodiversity Net Gain

3.10 A BNG assessment has been undertaken to objectively measure the net biodiversity impacts of the consented development and proposed landscaping. The assessment has been undertaken using the Department for the Environment Farming and Rural Affairs (Defra) Biodiversity Metric 4.0 (the latest version of 'the Metric', released in March 2023). This provides an update to the metric results submitted with the outline planning application. A copy of the metric accompanies this document and key points are summarised below.

Retained and Enhanced Habitats

3.11 Retained and enhanced habitats have been entered into the metric as follows:

- 1.1 hectares (ha) of poor condition other neutral grassland will be retained and enhanced through implementation of a traditional meadow management as described below. This will aim to create other neutral grassland in moderate condition. Management will ensure that species diversity is more than nine species per m^2, including herb species typical of this grassland type, with less than 20% bracken and 5% scrub cover; and

- 140m of native hedgerow will be retained within the red line boundary. Within the blue line boundary, 364m of native hedgerow will be retained, and 80m will be enhanced from moderate to good condition through sensitive management and the removal of current agricultural nutrient inputs.

Habitat Creation

3.12 Newly created habitats have been entered into the Metric as follows:

- Developed land; sealed surface, to comprise the proposed extent of the residential dwellings, parking, roads and footpaths;

- Vegetated gardens to include all back gardens;

- Introduced shrub to include front garden planting;

- Modified grassland of moderate condition where managed amenity grassland is present within areas of green space adjacent to semi-natural habitat. Modified grassland in poor condition for small, isolated areas of amenity grassland;

- Creation of 'other neutral grassland' in moderate condition through seeding of a wildflower rich grassland mix within areas of green space at the boundaries of the Site;

- Planting of mixed scrub in moderate condition, including a range of native species within areas of other neutral grassland;

- Sustainable drainage features (SuDS) designed to maximize biodiversity benefits and achieve moderate – good condition through seeding with a wildflower diverse seed mix suitable for ephemerally wet areas and plug planting with wetland species;

- Native tree planting within development parcel and retained grassland; and

- New native hedgerows in good condition (103m), within semi-natural habitat and moderate condition (89m) and where adjacent to hard standing.

Net Biodiversity Impact

3.13 Taking into account the proposed habitat retention, enhancement and creation (on-site and within the wider blue line land), the overall net change in habitat units is 14.42% (+0.68 units). The overall net change in hedgerow units is 23.37% (+0.37 units). Through the implementation of the habitat creation and management measures detailed within this document a biodiversity net gain will therefore be achieved.

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Section 4
Habitat Creation and Landscape Planting (Construction Phase)

4.1 This section sets out the appropriate habitat creation and landscape planting to be completed within the construction phase (up to the first available planting season following completion of construction), to ensure that appropriate measures to provide biodiversity enhancement and visual amenity are implemented from the early stages of the scheme.

4.2 A range of new habitats and landscape features are to be established during the construction phase of the development, or in the first planting season following completion, as shown on the detailed planting plans within **Appendices EDP 1** and **2.**

General Measures

4.3 The installation, maintenance and material standards for the landscape works will be undertaken in line with the following:

- All materials and workmanship are to be to the highest possible standards in accordance with relevant good practice and British Standards;
- All work to be carried out by appropriately skilled, qualified and experienced operatives for the type and quality of the work, and in accordance with good horticultural practice and contemporary Legislation, Regulations and Codes of Practice;
- Carry out work while soil and weather conditions are suitable, avoiding moving, handling and tracking over very wet soils. Soil for planting to be moist, friable and not waterlogged. Planting, turfing, seeding, etc. will not be undertaken during periods of frost, strong winds, when topsoil is frozen, snow-covered or waterlogged, or in drought conditions;
- Only tools suited to site conditions and work carried out are to be used. Hand tools to be used around existing and newly planted trees and shrubs. Boards to be used where required while working, to protect grass/plant beds;
- Materials are not to be stock-piled adjacent to newly planted trees or shrubs;
- All waste materials, including plant wrappings and temporary labels, to be removed off-site at the Contractor's own expense. No waste materials will be buried or burnt on-site;
- All hard and soft landscape materials to conform to the relevant British Standards and Codes of Practice. All plants to be true to name, type and character, and to comply with the National Plant Specification;

- Plants to be vigorous, weed, pest and disease free, and not suffering from drought, waterlogging, windburn, damage or nutrient deficiency. Fresh grass seed and turf produced for the current growing season are to be used. Any substitutes to be approved by the landscape architect;

- Transport and handling of plants will comply with 'Handling and Establishing Landscape Plants' (Horticultural Trades Association), including protection from desiccation or any other damage prior to planting out;

- All planting and seeding is to be undertaken in accordance with the construction for that specific development area, and will conform to *BS 3936-1 Nursery Stock: Specification for Trees and Shrubs*;

- Cultivation adjacent to established vegetation will take care to ensure no damage to existing root systems, with disturbance kept to the minimum necessary to expose fresh soil;

- Planting will be undertaken using topsoil recovered from the Site, incorporating soil conditioner as required;

- Prior to undertaking planting or seeding, all rubbish, debris and surface stones exceeding 75mm in any direction are to be removed from Site. Any substance or materials injurious to plant growth including any rubble, fuel or lubricants will be removed prior to commencement of planting;

- Planting of landscaped areas with tree and shrub planting will be undertaken during the optimal window between November and March or in accordance with the advice of the project landscape architect. Planting outside of this time will require the use of containerised stock and may involve additional irrigation arrangements;

- In planted beds, compaction of soil to be relieved to a minimum depth of 450mm, or the full depth of compaction, whichever is the greater, taking special care in any areas of underground services. Soil to be uplifted and fractured through the profile to the full treatment depth. Soil to be cultivated to loosen, aerate and break it up into particles of 2–8mm in the top 150mm of planting beds within a few days before planting. Remove any weeds, roots, rubbish and tufts of grass, as well as any stones and clods larger than 50mm in any one dimension. Areas to be planted are to be graded to smooth contours and slopes avoiding depressions. Soil levels to planted beds to finish 50mm below adjacent kerbs/edgings/grassed lawns, to allow incorporation of bark mulch as set out in this document;

- Newly planted tree and shrub plants to be protected by individual spiral/netting guards, as specified. The condition of all tree stakes, ties and guards will be checked by the Developer, and all broken items will be replaced, and items regularly adjusted to accommodate plant growth and prevent rubbing. Any bark damage will be cut back neatly with a sharp knife. All plants will be straightened and the ground at the base to be firmed up. All shelters will be hand weeded;

- Watering will be undertaken as necessary by the appointed Landscape Contractor or Developer to ensure the establishment and thriving of all planted areas. Watering will be to the full depth of the topsoil. If supply is restricted by emergency legislation, watering will not be carried out unless instructed to do so;

- All areas where plants or trees have failed to thrive (through death, damage or disease) will be identified by the Developer and plants will be removed and replaced with equivalent species to match the size of adjacent nearby plants in the next appropriate planting season, as frequently as necessary. The advice of the project landscape architect will be sought wherever possible;

- All plants will be pruned to promote healthy growth and natural shape, and any dead, dying or diseased wood and suckers will be removed. Overhanging branches will be pruned to ensure that growth is prevented from encroaching onto paths, signs, sightlines and road lighting. Pruning will be undertaken annually or as appropriate to each species between September and February, to avoid the main bird breeding season, and undertaken according to best practice. All arisings will be removed for composting;

- Spot weed control of all broad-leaved and injurious weed species listed in the *Weeds Act* 1959 will be undertaken using a suitable non-residual herbicide as and when required annually. The specification and use of herbicides or pesticides, including their use in proximity to water bodies, to comply with all contemporary Regulations, British Standards and Codes of Practice; and

- Soil debris and arisings will be swept from adjacent hard surfaces after each maintenance operation. All extraneous rubbish not arising from the contract works will be collected and recycled (where feasible) or else removed from Site at each maintenance visit.

Grassland

4.4 The grassland will be sown with the following mixtures:

- Rolawn Medallion Turf or a similar product to be agreed with EDP, for areas of amenity grassland;

- Emorsgate EL1 Flowering Lawn Mixture or a similar product to be approved, for areas of formal grassland within landscaped areas;

- Emorsgate EM2 Standard General Purpose Meadow mixture or a similar product to be approved, for areas of wildflower grassland; and

- Emorsgate EM8 Meadow Mixture for Wetlands or a similar product to be approved, within the attenuation basin.

4.5 Preparation of ground will include the removal of weeds and other vegetation, to reduce fertility whilst ensuring its future establishment. Weeds will be controlled by cultivation or herbicide before sowing if necessary. Where required, topsoil will also be reduced by around 150mm, so as to reduce the long-term fertility of the soil and facilitate competition within the established grassland sward aimed at achieving and sustaining medium to long-term species diversity. Prior to sowing, all large debris, litter, stones and earth clods will be removed. The following will apply:

- Sowing will take place in the late summer/autumn (late August–October) or spring (April–May);
- Seeds must be surface sown at a rate of 4 g/m^2 for the Emorsgate mixtures using a seed broadcaster or by hand; and
- Seed must not be covered but will be 'firmed in' to give good soil-seed contact using either a roller or by treading.

4.6 Cultivation adjacent to established vegetation will take care to ensure no damage to existing root systems, with disturbance kept to the minimum necessary to expose fresh soil. Thereafter, grassland seed mix will be sown in accordance with the supplier's specifications.

Trees/Shrubs

A range of new trees and shrubs including a diverse mix of native species, and/or those of value as a foraging resource for wildlife, have been selected as species to be used for the tree and shrub planting within the Site along with introduced species commonly used in parks, gardens and built areas.

4.7 Trees will be planted within the autumn/winter months when the ground is frost-free and at suitable time to avoid competitive exclusion by rapid growing species. All products to support growth of trees will be supplied and fitted in accordance with the manufacturers guidelines and whips protected using transparent spiral tree guards and shrub shelters.

4.8 Trenches and pits dug for new tree and shrub planting across the Site and within gaps of retained trees will be dug by hand only, following current best practice. Maintenance of the vegetation will only occur within the months of September through to February to avoid the bird nesting season.

4.9 All tree/shrub whips to be planted in accordance with good practice guidance. Protection methods must not impede natural movement of trees or restrict growth.

4.10 All plants are to be planted in accordance with *BS 3936:1992 Nursery Stock*. A mycorrhizal inoculant to replace naturally occurring fungi in soil is to be applied to roots of bare plants before planting and backfilling to stimulate plant growth and accelerate root development. Prior to planting, ensure ground is well-broken and free draining using an auger. Soil ameliorants/conditioners to BSI PAS 100 – Compost Specification. Use a slow-release

fertilizer (e.g. Scotts UK Professional 'Enmag', or similar) at a rate of 70g/m^2 for shrub planting and up to 140g/m^2 for tree planting.

4.11 Well-composted bark mulch is to be applied to trees in grassed areas to 800mm radius around the base of trees, 100mm depth; 75mm depth to ornamental shrubs/hedges and whip planted areas, finished level of 50mm below adjacent grassed or paved areas.

Hedgerows

4.12 A new native hedgerow is to be planted along the western red line boundary as shown in **Appendix EDP 1**. Planting instructions for new hedgerow trees and shrubs will follow those provided above in relation to proposed tree and shrub planting.

4.13 In addition, new tree whips within hedgerows are to be planted in two rows at 0.3m to 0.5m centres allowing for at least 0.5m between rows.

Faunal Specific Features

4.14 A range of new bat and bird boxes will be installed on buildings and retained trees within the Site, as well as features to benefit reptiles and hedgehogs (*Erinaceus europaeus*) (see **Plan EDP 1**), including:

Bat Boxes:

- Two no. Schwegler 2F and two no. Schwegler 1FF Bat Boxes (or similar approved design) on retained trees within the woodland; and
- Five no. Schwegler 1FR Bat Boxes (or similar approved design) on new houses.

