Landscape and Ecology Management Plan

LAIRD BAILEY
LANDSCAPE ARCHITECTS

Catalyst, Bicester, Unit 7b – RM3

18 March 2022

LBLA Report No. LB291/R02a/AL/DB

Report No:	Date	Revision	Author	Checked
LB291/R02	09.03.22	-	David Bailey CMLI	Andrew Laird CMLI
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Contents:

Plan:

LB291_R02b: RM3- Soft Landscape Proposals (Sheets 1-3)

Section 1: Introduction

Purpose

1.1 This Landscape Management Plan (LMP) has been prepared by Laird Bailey Landscape Architects (LBLA) on behalf of Albion Land for Catalyst, Bicester, Units 7b (hereafter referred to as the 'site'). The site is centred on OS grid reference SP575210.

1.2 The purpose of the LMP is to provide details of measures to ensure the successful establishment and ongoing maintenance of the soft and hard landscape elements of the development proposals.

1.3 This LMP should be read in conjunction with drawings LB291_D02b 'RM3 – Soft Landscape Proposals (Sheets 1-3)'.

Scope of the Landscape Management Plan

1.4 This Landscape Management Plan is set out as follows:

- Section 2 describes the site, and provides an overview of the existing landscape and its condition;
- Section 3 describes the proposed soft landscaping typologies;
- Section 4 describes the proposed hard landscaping typologies;
- Section 5 sets out the long-term design objectives;
- Section 6 sets out the management regimes and responsibilities;
- Section 7 sets out the maintenance operations for all the soft landscape areas; and
- Section 8 sets out the maintenance operations for all the hard landscape areas.

Section 2: Site Overview of Existing Landscape and its Condition

Site Context

2.1 The site is located to the southern edge of Bicester, Oxfordshire. The site is proposed for a single industrial and office unit (Units 7b), associated landscaping and highways.

2.2 The site currently comprises a chicken farm with a residential unit, pond, scattered trees and hedgerows. Field boundaries are vegetated to the south and west with the southern boundary serves by a drainage gully. Soft landscaping elements are contained to the site's peripheries and around the pond. The site's north and east boundary are fenced and remain open with the wider agricultural field. To the south the field boundary is well vegetated with trees and a hedgerow. The sites western boundary is well vegetated with trees and is shared with Wendlebury Road to the west.

2.3 The character of the site is peri-urban with a mix of built development and agricultural land surrounding the site in all directions.

Section 3: Proposed Soft Landscaping

1.5 This LEMP is to read in conjunction with details of proposed soft landscaping (see LBLA Drawing No. LB291_D02b - RM3 – Soft Landscape Proposals (Sheets 1-3).

3.1 Soft landscaping within the site is designed to:

- Create an attractive and appropriate setting for the new Unit (7b), providing all year-round interest and colour.
- Create a strong soft landscape framework with planting to the perimeter of the site including trees, selected to maximise biodiversity;
- Ensure trees and shrubs are managed appropriately to promote the growth of flowers, berries and general 'form' offering the maximum benefit of amenity/habitat for birds, small mammals, and insects, and;
- Provide additional habitats for bats and nesting birds.

3.2 Proposed soft landscaping elements and planting consists of the following.

Trees

3.3 A selection of native trees, planted at a range of appropriate sizes (ranging between selected standard up to semi mature) will feature across the scheme.

Native Woodland Planting

3.4 In addition to specimen trees, a native woodland mix of feathered trees, whips and transplants shall be planted at an approximate density of 1 plant/1.5msq. Over time this will form a dense understorey screen to larger tree specimens, contributing to the overall bio-diversity value and visual mitigation/amenity, reducing visual coalescence between the built form.

Native Shrub Mix and Native Hedgerow

3.5 Featuring within the development and upon the site boundaries, creating a series of green corridors linking to the wider landscape fabric. Hedgerows will consist of a variety of native species (typically those which are prevalent in the local area) planted as double staggered rows at 5 plants per linear meter.

Amenity Shrub Planting

3.6 This consists of species which are mainly evergreen and offer all year-round seasonal interest. Specimens will be chosen due to their hardiness/robustness and need for minimal maintenance/management once established. Ultimately, mature sizes will range between 0.3m-1.5m in height. It has also been deemed important that the majority should be flowering species to provide added bio-diversity value and a food source for pollinators.

Headwall Climbers

3.7 Several species of ivy have been proposed along attenuation headwalls to assist in softening hard landscape elements. Specimens are planted at 1 plant per linear meter.

Wildflower Meadow Mix

3.8 Wildflower areas will be limited to the outer perimeters of the development and mainly form a successional buffer to understorey woodland and native hedgerows. Seed mixes will consist of a range of shade tolerant non-invasive grass and long-lasting wildflowers, offering maximum benefits to bees, butterflies, birds, and small mammals.

Amenity Grass Mix

3.9 Amenity grass areas will be provided around buildings and for verges flanking access roads and pedestrian paths throughout the site.

Swale Meadow Grass Mix

3.10 This is to be implemented on the margins/banks of swales and scrapes, both planted with a wetland meadow mix (Emorsgate EM8 composed of 20% wildflowers and 80% slow growing grasses).

Section 4: Proposed Hard Landscaping

4.1 This LEMP is to read in conjunction with details of proposed soft landscaping (see relevant Cornish Architects drawings).

4.2 Hard landscaping within the site is designed to:

- Create an attractive and appropriate setting for the new Industrial unit (7b), providing hard landscape which is fit for purpose, durable and robust; and
- To provide a pallet of materials which are aesthetically and visually appropriate for the various settings and uses within the development.

Tarmacadam Road and Footway Surfacing

4.3 Tarmac surfaces are to be built to the given build-up specification and executed to a high standard. All bound surfaces will be edged accordingly to maintain crisp lines and the structural integrity of the surface build-up.

Self-binding Surfaces

4.4 Self-binding surfaces will use materials which are sensitive to the context in which they will be implemented. All bound surfaces will be edged accordingly to maintain crisp lines and the structural integrity of the surface build-up.

Section 5: Long-term Design Objectives

Existing Trees and Hedgerows

5.1 Management of existing trees, hedgerows and shrubs offers to secure the current landscape elements that have potential for enhancement without compromising other important aims of the development.

5.2 Specific objectives include:

- Ensuring long-term enhancement of trees and hedgerows with additional native planting and 'gapping-up' where required;
- Maintaining long-term health of existing trees and hedgerows to contribute to buffering the development from neighbouring land