Bird Boxes:

- Three no. Schwegler 3S Starling (*Sturnus vulgaris*) Nest Box (or similar approved design) on retained trees within the woodland;
- Three Schwegler 1N Deep Nest Boxes (or similar approved design) on retained trees within the woodland; and
- Four Schwegler 1SP Sparrow (*Passer domesticus*) Terraces (or similar approved design) integrated into new houses.

Log Piles:

- Three log piles will be created within the retained grassland towards the west of the blue line land to provide additional refuge features for reptiles.

Hedgehog Holes

- Small gaps in garden fences will allow hedgehogs to access foraging opportunities provided by gardens.

4.15 Where the specified bird or bat box is not available an ecologist will be contacted to recommend a suitable alternative, which serves a similar purpose to those specified above.

4.16 Boxes will be securely mounted with reference to the manufacturer's specifications. Bat boxes will be installed 4m above the ground, out of prevailing wind and facing south, south-east or south-west. Bird boxes will be installed 5m above ground either on a side of the building that gets some shade during the day under an overhang or eave, or on retained trees facing north or north-east.

Section 5
Establishment and Management Regime – Years 1–5 (Operation Phase)

5.1 This section details the management which will be undertaken for the retained and newly created ecological habitat features including the grassland, trees, shrubs and hedgerows.

5.2 The establishment and management regime for all created and enhanced habitats will require subsequent monitoring and review of all operations at five yearly intervals.

General Measures - Establishment and Maintenance

5.3 Watering will be undertaken as necessary by the Developer to ensure the establishment and continued thriving of all planted areas. Watering will be to the full depth of the topsoil. If supply is restricted by emergency legislation, watering will not be carried out unless instructed to do so.

5.4 All areas where plants or trees have failed to thrive (through death, damage or disease) will be identified and plants will be removed and replaced with equivalent species to match the size of adjacent nearby plants in the next appropriate planting season, as frequently as necessary. The advice of the project landscape architect will be sought wherever possible. Any variation of this will only occur upon consent by the Local Planning Authority (LPA).

5.5 Spot weed control of all broad-leaved and injurious weed species listed in the *Weeds Act* 1959 will be undertaken using a suitable non-residual herbicide as and when required annually. The specification and use of herbicides or pesticides, including their use in proximity to water bodies, to comply with all contemporary Regulations, British Standards and Codes of Practice.

5.6 Bark mulch on all planted areas is to be topped-up to the levels set out in this document, at least once in spring, with a second application in autumn as required.

5.7 Any damage to hard or soft landscape areas arising from the Contractor's work is to be repaired at the Contractor's own expense.

5.8 Soil debris and arisings will be swept from adjacent hard surfaces after each maintenance operation. All extraneous rubbish not arising from the contract works will be collected and recycled (where feasible) or else removed from Site at each maintenance visit.

Retained Grassland

5.9 The retained grassland within the west of the Site will be managed to enhance species diversity through the implementation of a traditional meadow management regime. The majority of the retained grassland will be subject to a summer hay cut undertaken in late July to mid-August, followed by a second cut at the end of the growing season (October/November) to no less than circa 100mm heights. Cutting will avoid the months

of May to early July, to enable the majority of species to have flowered and set seed. Vegetation cuttings (arisings) will be left for approximately three days for seeds to drop and then removed to reduce nutrient input to the grassland. Cutting will be to 100mm height due to the presence of reptiles within the Site.

5.10 To create a longer sward and more tussocky grassland, favoured by reptiles, margins of grassland adjacent to hedgerows and scrub will be managed on a less frequent basis. A margin of grassland approximately 1–2m wide will be cut every two to three years between October and February. Cutting will take place on a rotational basis so that no more than half of the area of longer sward grassland is cut in any one year, leaving undisturbed refuge areas for wildlife.

Amenity Grassland

5.11 Amenity grassland will be cut as and when necessary, between March and the end of October, to required heights of circa 30–50mm. Cutting will be suspended in periods of drought. The flowering lawn mix contains wildflowers that respond well to regular short mowing.

5.12 All litter and debris are to be removed before each cut. At the time of each cut, all grass edges round the base of trees, manholes, etc. will be trimmed, taking precautions not to damage the tree trunks. All arisings will be removed and all adjoining hard areas will be swept clear of cuttings and swept material removed.

5.13 The sward will be kept substantially free of broadleaved weeds where required, by applying a suitable approved selective herbicide. Fallen leaves will be removed in autumn.

5.14 Grassland will be watered as necessary to ensure a healthy sward until it has become established. Any areas of extreme wear, bare patches or wheel ruts will be reinstated by means of re-cultivation and re-seeding.

Species-rich Wildflower Grassland

5.15 Areas of species-rich grassland seeding will be subject to the following management regime to promote a structurally and botanically diverse grassland sward.

Year 1

5.16 During the first year of establishment, perennial weeds within areas of species-rich grassland will be removed through repeated cutting, hand-pulling or spot-spraying. This will be undertaken to promote establishment as follows:

- Mowing will not be carried out in adverse weather conditions if ground conditions prevent the use of machinery without damaging the ground surface;

- Mowing will be carried out regularly throughout the first year of establishment to encourage basal growth and reduce weed competition. Sward heights will not be reduced to less than 100mm height due to the likely presence of reptiles;

- Mowing may be undertaken using an appropriate mechanical mower providing it can be set to a fixed height of 100mm or using a brush cutter/strimmer where access for larger machinery is not possible; and

- Cut material will be removed and disposed of away from the grassland areas, e.g. baled as hay or sent for composting.

5.17 Weed and scrub control by manual or chemical means will be undertaken as required, so as to prevent pernicious perennial weed species from becoming established. During the early developmental stages of the grassland sward, some 'undesirable' broadleaved species are to be expected and will become less dominant as the communities become established and stabilized. Control methods will comprise hand-pulling or spot treatment with a suitable approved selective herbicide, as appropriate; timing will be dependent on the affected species. Control of any invasive species will be carried out in accordance with the advice of a specialist contractor.

Subsequent Years

5.18 In second and subsequent years following initial establishment, areas of species-rich grassland will be subject to a first summer hay cut undertaken in late July to mid-August, followed by a second cut at the end of the growing season (October/November) to no less than circa 100mm height. Cutting will avoid the months of May to early July, to enable the majority of species to have flowered and set seed. Arisings will be left to drop seed for 2–3 days and then be removed.

Wet Grassland

5.19 The wet grassland within the attenuation basin will be managed as per the wildflower grassland detailed above. In the first year, regular cutting will take place to control perennial weeds. Subsequently a late summer cut will take place, followed by a second cut at the end of the growing season. The arisings will be left to drop seed for 2–3 days and then removed.

All Grassland

5.20 More generally, an assessment of all informal areas of grassland, meadow and bulb planting on-site will be undertaken at years 1, 3 and 5 from the first spring following planting by the landscape architect to ensure the adequate establishment of all plants, identify the presence of any undesirable species and disease and to determine whether remedial action is required, including replacement seeding/bulb planting for any lost/damaged specimens and additional management prescriptions necessary to ensure successful development. Additional monitoring will also be necessary during prolonged dry

periods when new planting has a greater chance of failure. Thereafter, management measures will require subsequent assessment at five yearly intervals.

5.21 Any scrub encroachment will be closely controlled. All arisings will be removed from the grassland area and either composted on-site or removed. It is important to remove all cuttings to progressively reduce the soil fertility and thereby prevent weed dominance.

Tree and Shrub Planting

All newly planted tree and shrub planting will be managed to ensure the stock establishes and thrives in accordance with the Landscape Detailed Design.

5.22 Inspections of new tree, hedgerow and shrub planting will be carried out annually for a period of five years from the first spring following planting to ensure the adequate establishment of all plants, identify the presence of any undesirable species and disease, and to determine whether remedial action is required.

5.23 The condition of all stakes, ties and guards will be checked by the Developer/Management Company during each monthly visit and all broken items will be replaced and items regularly adjusted to accommodate plant growth and prevent rubbing. Any bark damage will be cut back neatly with a sharp knife. All plants are to be maintained upright and the ground at the base to be firmed up. All shelters will be hand weeded.

5.24 All planting will be maintained in such a way as to exclude aggressively competitive plants from around the base of each plant for a period of three years from the end of the season in which the stock was planted. Any herbicides will avoid areas of newly established grassland.

5.25 Weeding will be undertaken during the main growth period (April to June, inclusive) for three years, achieving and maintaining a weed-free area around each tree of a minimum of 1m radius. Weed control will be by strimming (using appropriate guards to avoid damage to the plant) and/or targeted herbicide application. Care will be taken to avoid damage to the trees themselves.

5.26 Watering will be undertaken as necessary by the Developer to ensure the establishment and thriving of all planted areas. Watering will be to the full depth of the topsoil. If supply is restricted by emergency legislation watering will not be carried out unless instructed to do so.

5.27 A weed-free area around each shrub, of a minimum of 1m in diameter, will be maintained through the application of a non-residual herbicide twice annually during the growth season. Weed control will ensure that weed cover is less than 5% and that no weeds exceed 1m in height.

5.28 All areas where newly planted plants have failed to thrive (through death, damage or disease) will be identified and plants will be removed and replaced with equivalent species to match the size of adjacent nearby plants in the next appropriate planting season, as

frequently as necessary. The advice of a Chartered landscape architect or suitably qualified arboriculturist will be sought wherever necessary.

5.29 All plants will be pruned to promote healthy growth and natural shape, and any dead, dying or diseased wood and suckers will be removed. Overhanging branches will be pruned to ensure that growth is prevented from encroaching onto paths, signs, sightlines and road lighting. All pruning will be undertaken in accordance with BS 7370-4. With respect to hedgerows, no trimming will be undertaken until the desired height has been reached. Pruning will be undertaken annually or as appropriate to each species, between September and February inclusive to avoid the main bird breeding season.

5.30 The requirement for selective thinning of all newly planted trees/shrubs will be assessed every three years and undertaken as necessary, to ensure that overcrowding is reduced with increasing species maturity; that slower growing climax species are not outcompeted; and that diseased and dying plants are removed. Thinning is to be undertaken between September and February inclusive to avoid the main bird breeding season.

5.31 An assessment of the condition of all retained and newly planted tree, shrub and scrub plants will be made by a qualified and experienced arboriculturist annually for a period of five years from the first spring following planting to ensure the adequate establishment of all plants, identify the presence of any undesirable species and disease, and to determine whether remedial action is required, including replacement planting for any lost/damaged specimens and additional management prescriptions necessary to ensure its successful development. Additional monitoring will also be necessary during prolonged dry periods when new planting has a greater chance of failure. Thereafter, an assessment will be undertaken every two years.

Hedgerows

5.32 Monitoring and maintenance of retained and newly planted hedgerows will be undertaken in accordance with the above prescriptions for shrubs and trees. In addition, new growth of tree whips planted in the new native hedgerows will be topped by approximately 30% on all sides, on an annual cycle up to the first three years after planting to encourage low lateral growth of branches, thereby establishing a thick hedgerow at the base. In subsequent years, lateral branches and shoots will be trimmed to an A-shaped cross-section, with greater width at the base of the hedgerow.

5.33 Once established the hedgerow will be maintained at a height of no greater than 4m with incremental cutting, so that the same point isn't cut every year to prevent the establishment of stressed areas. The hedgerows will be cut back on a three-year rotation, with one side being cut per year. Cutting will avoid the breeding bird season, which is March to August inclusive.

5.34 Retained hedgerows will be cut on a three-year rotation outside of the breeding bird season as detailed above to encourage a dense structure.

Retained Woodland

5.35 To ensure the long-term viability of the retained woodland at the north of the Site, an annual inspection will be undertaken by an Arboricultural Association approved arboriculturist contractor or professional arboriculturist, with all recommendations implemented in full within three months of initial inspection. Where damage is identified, consideration should be given to the inclusion of protective fencing. Dead/dying/damaged limbs will be removed only if they pose a hazard to public health and safety.

5.36 Where remedial work to mature trees is required, a ground-level inspection by a suitably qualified ecologist will be undertaken to determine its current potential to support roosting bats. Where remedial works proposed are considered likely to impact upon potential bat roosting features, a detailed aerial inspection will be undertaken to further inspect suitable roosting features to be impacted for the presence of bats, prior to any commencement of tree works. Aerial inspections will be undertaken by a suitably qualified and Natural England bat licensed ecologist, an arboricultural contractor with a Natural England bat survey licence, or with experience of working with bats and under the supervision of an Natural England bat survey licence holder. Thereafter, works will only progress in accordance with the advice of the suitably qualified and Natural England bat licensed ecologist.

5.37 Dead wood created from necessary pruning will be left at the base of the tree or in discrete log piles to provide a refugia and food resource for invertebrates.

Bird and Bat Boxes

5.38 Bird and bat boxes will be checked two years following installation. In the case of the latter, boxes will need to be inspected by a bat licensed ecologist, with damaged boxes repaired/replaced where necessary. The maintenance and repair of bat and bird boxes installed across the Site will remain the responsibility of the Developer, or any appointed Management Company. Five-yearly replacement checks will continue long-term.

Log Piles

5.39 Log piles will be inspected annually and where these have collapsed or are otherwise degraded, additional logs will be added.

Section 6
Management Regime – Years 6–10 (Operation Phase)

6.1 This Section sets out broad management and maintenance tasks for the long-term care and protection of landscape and ecological features on-site. Given the dynamic nature of habitats and their ability to change over time, it is both inappropriate and impractical to set out a fixed and prescriptive set of management tasks to be implemented 'regardless of progress'. A key element of the plan is flexibility. It is, therefore, considered that this plan will be reviewed after five years with any necessary changes to management documented within an updated LEMP. However, the recommendations for management discussed below will be broadly adopted during the management regime of years 6 to 10 and included within an updated LEMP as required.

Amenity Grassland

6.2 Once the grassland has established and the first-year cut has been taken, routine grass maintenance will be undertaken from spring, with grass cutting ongoing through the growing season, in order to fulfil the management objectives.

General

6.3 Carry out operations in accordance with BS 7370 Part 3:1991.

Grass Cutting

6.4 Start the growing season (spring) at a high cut (50mm to 75mm), mowing as necessary before increasing the frequency and reducing the height as specified:

- Before mowing remove litter, rubbish and debris;
- Cut to length appropriate to intended use – general amenity grassland in open space areas (25–75mm);
- Grass to be left in a neat and even finish without surface rutting, compaction or damage to grass;
- Edges to be left neat and well defined. Neatly trim or strim grass where it abuts fences, walls and around other objects, but no closer than 100cm from tree trunks and plant stems; and
- All non-grass areas are to be kept free of arisings created by any grass cutting operations.

Weed Control

6.5 Treat with a suitable selective herbicide as necessary to remove non-grass species. Alternatively, spot treat specific weeds with a suitable herbicide.

Fertiliser

6.6 Feed grass areas as necessary to maintain the vigour of the grass. Feed with a proprietary spring or autumn lawn fertiliser judged suitable for the on-site soil conditions, as well as for use in a residential area. Do not apply fertiliser to wildflower meadow areas or retained grassland. Application rate in accordance with manufacturers guidelines.

Watering

6.7 Grass to be watered as necessary to maintain good condition.

New Species-rich Wildflower Grassland, Wet Grassland and Retained Grassland

6.8 Once the species rich grassland is established, routine grass maintenance is to be undertaken to fulfil the management objectives. The retained grassland at the west of the Site will also be managed in the same way to enhance botanical diversity. No fertiliser will be applied to the retained grassland, new wildflower grassland, or wet grassland.

6.9 Wildflower grassland, wet grassland and retained grassland will be cut twice yearly, with the first cut to take place after flowering and seed drop (late July to mid-August). Before mowing, all litter and debris will be removed. Grass can then be cut to a height of 100mm. Cut grass will be left to dry for 2–3 days dependent on weather conditions, and then collected and removed to a designated composting area on- or off-site. A second cut will take place at the end of the growing season (October/November) prior to winter dieback. All arisings will be collected and removed. It is important to collect and remove mowings, to retain low soil fertility and high floral diversity.

Trees/Shrubs

6.10 To ensure the long-term viability of all retained and newly planted trees on-site, regular inspections will be undertaken, with all recommended tree surgery works implemented in full within three months of the inspection.

6.11 Formative pruning of all shrubs will be undertaken as necessary to sustain healthy, bushy growth, and to ensure no encroachment into adjacent habitats. If any retained tree is cut down, uprooted, destroyed or dies, another tree will be planted in the same place in the next planting season following the removal of that tree.

6.12 From Year 5 after planting, or once plants are established, all tree/shrub/climber stakes, ties, supports and shelters will be removed and disposed of off-site.

Hedgerows

6.13 The management of new hedgerows after establishment as well as retained hedgerows will include the operations listed below.

Re-firming

6.14 Re-firm plants loosened by frost heave, wind rock or vandalism by treading around base.

Trimming

6.15 Carry out the following tasks:

- Trim annually each winter (November–February) on a three-year rotation with one side cut per year to maintain foraging and nesting opportunities;
- Trim to maintain an 'A' shaped profile and final trimmed size of about 3m high and 3m wide at base, unless specified otherwise, using suitable mechanical cutters;
- Remove current growth rather than new wood; and
- Remove arisings.

Removal of Dead Plant Material

6.16 At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.

Weed Control

6.17 Carry out the following tasks:

- Following the establishment period, normally around two to three years, hedge plants will have established, and mulch will no longer be required. Bark mulch will not be topped up and mulch mats will be removed; and
- Removal of aggressive species (trees and shrubs that have invaded and are suppressing long-term species, i.e. bramble (*Rubus fruticosa*)), will be cleared. Unwanted climbers that are suppressing trees and shrubs will also be removed.

Watering

6.18 Water to field capacity, and then as necessary to maintain in a healthy vigorous condition.

Bird and Bat Boxes

6.19 Bird and bat boxes will be checked every five years. In the case of the latter, boxes will need to be inspected by a bat licensed ecologist, with damaged boxes repaired/replaced where necessary. The maintenance and repair of bat and bird boxes installed across the Site will remain the responsibility of the client, or any appointed Management Company. Five-yearly replacement checks will continue long-term.

Section 7
Monitoring and Timetable of Works

Monitoring

7.1 The Client will have responsibility for implementation of the landscape proposals in accordance with the planning consent. When the landscaping is completed as part of the construction of the proposed development, the Management Company will take over responsibility for the maintenance and management of the landscaping described here in the LEMP.

7.2 Monitoring will evaluate the effectiveness of any specific mitigation measures (such as bird and bat boxes) as well as the management and function of retained, and newly created habitats as identified above. The success of each feature will be assessed against the management prescriptions as detailed in this document. Success will also be evaluated against the BNG assessment condition criteria for grassland, hedgerows and scrub to ensure net gains are achieved as planned.

7.3 Monitoring of retained, enhanced and created habitats will be undertaken by suitably experienced operatives, with input from a suitably experienced/licensed/accredited ecologist and arboriculturist as required. Monitoring of bat boxes will be undertaken by a suitability licensed ecologist.

7.4 Monitoring for each newly created or retained habitat will be carried out after the initial habitat creation and enhancement measures have been implemented, to ensure compliance with that outlined in this LEMP. Another monitoring visit is then required in Year 5 to ensure the condition of the habitats within the Site continues to meet what has been proposed. Based on the outcome of these visits, any changes in management recommendation will be provided in a revised report.

7.5 The provisions and responsibilities for this LEMP will be reviewed on an annual basis during the first five years by those responsible for landscape management and maintenance, and every five years thereafter (or as required). Any substantial amendments will be approved in writing by the LPA.

Timetable of Works

7.6 The creation of soft landscaping works is to be undertaken within the first available season following completion of the construction period.

7.7 **Appendix EDP 3** illustrates optimal times of year to undertake Site clearance, habitat creation and subsequent monitoring and management of created habitats.

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Section 8
Summary and Conclusions

8.1 It is considered that the management and maintenance measures outlined within this LEMP are sufficient in protecting and conserving the key landscape and ecological features of the Site. Detailed measures have been provided to ensure that existing and retained features of landscape and ecological interest within the Site are suitably protected during the construction phase of the development.

8.2 Management prescriptions to maintain the viability of new landscape planting to the Site have been provided, including timings for when operations will occur. Broad recommendations for the continued long-term maintenance and protection of the Site's landscape and ecological interests have also been provided to enable a BNG to be achieved.

8.3 The responsibility of the undertakings set out within this LEMP rests with the Client for the construction works phases, and for the period up to handover to either the adopting authority or Management Company. Any deviation from that prescribed within this LEMP is to be agreed in writing with the LPA.

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Appendix EDP 1
Detailed Landscape Design – Planting Plan on Plot Proposal (edp7403_d007b 13 September 2023 MWi/HMc)

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N

Site Boundary

Ownership Boundary

0 20m

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purpose of issue **PLANNING**

rev	description	date	by
b	Tree added; QA	13-09-2023	RBa
a	Updated to align with latest SUDS provision	11-09-2023	MWi
-	Original	08-08-2023	MWi

client

White Lion Land (Malmesbury) Limited

project title

Land at Park Road, Malmesbury, Wiltshire

drawing title

Detailed Landscape Design - Planting Plan
On Plot Proposal
Overview

date	**13 SEPTEMBER 2023**	drawn by	**MWi**
drawing number	**edp7403_d007b**	checked	**HMc**
scale	**1:500 @ A1**	QA	**RBa**

the environmental dimension partnership
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N

- Site Boundary
- Ownership Boundary
- Existing Vegetation to be Retained
  Refer to the Arboricultural Report
- Existing Vegetation to be Removed
  Refer to the Arboricultural Report
- Existing Grassland to be Retained and Enhanced
- Proposed Tree Planting
- Proposed Hedgerow Planting
  Topsoil Depth: 450mm
  Mulch 75mm Depth Bark Mulch
- Proposed Ornamental Shrub Planting
- Proposed Native Shrub Planting
- Proposed Marginal/Aquatic Shrub Planting
- Proposed Amenity Grassland
- Proposed Species-Rich Meadow Grass
- Proposed Wetland Meadow Grass to Base of Seasonally Wet of Attenuation Features
- Proposed Gravel Maintenance Strip
  Product: Golden Gravel 20-30mm diameter, or similar approved.
  To be laid over a Weed Suppressant Membrane

1 No. Carpinus betulus 450-500cm

Back of Bed
6 No. Lavandula angustifolia 'Hidcote' 20-30cm
Front of Bed
9 No. Geranium Rozanne
9 No. Bergenia cordifolia 'Purpurea'

78 No. Ligustrum vulgare 80-100cm

Native Shrub
7 No. Cornus sanguinea 15% 50-60cm
5 No. Corylus avellana 10% 60-80cm
21 No. Crataegus monogyna 50% 60-80cm
7 No. Prunus spinosa 15% 50-60cm
3 No. Rosa canina 5% 50-60cm
3 No. Viburnum opulus 5% 50-60cm

1 No. Betula pendula 450-500cm

Native Shrub
5 No. Cornus sanguinea 15% 50-60cm
3 No. Corylus avellana 10% 60-80cm
15 No. Crataegus monogyna 50% 60-80cm
5 No. Prunus spinosa 15% 50-60cm
2 No. Rosa canina 5% 50-60cm
2 No. Viburnum opulus 5% 50-60cm

Back of Bed
2 No. Lavandula angustifolia 'Hidcote' 20-30cm
Front of Bed
3 No. Geranium Rozanne
3 No. Bergenia cordifolia 'Purpurea'

Aquatic/Marginal Mix
9 No. Apium nodiflorum 15%
11 No. Carex acutiformis 20%
6 No. Eleocharis palustris 10%
9 No. Filipendula ulmaria 15%
14 No. Iris pseudacorus 25%
9 No. Mentha aquatica 15%

Back of Bed
3 No. Potentilla fruticosa 'Abbotswood' 30-40cm
2 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
6 No. Hebe albicans 30-40cm

107 No. Ligustrum vulgare 80-100cm

Back of Bed
2 No. Potentilla fruticosa 'Abbotswood' 30-40cm
2 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
5 No. Hebe albicans 30-40cm

30 No. Ligustrum vulgare 80-100cm

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5 No. Lavandula angustifolia 'Hidcote' 20-30cm
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40 No. Ligustrum vulgare 80-100cm

26 No. Ligustrum vulgare 80-100cm

Back of Bed
9 No. Lavandula angustifolia 'Hidcote' 20-30cm
Front of Bed
13 No. Geranium Rozanne
13 No. Bergenia cordifolia 'Purpurea'

Native Shrub
8 No. Cornus sanguinea 15% 50-60cm
5 No. Corylus avellana 10% 60-80cm
25 No. Crataegus monogyna 50% 60-80cm
8 No. Prunus spinosa 15% 50-60cm
3 No. Rosa canina 5% 50-60cm
3 No. Viburnum opulus 5% 50-60cm

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3 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
8 No. Hebe albicans 30-40cm

Back of Bed
6 No. Potentilla fruticosa 'Abbotswood' 30-40cm
4 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
12 No. Hebe albicans 30-40cm

Back of Bed
2 No. Choisya ternata 40-60cm
2 No. Philadelphus 'Manteau d'Hermine' 30-40cm
3 No. Hebe rakaiensis 30-40cm
2 No. Hydrangea arborescens 'Annabelle' 40-60cm

3 No. Choisya ternata 40-60cm
3 No. Philadelphus 'Manteau d'Hermine' 30-40cm
3 No. Hebe rakaiensis 30-40cm
3 No. Hydrangea arborescens 'Annabelle' 40-60cm

7 No. Ligustrum vulgare 80-100cm

22 No. Ligustrum vulgare 80-100cm

13 No. Ligustrum vulgare 80-100cm

17 No. Ligustrum vulgare 80-100cm

Back of Bed
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Front of Bed
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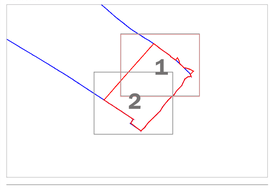
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overview



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purpose of issue **PLANNING**

rev	description	date	by
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a	Updated to align with latest SUDS provision	11-09-2023	MWi
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client
White Lion Land (Malmesbury) Limited

project title
Land at Park Road, Malmesbury, Wiltshire

drawing title
Detailed Landscape Design - Planting Plan
On Plot Proposal
Sheet 1 of 3

date	**13 SEPTEMBER 2023**	drawn by	**MWi**
drawing number	**edp7403_d007b**	checked	**HMc**
scale	**1:200 @ A1**	QA	**RBa**

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106 No. Ligustrum vulgare 80-100cm

79 No. Ligustrum vulgare 80-100cm

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Front of Bed
12 No. Hebe albicans 30-40cm

2 No. Choisya ternata 40-60cm
2 No. Philadelphus 'Manteau d'Hermine' 30-40cm
3 No. Hebe rakaiensis 30-40cm
2 No. Hydrangea arborescens 'Annabelle' 40-60cm

3 No. Choisya ternata 40-60cm
3 No. Philadelphus 'Manteau d'Hermine' 30-40cm
3 No. Hebe rakaiensis 30-40cm
3 No. Hydrangea arborescens 'Annabelle' 40-60cm

Back of Bed
3 No. Lavandula angustifolia 'Hidcote' 20-30cm
Front of Bed
5 No. Geranium Rozanne
5 No. Bergenia cordifolia 'Purpurea'

Back of Bed
4 No. Potentilla fruticosa 'Abbotswood' 30-40cm
3 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
9 No. Hebe albicans 30-40cm

Back of Bed
4 No. Potentilla fruticosa 'Abbotswood' 30-40cm
3 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
8 No. Hebe albicans 30-40cm

Back of Bed
5 No. Lavandula angustifolia 'Hidcote' 20-30cm
Front of Bed
7 No. Geranium Rozanne
7 No. Bergenia cordifolia 'Purpurea'

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Front of Bed
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Back of Bed
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Back of Bed
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Front of Bed
9 No. Hebe albicans 30-40cm

Back of Bed
9 No. Potentilla fruticosa 'Abbotswood' 30-40cm
7 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
19 No. Hebe albicans 30-40cm

Back of Bed
5 No. Potentilla fruticosa 'Abbotswood' 30-40cm
3 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
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Front of Bed
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5 No. Bergenia cordifolia 'Purpurea'

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10 No. Bergenia cordifolia 'Purpurea'

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Front of Bed
12 No. Geranium Rozanne
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7 No. Philadelphus 'Manteau d'Hermine' 30-40cm
Front of Bed
19 No. Hebe albicans 30-40cm

Native Shrub
21 No. Cornus sanguinea 15% 50-60cm
14 No. Corylus avellana 10% 60-80cm
68 No. Crataegus monogyna 50% 60-80cm
21 No. Prunus spinosa 15% 50-60cm
7 No. Rosa canina 5% 50-60cm
7 No. Viburnum opulus 5% 50-60cm

Native Shrub
11 No. Cornus sanguinea 15% 50-60cm
7 No. Corylus avellana 10% 60-80cm
35 No. Crataegus monogyna 50% 60-80cm
11 No. Prunus spinosa 15% 50-60cm
4 No. Rosa canina 5% 50-60cm
4 No. Viburnum opulus 5% 50-60cm

Native Shrub
8 No. Cornus sanguinea 15% 50-60cm
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24 No. Crataegus monogyna 50% 60-80cm
8 No. Prunus spinosa 15% 50-60cm
3 No. Rosa canina 5% 50-60cm
3 No. Viburnum opulus 5% 50-60cm

Site Boundary

Ownership Boundary

Existing Vegetation to be Retained
Refer to the Arboricultural Report

Existing Vegetation to be Removed
Refer to the Arboricultural Report

Existing Grassland to be Retained and Enhanced

Proposed Tree Planting

Proposed Hedgerow Planting
Topsoil Depth: 450mm
Mulch 75mm Depth Bark Mulch

Proposed Ornamental Shrub Planting

Proposed Native Shrub Planting

Proposed Marginal/Aquatic Shrub Planting

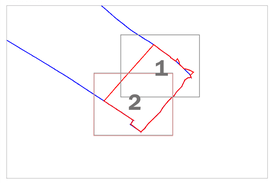
Proposed Amenity Grassland

Proposed Species-Rich Meadow Grass

Proposed Wetland Meadow Grass to Base of Seasonally Wet of Attenuation Features

Proposed Gravel Maintenance Strip
Product: Golden Gravel 20-30mm diameter, or similar approved.
To be laid over a Weed Suppressant Membrane

overview



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purpose of issue **PLANNING**

rev	description	date	by
b	Tree added; QA	13-09-2023	RBa
a	Updated to align with latest SUDS provision	11-09-2023	MWi
-	Original	08-08-2023	MWi

client
White Lion Land (Malmesbury) Limited

project title
Land at Park Road, Malmesbury, Wiltshire

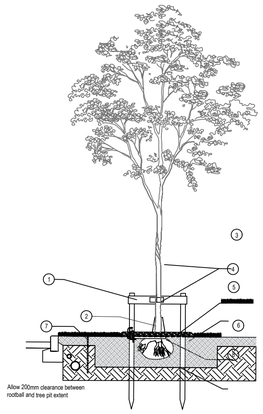
drawing title
Detailed Landscape Design - Planting Plan On Plot Proposal
Sheet 2 of 3

date	**13 SEPTEMBER 2023**	drawn by	**MWi**
drawing number	**edp7403_d007b**	checked	**HMc**
scale	**1:200 @ A1**	QA	**RBa**

the environmental dimension partnership
Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

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PLANTING SPECIFICATION



Tree Pit Detail

1. 2x tanalised timber tree stakes, 75mm Ø driven into backfilled pit, and half round timber cross bar rails, 75mm Ø secured to tree stakes to provide support to the tree. Stakes 600mm above GL. Ensure stakes are not driven through the tree rootball.

2. Green-tech or similar strimmer guard - brown. Ensure that protection methods do not impede the natural movement of trees or restrict growth. Fit according to the manufacturers recommendations.

3. Secured centrally by rubber tie with spacer to trunk - minimum width 70mm

4. 75mm deep bark mulch layer to be spread evenly over a circular area 1000mm Ø around the tree to prevent weed growth and retain moisture.

5. tree pit 2000 x 2000 x 500mm with existing topsoi / imported topsoil to BS 3882 general purpose grade. Loosen any compaction in base of excavated pit to aid drainage. The tree should be planted at a depth where the root flare is still visible just breaching the soil surface following backfilling.

6. *RootRain Metro* irrigation system or similar. Place around top of root ball and nail to supporting stake, ensuring filler cap finishes slightly above mulch level.

7. *ReRoot* root barrier with root deflecting ribs installed between tree root ball and hard surfaces/services where there is a risk of root damage as the tree grows outward. As a general rule, root barriers should be installed in locations where hard surfaces and/or services are located within three metres of the tree stem. Install closer to the paving/service than the tree, to allow space for the tree roots to grow into the space available, with the ribs facing the tree. Note this may mean not placing the barrier within the tree pit, but further away within its own trench. Root barriers must extend a minimum of 2m lengthways beyond the expected canopy of the mature tree. The top of the root barrier should be set as close to the soil surface as possible without being visible. Refer to drawing for location / depth. Depth dependant upon adjacent services.

8. Backfill tree pit with topsoil excavated from pit - all tree pits to receive compost amelioration and fertiliser as per nbs spec.

Immediately after planting, water the tree, saturating the tree pit to field capacity.

Tree Maintenance and Management During 5 Year Establishment Period

Immediately following planting, the tree should be watered thoroughly. Following this, and with regard to prevailing weather conditions, newly planted trees should be watered regularly during periods of dry weather. If the tree pit has been specified with an irrigation pipe, this should be used as the primary method of watering. If no irrigation pipe is specified, the square metre of ground around the tree should be soaked to field capacity (refer to BS 8545:2014 for further detail) by surface watering. Watering frequency is more important than quantity to prevent the root ball of the newly planted tree from drying out.

All trees are fitted with protective guards to prevent animal damage. These should be checked regularly to ensure they remain in place and are providing adequate protection against the animals in the area. If damage to trees from browsing by animals still occurs, additional measures may be required.

A formal assessment of young tree health and development should be carried out annually by a qualified arborist who will be able to advise on solutions should any problems be picked up. During this assessment, any stakes and ties should be checked to ensure they are providing support but not damaging the tree, and that the tree is still firmly seated in the ground. If the tree has become loose in the ground, the soil around the base should be re-firmed and stakes and ties adjusted accordingly.

The mulched area around the base of the tree should be kept clear of competing vegetation and weeds at all times.

Tree stakes and ties should be removed once the tree has established a strong enough root system to support itself, likely to be 1-2 years after planting. Strimmer guards should remain in place until the end of the five year establishment, with adjustments or segments added as necessary to facilitate tree growth. Tree guards should only be removed if they are beginning to restrict tree growth or if it is felt the risk of damage has significantly reduced due to strong tree growth and development or changes in the surrounding environment.

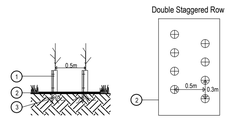
Formative pruning should be carried out in accordance with BS 3998 as required throughout the five year establishment period.

For further guidance on tree maintenance during establishment refer to
BS 8545:2014 Section 11.

Planting Layout Guide (High, Medium, Low)

The mix of plants for each planting bed has been divided based on height and position within the border. Plants in the low category should be planted in the front 20% of the bed and plants in the medium category in the mix 30% and the high category in the rear 50%.

Plants are to be planted in same species groups of 2-3 plants where numbers allow.



Native Hedgerow Planting Detail

1. Tubex shrub shelter with supporting cane or stake or similar approved.

2. 2m wide biodegradable weed mat roll pegged down with biodegradable pegs along line of hedgerow to prevent weed growth and retain moisture.

3. Whip to be notch planted following clearance of any existing vegetation.

Immediately after planting, water the whip, saturating the ground around its base to field capacity.

For further general guidance on planting refer to
BS8545:2014 Section 10 and BS4428:1989 Section 9.

Products suggested in italics above are available from Tubex (http://www.tubex.com/).

Whip Maintenance and Management During 5 Year Establishment Period

Immediately following planting, the whip should be watered thoroughly. Following this, and with regard to prevailing weather conditions, newly planted whips should be watered regularly during periods of dry weather. When watering, the square meter of ground around the whip should be soaked to field capacity (refer to BS8545:2014 for further detail) by surface watering. Watering frequency is more important than quantity to prevent the roots of the newly planted whip from drying out.

All whips are fitted with protective guards to prevent animal damage. These should be checked regularly to ensure they remain in place and are providing adequate protection against the animals in the area. If damage to trees from browsing by animals still occurs, additional measures may be required.

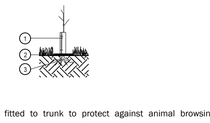
A formal assessment of areas of whip planting should be carried out annually by a qualified arborist who will be able to advise on solutions should any problems be picked up. During this assessment, any guards and canes/stakes should be checked to ensure they are providing protection but not damaging the developing whip and that its roots are still firmly seated in the ground. If the whip has become loose in the ground, the soil around the base should be re-firmed and guards adjusted accordingly.

The space above the mulch mat around the whip should be kept clear of competing vegetation and weeds at all times.

The shrub shelter/guard should be removed once the whip has established a strong enough root system to support itself and has begun to grow strongly clear of the top of the shelter/guard, likely to be 1-2 years after planting. Biodegradable mulch mats can remain in place indefinitely.

Formative pruning should be carried out in accordance with BS3998 as required during the first 5 years to ensure the desired form is achieved.

For further guidance on whip and tree maintenance during establishment refer to BS8545:2014 Section 11.



Whip Planting Detail

1. Clear spiral guard to be fitted to trunk to protect against animal browsing with supporting cane or stake.

2. 50x50cm biodegradable mulch mat pegged down with supplied biodegradable plastic anchor pegs around the whip to prevent weed growth and retain moisture.

3.Whip to be notch planted following clearance of any existing vegetation.

Immediately after planting, water the whip, saturating the ground around its base to field capacity.

For further general guidance on planting refer to BS 8545:2014 Section 10 and BS4428:1989 Section 9.

Products suggested in italics above are available from Tubex (http://www.tubex.com/)

Whip Maintenance and Management During 5 Year Establishment Period

Immediately following planting, the whip should be watered thoroughly. Following this, and with regard to prevailing weather conditions, newly planted whips should be watered regularly during periods of dry weather. When watering the square meter of ground around the whip should be soaked to field capacity (refer to BS 8545:2014 for further detail) by surface watering. Watering frequency is more important than quantity to prevent the roots of the newly planted whip from drying out.

All whips are fitted with protective guards to prevent animal damage. These should be checked regularly to ensure they remain in place and are providing adequate protection against the animals in the area. If damage to trees from browsing by animals still occurs additional measures may be required.

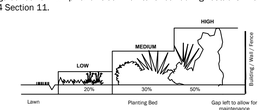
A formal assessment of areas of whip planting should be carried out annually by a qualified arborist who will be able to advise on solutions should any problems be picked up. During this assessment any guards and canes/stakes should be checked to ensure they are providing protection but not damaging the developing whip and that its roots are still firmly seated in the ground. If the whip has become loose in the ground the soil around the base should be re-firmed and guards adjusted accordingly.

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Formative pruning should be carried out in accordance with BS3998 as required during the first 5 years to ensure the desired form is achieved.

For further guidance on whip and tree maintenance during establishment refer to BS8545:2014 Section 11.



Wildflower Meadow - Seeding and Preparation

There are several methods to create a wildflower meadow. The method will depend on the size of the area to be seeded, the condition and diversity of flora on site and the availability of mechanised assistance.

Objectives

- Create a wildflower meadow that establishes to create a vibrant sward containing a variety of species
- Enhance biodiversity locally
- Provide vital habitat for insects, mammals and birds

Preparation/ Cultivation

- Area should be free of competing weeds, debris and rubbish
- Soil should be cultivated or rotavated to removed compaction
- Debris or stones larger than 50mm should ideally be removed from the surface before laying/-sowing
- Ground should be sufficiently level, with the top 15cm cultivated to a fine tilth before sowing/-turfing, allowing water to fully permeate the soil

Seeding

- Sowing to be undertaken mid-to-late April but can continue to the end of May
- Seed should be sown thinly to suppliers recommended sowing rate – therefore mix seed with a bulking agent such as sand
- Lightly rake seed into the soil
- If conditions are particularly dry, the seed will need to be watered to stimulate germination

Operations to Ensure Establishment

- Seeded area to be fenced off if required to protect germinating seeds from trampling;
- Newly seeded areas to be kept moist during periods of dry weather;
- First cut should only be undertaken once grass species within mix have established and grown to at least 150mm;
- First cut to take off 1 third only;
- A spring meadow should be cut in late June to early July to a height of 75-100mm;
- Summer meadows should be left uncut from June until mid-September or later; regular cutting for the first part of the year will prevent the establishment of course grasses;
- All arisings should be left for between 3-7 days before collection or bailing to allow seed pods to open and disperse seed;
- All arisings should be removed to prevent nutrient build up;
- Annual seed heads can be left standing over winter or can be cut back in late autumn with a brush cutter/strimmer
- Perennial meadows should be cut back in the same way, with a cut in winter before spring growth appears
- Annual meadows will need re-seeding the following spring

Ongoing Maintenance and Management

- Cut the wildflower medow twice yearly to a height of 75-100mm, with the first cut taking place after flowering and seed drop – late July to mid-August
- The cut grass should be left to dry for 3-7 days dependent on weather conditions, and then collected and removed to a designated composting area on- or off-site
- The second cut is to take place at the end of the growing season (October/November), prior to winter die back
- All arisings are to be collected and removed, it is important to collect and remove mowings to retain low soil fertility and high floral diversity
- Remove all unwanted invasive, vigorous weeds (such as thistles and nettles, as well as all injurious weed species listed in the Weeds Act 1959 and Countryside Act 1981), including roots, by hand or by spot treatment with appropriate weed killer. Selective lawn killers should not be used.
- Wildflower meadows do not require any additional watering or feeding once established, this could alter the natural balance of plants in the area. Many native plants colonise poor land and the addition of extra nutrients and water will encourage excessive vigour in grasses, which will consequently out-compete the more desirable native plants
- Areas of grassland with bulbs should be left un-mown in early spring. Make the cut when the bulbs have died down (approximately six weeks after flowering). After this, the management should revert to that of the surrounding grassland

Planting Schedule

Trees

Number	Common Name	Species	Girth	Height	Specification	Density
3	Common Silver Birch	Betula pendula	14-16cm	450-500cm	Extra Heavy Standard :Clear Stem min. 200	Counted
2	Common Hornbeam	Carpinus betulus	14-16cm	450-500cm	Extra Heavy Standard :Clear Stem min. 200	Counted
188	Common Hawthorn	Crataegus monogyna		60-80cm	1+1 transplant	1.5/m²

Total :193

Shrubs

Number	Common Name	Species	Height	Pot Size	Specification	Density
16	Mexican Orange Blossom	Choisya ternata	40-60cm	5L	Bushy :5 brks	0.7Ctr
60	Common Dogwood	Cornus sanguinea	50-60cm	3L	1+1 transplant	1.5/m²
39	Common Hazel	Corylus avellana	60-80cm	3L	1+1 transplant	1.5/m²
226	Shrubby Veronica	Hebe albicans	30-40cm	5-7.5L	Bushy :7 brks	0.4Ctr
21	a Shrubby Veronica	Hebe rakaiensis	30-40cm	5L	Bushy :7 brks	0.6Ctr
16	Sevenbark 'Annabelle'	Hydrangea arborescens 'Annabelle'	40-60cm	5L	Branched :5 brks	0.7Ctr
113	Lavender 'Hidcote'	Lavandula angustifolia 'Hidcote'	20-30cm	5L	Bushy :7 brks	0.7Ctr
93	Mock Orange 'Manteau d'Hermine'	Philadelphus 'Manteau d'Hermine'	30-40cm	5-7.5L	Branched :5 brks	0.7Ctr
106	Shrubby Cinquefoil 'Abbotswood'	Potentilla fruticosa 'Abbotswood'	30-40cm	5-7.5L	Bushy :5 brks	0.6Ctr
60	Blackthorn	Prunus spinosa	50-60cm		1+1 transplant	1.5/m²
22	Dog Rose	Rosa canina	50-60cm		Bare root or 2L pot	1.5/m²
22	Guelder Rose	Viburnum opulus	50-60cm	3L		1.5/m²

Total :794

Herbaceous

Number	Common Name	Species	Height	Pot Size	Specification	Density
167	Elephant's Ears 'Purpurea'	Bergenia cordifolia 'Purpurea'		5L	Full Pot	0.4Ctr
167	Cranesbill Rozanne	Geranium Rozanne		5-7.5L	Full Pot	0.4Ctr

Total :334

Marginal / Aquatics

Number	Common Name	Species	Specification	Density
9	Fool's Watercress	Apium nodiflorum	Full pot :Sept to April planting :British native origin	0.4Ctr
11	Lesser Pond Sedge	Carex acutiformis	Full pot :Sept to April planting :British native origin	0.4Ctr
6	Common Spike Rush	Eleocharis palustris	Full pot :June to Sept planting :British native origin	0.4Ctr
9	Meadowsweet	Filipendula ulmaria	Full pot :Sept to April planting :British native origin	0.4Ctr
14	Yellow flag iris	Iris pseudacorus	Full pot :Sept to April planting : British native origin	0.4Ctr
9	Water Mint	Mentha aquatica	Full pot :Sept to April planting :British native origin	0.4Ctr

Total :58

Hedges

Number	Common Name	Species	Height	Specification	Density
660	Common Privet	Ligustrum vulgare	80-100cm	0/2; cutting; branched; 3 breaks :C	0.4Ctr

Total :660

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a	Updated to allign with latest SUDS provision	11-09-2023	MWi
-	Original	08-08-2023	MWi

client
White Lion Land (Malmesbury) Limited

project title
Land at Park Road, Malmesbury, Wiltshire

drawing title
Detailed Landscape Design - Planting Plan On Plot Proposal

Sheet 3 of 3

date	**13 SEPTEMBER 2023**	drawn by	**MWi**
drawing number	**edp7403_d007b**	checked	**HMc**
scale	**Not to Scale @ A1**	QA	**RBa**

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Appendix EDP 2
Detailed Landscape Design – Planting Plan POS Proposal (edp7403_d006b 13 September 2023 MWi/HMc)

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Site Boundary

Ownership Boundary

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purpose of issue **PLANNING**

rev	description	date	by
b	QA	13-09-2023	RBa
a	Updated to align with latest SUDS provision	11-09-2023	MWi
-	Original	08-08-2023	MWi

client
White Lion Land (Malmesbury) Limited

project title
Land at Park Road, Malmesbury, Wiltshire

drawing title
Detailed Landscape Design - Planting Plan
POS Proposal
Overview

date	**13 SEPTEMBER 2023**	drawn by	**MWi**
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scale	**1:500 @ A1**	QA	**RBa**

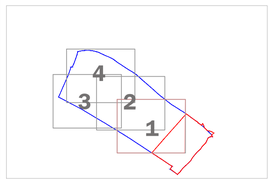
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- Site Boundary
- Ownership Boundary
- Existing Vegetation to be Retained — Refer to the Arboricultural Report
- Existing Vegetation to be Removed — Refer to the Arboricultural Report
- Existing Grassland to be Retained
- Existing Grassland to be Retained and Enhanced — To be Oversown with a Species Rich Meadow Mix
- Proposed Tree Planting
- Proposed Native Shrub Planting
- Proposed Marginal/Aquatic Shrub Planting
- Proposed Bulb Planting
- Proposed Species-Rich Meadow Grass
- Proposed Wetland Meadow Grass to Base of Seasonally Wet of Attenuation Features
- Proposed Informal Mown Path

overview



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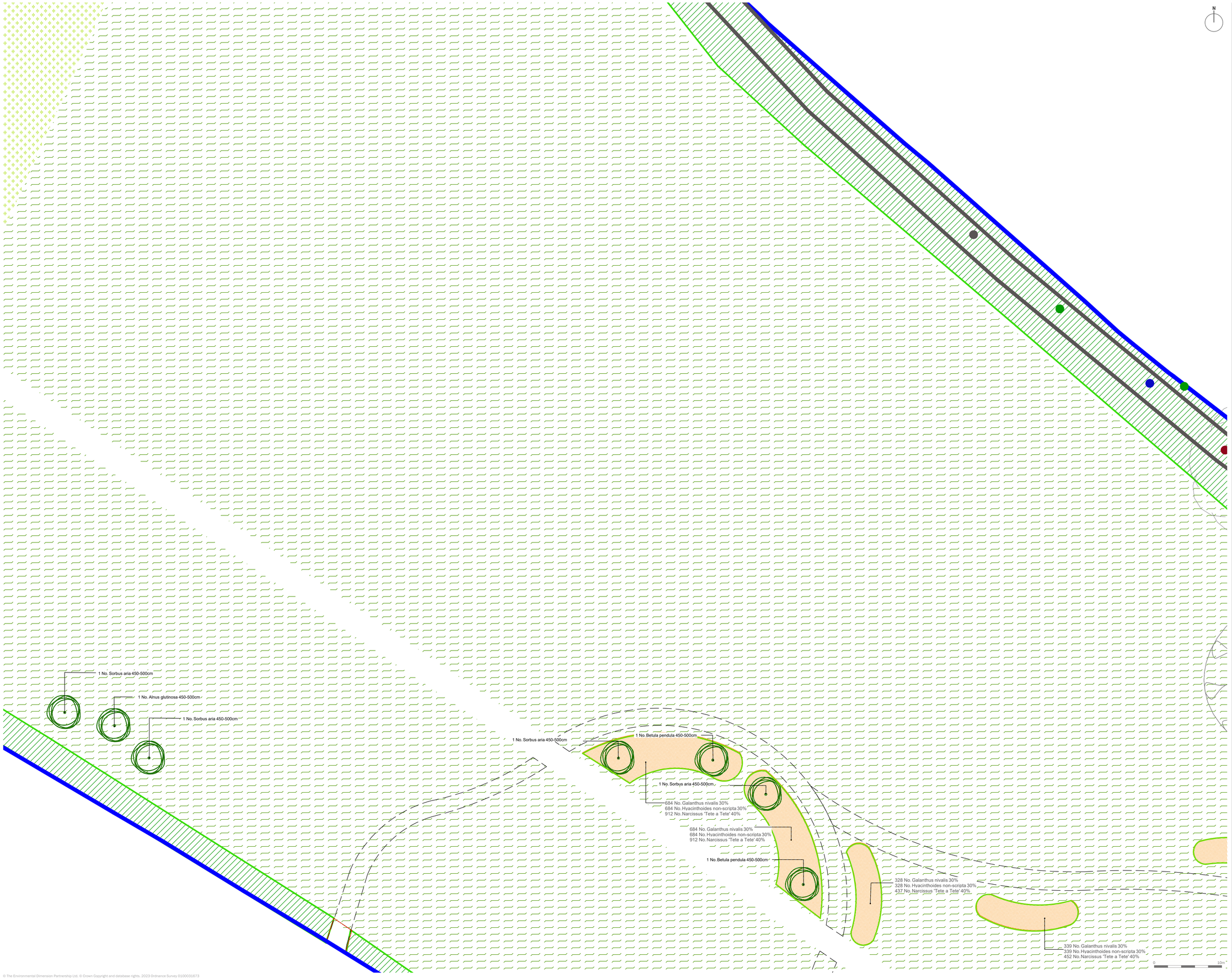
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Land at Park Road, Malmesbury, Wiltshire

drawing title
Detailed Landscape Design - Planting Plan
POS Proposal
Sheet 1 of 5

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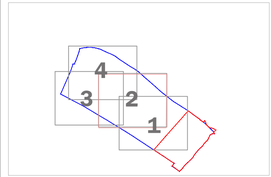
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1 No. Betula pendula 450-500cm
1 No. Alnus glutinosa 450-500cm
1 No. Malus sylvestris 450-500cm
1 No. Malus sylvestris 450-500cm
1 No. Alnus glutinosa 450-500cm
1 No. Betula pendula 450-500cm
1 No. Sorbus aria 450-500cm
1 No. Alnus glutinosa 450-500cm
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Proposed Native Shrub Planting

Proposed Marginal/Aquatic Shrub Planting

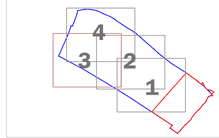
Proposed Bulb Planting

Proposed Species-Rich Meadow Grass

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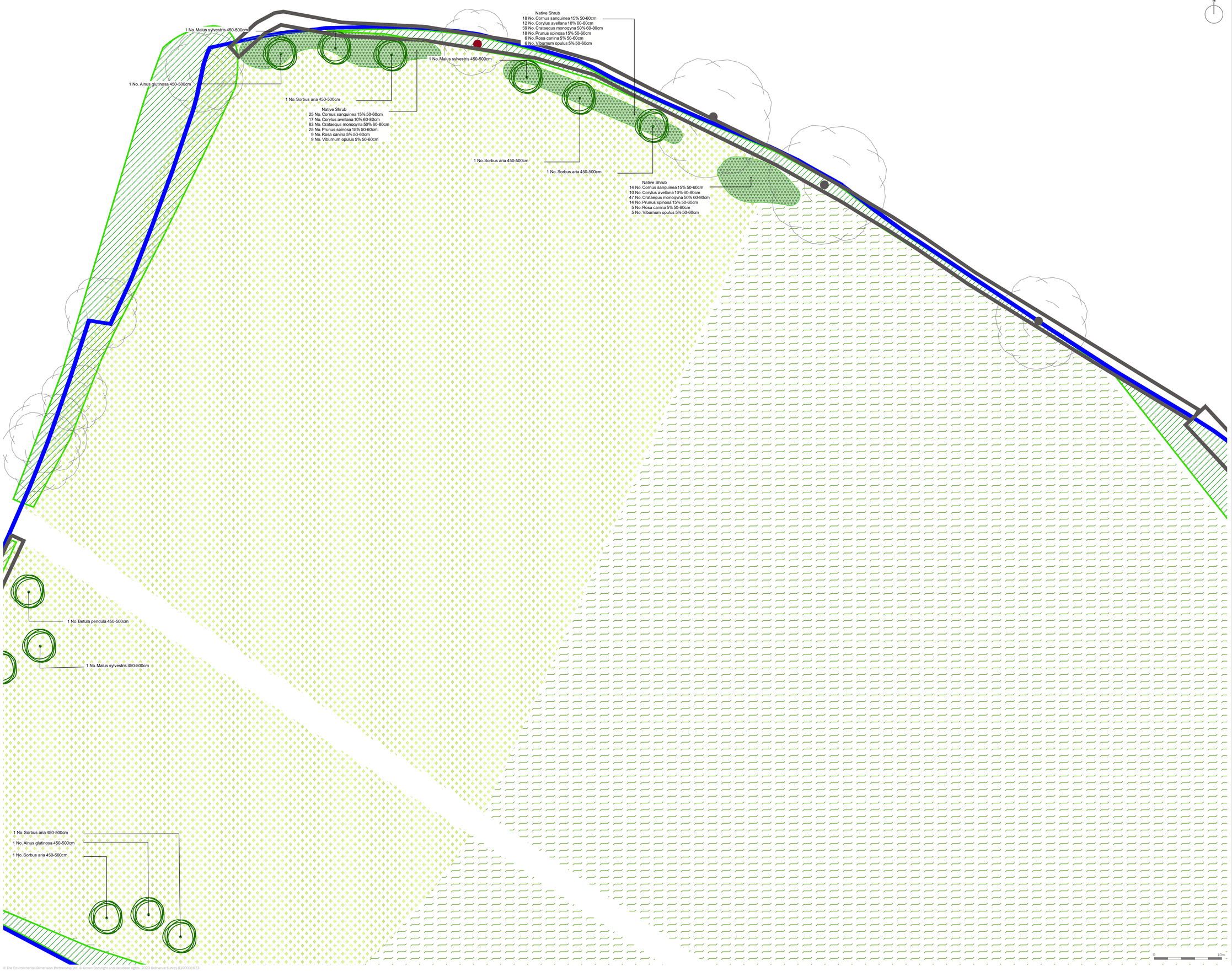
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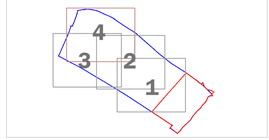
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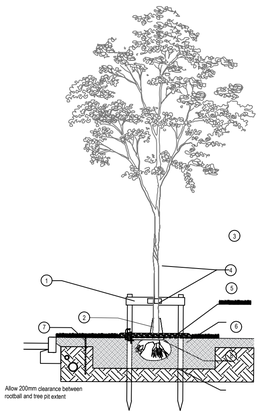
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PLANTING SPECIFICATION



Tree Pit Detail

1. 2x tanalised timber tree stakes, 75mm Ø driven into backfilled pit, and half round timber cross bar rails, 75mm Ø secured to tree stakes to provide support to the tree. Stakes 600mm above GL. Ensure stakes are not driven through the tree rootball.

2. Green-tech or similar strimmer guard - brown. Ensure that protection methods do not impede the natural movement of trees or restrict growth. Fit according to the manufacturers recommendations.

3. Secured centrally by rubber tie with spacer to trunk - minimum width 70mm

4. 75mm deep bark mulch layer to be spread evenly over a circular area 1000mm Ø around the tree to prevent weed growth and retain moisture.

5. tree pit 2000 x 2000 x 500mm with existing topsoi / imported topsoil to BS 3882 general purpose grade. Loosen any compaction in base of excavated pit to aid drainage. The tree should be planted at a depth where the root flare is still visible just breaching the soil surface following backfilling.

6. *RootRain Metro* irrigation system or similar. Place around top of root ball and nail to supporting stake, ensuring filler cap finishes slightly above mulch level.

7. *ReRoot* root barrier with root deflecting ribs installed between tree root ball and hard surfaces/services where there is a risk of root damage as the tree grows outward. As a general rule, root barriers should be installed in locations where hard surfaces and/or services are located within three metres of the tree stem. Install closer to the paving/service than the tree, to allow space for the tree roots to grow into the space available, with the ribs facing the tree. Note this may mean not placing the barrier within the tree pit, but further away within its own trench. Root barriers must extend a minimum of 2m lengthways beyond the expected canopy of the mature tree. The top of the root barrier should be set as close to the soil surface as possible without being visible. Refer to drawing for location / depth. Depth dependant upon adjacent services.

8. Backfill tree pit with topsoil excavated from pit - all tree pits to receive compost amelioration and fertiliser as per nbs spec.

Immediately after planting, water the tree, saturating the tree pit to field capacity.

Tree Maintenance and Management During 5 Year Establishment Period

Immediately following planting, the tree should be watered thoroughly. Following this, and with regard to prevailing weather conditions, newly planted trees should be watered regularly during periods of dry weather. If the tree pit has been specified with an irrigation pipe, this should be used as the primary method of watering. If no irrigation pipe is specified, the square metre of ground around the tree should be soaked to field capacity (refer to BS 8545:2014 for further detail) by surface watering. Watering frequency is more important than quantity to prevent the root ball of the newly planted tree from drying out.

All trees are fitted with protective guards to prevent animal damage. These should be checked regularly to ensure they remain in place and are providing adequate protection against the animals in the area. If damage to trees from browsing by animals still occurs, additional measures may be required.

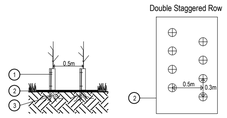
A formal assessment of young tree health and development should be carried out annually by a qualified arborist who will be able to advise on solutions should any problems be picked up. During this assessment, any stakes and ties should be checked to ensure they are providing support but not damaging the tree, and that the tree is still firmly seated in the ground. If the tree has become loose in the ground, the soil around the base should be re-firmed and stakes and ties adjusted accordingly.

The mulched area around the base of the tree should be kept clear of competing vegetation and weeds at all times.

Tree stakes and ties should be removed once the tree has established a strong enough root system to support itself, likely to be 1-2 years after planting. Strimmer guards should remain in place until the end of the five year establishment, with adjustments or segments added as necessary to facilitate tree growth. Tree guards should only be removed if they are beginning to restrict tree growth or if it is felt the risk of damage has significantly reduced due to strong tree growth and development or changes in the surrounding environment.

Formative pruning should be carried out in accordance with BS 3998 as required throughout the five year establishment period.

For further guidance on tree maintenance during establishment refer to
BS 8545:2014 Section 11.



Hedgerow Planting Detail

1. Tubex shrub shelter with supporting cane or stake or similar approved.

2. 2m wide biodegradable weed mat roll pegged down with biodegradable pegs along line of hedgerow to prevent weed growth and retain moisture.

3. Whip to be notch planted following clearance of any existing vegetation.

Immediately after planting, water the whip, saturating the ground around its base to field capacity.

For further general guidance on planting refer to
BS8545:2014 Section 10 and BS4428:1989 Section 9.

Products suggested in italics above are available from Tubex (http://www.tubex.com/).

Whip Maintenance and Management During 5 Year Establishment Period

Immediately following planting, the whip should be watered thoroughly. Following this, and with regard to prevailing weather conditions, newly planted whips should be watered regularly during periods of dry weather. When watering, the square meter of ground around the whip should be soaked to field capacity (refer to BS8545:2014 for further detail) by surface watering. Watering frequency is more important than quantity to prevent the roots of the newly planted whip from drying out.

All whips are fitted with protective guards to prevent animal damage. These should be checked regularly to ensure they remain in place and are providing adequate protection against the animals in the area. If damage to trees from browsing by animals still occurs, additional measures may be required.

A formal assessment of areas of whip planting should be carried out annually by a qualified arborist who will be able to advise on solutions should any problems be picked up. During this assessment, any guards and canes/stakes should be checked to ensure they are providing protection but not damaging the developing whip and that its roots are still firmly seated in the ground. If the whip has become loose in the ground, the soil around the base should be re-firmed and guards adjusted accordingly.

The space above the mulch mat around the whip should be kept clear of competing vegetation and weeds at all times.

The shrub shelter/guard should be removed once the whip has established a strong enough root system to support itself and has begun to grow strongly clear of the top of the shelter/guard, likely to be 1-2 years after planting. Biodegradable mulch mats can remain in place indefinitely.

Formative pruning should be carried out in accordance with BS3998 as required during the first 5 years to ensure the desired form is achieved.

For further guidance on whip and tree maintenance during establishment refer to BS8545:2014 Section 11.



Whip Planting Detail

1. Clear spiral guard to be fitted to trunk to protect against animal browsing with supporting cane or stake.

2. 50x50cm biodegradable mulch mat pegged down with supplied biodegradable plastic anchor pegs around the whip to prevent weed growth and retain moisture.

3.Whip to be notch planted following clearance of any existing vegetation.

Immediately after planting, water the whip, saturating the ground around its base to field capacity.

For further general guidance on planting refer to BS 8545:2014 Section 10 and BS4428:1989 Section 9.

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Whip Maintenance and Management During 5 Year Establishment Period

Immediately following planting, the whip should be watered thoroughly. Following this, and with regard to prevailing weather conditions, newly planted whips should be watered regularly during periods of dry weather. When watering the square meter of ground around the whip should be soaked to field capacity (refer to BS 8545:2014 for further detail) by surface watering. Watering frequency is more important than quantity to prevent the roots of the newly planted whip from drying out.

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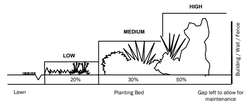
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For further guidance on whip and tree maintenance during establishment refer to BS8545:2014 Section 11.

Planting Layout Guide (High, Medium, Low)

The mix of plants for each planting bed has been divided based on height and position within the border. Plants in the low category should be planted in the front 20% of the bed and plants in the medium category in the mix 30% and the high category in the rear 50%.

Plants are to be planted in same species groups of 2-3 plants where numbers allow.



Wildflower Meadow - Seeding and Preparation

There are several methods to create a wildflower meadow. The method will depend on the size of the area to be seeded, the condition and diversity of flora on site and the availability of mechanised assistance.

Objectives

- Create a wildflower meadow that establishes to create a vibrant sward containing a variety of species
- Enhance biodiversity locally
- Provide vital habitat for insects, mammals and birds

Preparation/ Cultivation

- Area should be free of competing weeds, debris and rubbish
- Soil should be cultivated or rotavated to removed compaction
- Debris or stones larger than 50mm should ideally be removed from the surface before laying/-sowing
- Ground should be sufficiently level, with the top 15cm cultivated to a fine tilth before sowing/-turfing, allowing water to fully permeate the soil

Seeding

- Sowing to be undertaken mid-to-late April but can continue to the end of May
- Seed should be sown thinly to suppliers recommended sowing rate – therefore mix seed with a bulking agent such as sand
- Lightly rake seed into the soil
- If conditions are particularly dry, the seed will need to be watered to stimulate germination

Operations to Ensure Establishment

- Seeded area to be fenced off if required to protect germinating seeds from trampling;
- Newly seeded areas to be kept moist during periods of dry weather;
- First cut should only be undertaken once grass species within mix have established and grown to at least 150mm;
- First cut to take off 1 third only;
- A spring meadow should be cut in late June to early July to a height of 75-100mm;
- Summer meadows should be left uncut from June until mid-September or later; regular cutting for the first part of the year will prevent the establishment of course grasses;
- All arisings should be left for between 3-7 days before collection or bailing to allow seed pods to open and disperse seed;
- All arisings should be removed to prevent nutrient build up;
- Annual seed heads can be left standing over winter or can be cut back in late autumn with a brush cutter/strimmer
- Perennial meadows should be cut back in the same way, with a cut in winter before spring growth appears
- Annual meadows will need re-seeding the following spring

Ongoing Maintenance and Management

- Cut the wildflower medow twice yearly to a height of 75-100mm, with the first cut taking place after flowering and seed drop – late July to mid-August
- The cut grass should be left to dry for 3-7 days dependent on weather conditions, and then collected and removed to a designated composting area on- or off-site
- The second cut is to take place at the end of the growing season (October/November), prior to winter die back
- All arisings are to be collected and removed, it is important to collect and remove mowings to retain low soil fertility and high floral diversity
- Remove all unwanted invasive, vigorous weeds (such as thistles and nettles, as well as all injurious weed species listed in the Weeds Act 1959 and Countryside Act 1981), including roots, by hand or by spot treatment with appropriate weed killer. Selective lawn killers should not be used.
- Wildflower meadows do not require any additional watering or feeding once established, this could alter the natural balance of plants in the area. Many native plants colonise poor land and the addition of extra nutrients and water will encourage excessive vigour in grasses, which will consequently out-compete the more desirable native plants
- Areas of grassland with bulbs should be left un-mown in early spring. Make the cut when the bulbs have died down (approximately six weeks after flowering). After this, the management should revert to that of the surrounding grassland

Planting Schedule

Trees

Number	Common Name	Species	Girth	Height	Specification	Density
7	Common Alder	Alnus glutinosa	14-16cm	450-500cm	Extra Heavy Standard :Clear Stem min. 200	Counted
8	Common Silver Birch	Betula pendula	14-16cm	450-500cm	Extra Heavy Standard :Clear Stem min. 200	Counted
4	Common Hornbeam	Carpinus betulus	14-16cm	450-500cm	Extra Heavy Standard :Clear Stem min. 200	Counted
547	Common Hawthorn	Crataegus monogyna		60-80cm	1+1 transplant	1.5/m²
7	Common Crab Apple	Malus sylvestris	14-16cm	450-500cm	Extra Heavy Standard :Clear Stem min. 200	Counted
12	Whitebeam	Sorbus aria	14-16cm	450-500cm	Extra Heavy Standard :Clear Stem min. 200	Counted

Total :585

Shrubs

Number	Common Name	Species	Height	Pot Size	Specification	Density
166	Common Dogwood	Cornus sanguinea	50-60cm	3L	1+1 transplant	1.5/m²
113	Common Hazel	Corylus avellana	60-80cm	3L	1+1 transplant	1.5/m²
166	Blackthorn	Prunus spinosa	50-60cm		1+1 transplant	1.5/m²
57	Dog Rose	Rosa canina	50-60cm		Bare root or 2L pot	1.5/m²
57	Guelder Rose	Viburnum opulus	50-60cm	3L		1.5/m²

Total :559

Bulbs

Number	Common Name	Species	Bulb Size	Specification	Density
3346	Common Snowdrop	Galanthus nivalis		Grade 10/+	20/m²
3346	English Bluebell	Hyacinthoides non-scripta		Grade 10/+	20/m²
4460		Narcissus 'Tete a Tete'		Grade 10/+	20/m²

Total :11152

Marginal / Aquatics

Number	Common Name	Species	Specification	Density
43	Fool's Watercress	Apium nodiflorum	Full pot :Sept to April planting :British native origin	0.4Ctr
56	Lesser Pond Sedge	Carex acutiformis	Full pot :Sept to April planting :British native origin	0.4Ctr
29	Common Spike Rush	Eleocharis palustris	Full pot :June to Sept planting :British native origin	0.4Ctr
43	Meadowsweet	Filipendula ulmaria	Full pot :Sept to April planting :British native origin	0.4Ctr
70	Yellow flag iris	Iris pseudacorus	Full pot :Sept to April planting : British native origin	0.4Ctr
43	Water Mint	Mentha aquatica	Full pot :Sept to April planting :British native origin	0.4Ctr

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purpose of issue **PLANNING**

rev	description	date	by
b	QA	13-09-2023	RBa
a	Updated to align with latest SUDS provision	11-09-2023	MWi
-	Original	08-08-2023	MWi

client
White Lion Land (Malmesbury) Limited

project title
Land at Park Road, Malmesbury, Wiltshire

drawing title
Detailed Landscape Design - Planting Plan POS Proposal

Sheet 5 of 5

date	**13 SEPTEMBER 2023**	drawn by	**MWi**
drawing number	**edp7403_d006b**	checked	**HMc**
scale	**1:50 @ A1**	QA	**RBa**

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Appendix EDP 3
Landscape and Ecological Management and Maintenance Summary

Table EDP A3.1: Landscape and Ecological Management and Maintenance Summary

Habitat/Feature to be Managed	Description	Management Objectives	Maintenance Prescriptions	Timing	Considerations/Recommendations
Amenity Grassland	Amenity grassland to be closely mown throughout the year.	Maintain areas of open grassland. Limit scrub invasion from adjacent hedgerows. Maintain a close-mown sward in amenity areas with longer grassland edges on boundaries.	Control undesirable plant growth within sward if necessary, such as dock (*Rumex* sp.), thistle (*Cirsium* sp.), nettles (*Urtica dioica*) and ragwort (*Senecio jacobaea*) by hand excavation/pulling or spot swiped. Control of suckers near adjacent hedgerows to reduce encroachment. No scrub will be allowed to establish on amenity grassland areas. Amenity grassland will be cut as required to maintain a height between 25mm and 75mm. During summer months, amenity grassland to be mown weekly if necessary.	The first cut of amenity grassland areas will be undertaken when the sward reaches 50mm. Following this, amenity grassland will be mown as required and maintained at a height of between 25mm and 75mm. During summer months, amenity grassland to be mown weekly if necessary.	Scrub control works will be undertaken during winter months to avoid nesting bird season, particularly within areas of dense scrub and next to retained hedgerows. Arisings will be removed from the grassland and placed in designated compost heaps or removed from the Site.
Species-rich Wildflower Grassland and Wet Grassland	Species-rich grassland will support longer grassland and greater species diversity/habitat variety.	Maintain areas of open grassland. Prevent invasion by weeds or scrub. Maintain a longer grassland sward, ensuring nutrient levels are kept as low as possible to ensure flowering species diversity is maintained over time.	Control undesirable plant growth within sward if necessary, such as dock, thistle, nettles and ragwort by hand excavation/pulling or spot swiped. Control of suckering species adjacent to retained native hedgerows to reduce encroachment and maintain the proposed hedge lines. Cut after wildflowers have set seed.	<u>Year 1</u>: Cut grassland regularly to 100mm. <u>After establishment</u>: Cut after flowers have set seed in late July–mid-August and then in October/November. Ensure arisings are removed after 2–3 days after every cut.	Scrub control works will be undertaken during winter months to avoid bird nesting season, particularly immediately adjacent to existing native hedgerows. Arisings will be removed from the Site after 2–3 days and placed in designated compost heaps or removed from Site.
Existing Semi-improved Grassland	A portion of the semi-improved grassland within the west of Site will be managed sensitively to increase diversity and provide habitat diversity.	Maintain areas of open grassland. Create a longer more tussocky sward adjacent to hedgerows and scrub of benefit to reptiles. Prevent invasion by weeds or scrub. Maintain a longer grassland sward, ensuring nutrient levels are kept as low as possible to ensure flowering species diversity is maintained over time.	Control of suckering species adjacent to retained native hedgerows to reduce encroachment and maintain the proposed hedge lines. Cut after wildflowers have set seed.	Cut after flowers have set seed in late July–mid-August and then in October/November. Ensure arisings are removed after 2–3 days after every cut.	Scrub control works will be undertaken during winter months to avoid bird nesting season, particularly immediately adjacent to existing native hedgerows. Arisings will be removed from the Site after 2–3 days and placed in designated compost heaps or removed from Site.

Habitat/Feature to be Managed	Description	Management Objectives	Maintenance Prescriptions	Timing	Considerations/Recommendations
New Native Hedgerow Planting	Hedgerows have been planted to ensure they are able to develop to become dense and of the appropriate size.	New native hedgerows to establish with no gaps. Prevent animal browsing. Ensure formative pruning is carried out to promote good structure. Ensure hedges are maintained so they don't obstruct visibility for vehicles.	Following planting, water to field capacity during periods of dry weather during the first growing season. Ensure all plants are appropriately protected from animal damage. Carry out formative pruning to ensure desired 'A' shape profile is achieved. Re-firm soil around the base of plants that become loose and ensure guards are not preventing growth. Control aggressive weeds that are competing with the hedgerow plants.	Water during dry periods, likely between April and September. Trim November to February. Weed control between April and September.	Hedges will be managed to the desired height by the Management Company
Existing Hedgerows	Existing native hedgerows will be managed to ensure a dense structure is maintained.	Ensure formative pruning is carried out to promote good structure. Ensure hedges are maintained so they don't obstruct visibility for vehicles.	Carry out formative pruning to ensure desired 'A' shape profile is achieved on a three-year rotation.	Prune November to February on three-year rotation so that only one side of the hedgerow is cut in any one year.	Hedges will be managed to the desired height by the Management Company
Newly Planted Trees	New trees planted within the Site.	The key objective for management is to ensure newly planted trees establish fully to the point where they are independent and require only minimal ongoing maintenance.	Following planting, each tree will be watered to field capacity. A weed free area of 1m diameter will be maintained around each tree during the first three growing seasons. Guards and stakes to be checked on each maintenance visit and adjusted/replaced if necessary. Re-firm trees loosened in the ground by wind rock and adjust stakes and ties to ensure the tree is adequately supported. Remove spiral guards after two years. Undertake formative pruning as required.	Trees to be inspected during each maintenance visit to the Site, or monthly as a minimum, and maintenance operations to be carried out as required during those visits, ensuring any works that require pruning or cutting are carried out outside of the bird nesting period.	
Ornamental Shrub and Herbaceous Planting	Ornamental planting within public open space areas, including single shrubs and bulb planting.	Ornamental planting will be managed to ensure successful establishment. Plants will remain un-encumbered by weeds or long grass so they can provide visual amenity, landscape structure, and provide food and habitat for wildlife.	Weeding around ornamental planting, watering if required and maintaining mulch to a depth of 75mm.	Weeding around ornamental planting, watering if required and maintaining mulch will be carried out during each maintenance visit, or monthly as a minimum.	This management plan covers planting within public open space areas and along site boundaries only.
Retained Woodland	Woodland at the north of the Site retained.	Managed to ensure safety of trees.	Annual inspection by an Arboricultural Association approved arboriculturist contractor or professional arboriculturist and implementation of any recommendations.	Any pruning/felling to take place outside of bird nesting season.	Any work to mature trees to be preceded by an assessment for potential to support roosting bats. Dead wood to be left as a resource within the woodland.

Habitat/Feature to be Managed	Description	Management Objectives	Maintenance Prescriptions	Timing	Considerations/Recommendations
Bat and Bird Boxes	Boxes installed on suitable trees in retained woodland.	Ensure boxes remain in good condition.	Repair or replace boxes as necessary. Bat boxes will need to be inspected by a bat licensed ecologist.	Bat and bird boxes checked two years after installation and every five years long term. Boxes checked after bird nesting season.	All boxes are selected for being long lasting and integrated boxes on dwellings are designed to not require maintenance.
Log Piles	Log piles created to provide additional refuge habitat for reptiles.	Ensure log piles remain intact and suitable for reptile refuge.	Replace logs as necessary if collapsed or degraded.	Annual inspection in the summer months.	Logs can be added at any time from any tree pruning operations required.

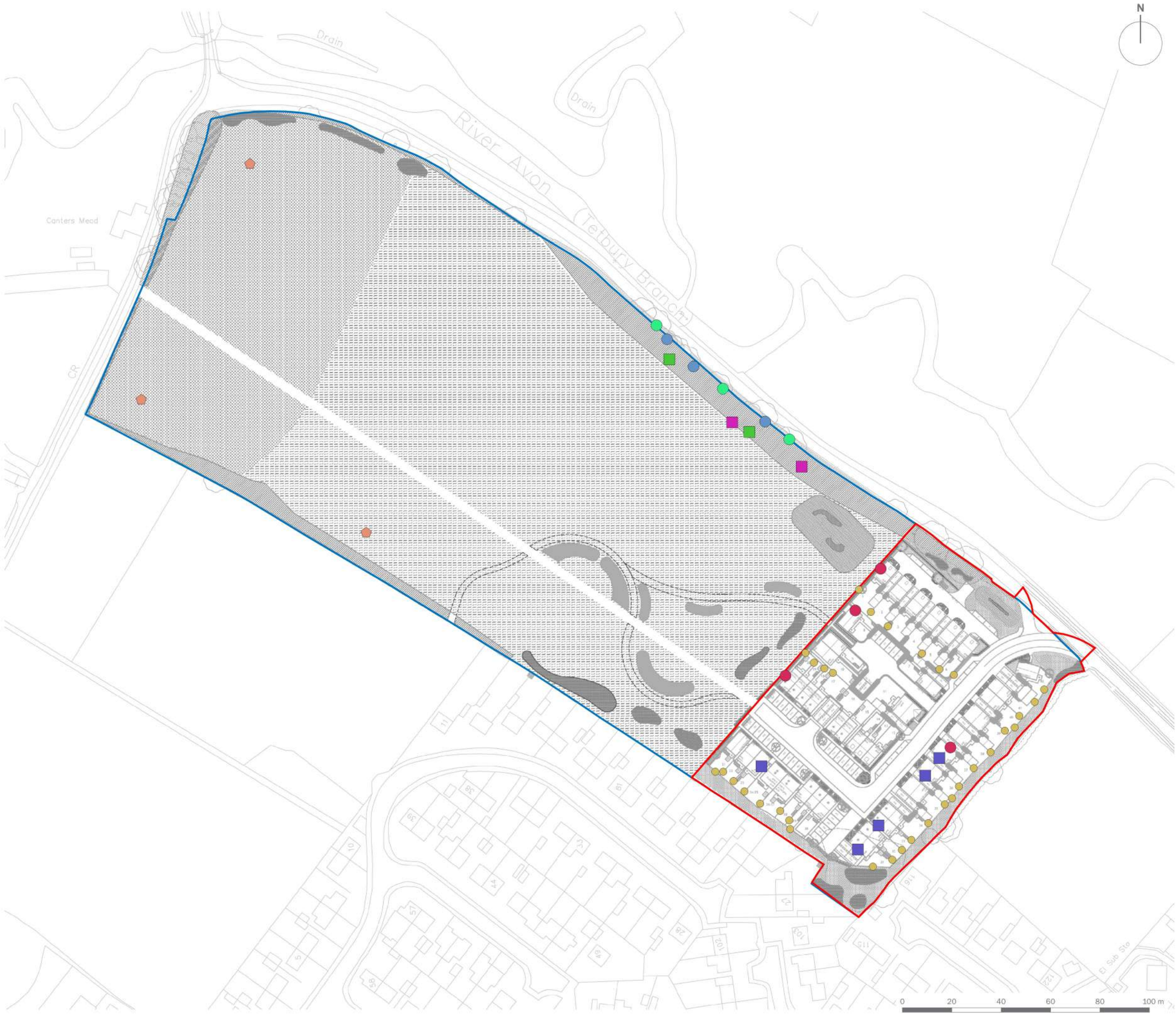
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Plan

Plan EDP 1 Species Specific Features Plan
(edp7403_d005b 12 September 2023 VMS/LNe)

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Site Boundary

Ownership Boundary

Faunal Enhancement Features

- Integrated Bat Box - Schwegler 1FF Bat Box or Similar [5]
- Tree Mounted Bat Box - Schwegler 1FF or Similar [2]
- Tree Mounted Bat Box - Schwegler 2F or Similar [2]
- Deep Nest Box - Schwegler 1N Bird Box or Similar [3]
- Integrated Sparrow Terrace - Schwegler 1SP or Similar [4]
- Starling Nest Box - Schwegler 3S or Similar [3]
- Reptile Log Pile [3]
- Hedgehog Hole in Garden Fence - 13cm x 13cm Gap [33]

client

White Lion Land (Malmesbury) Limited

project title

Land at Park Road, Malmesbury, Wiltshire

drawing title

Species Specific Features Plan

date	**12 SEPTEMBER 2023**	drawn by	**VMS**
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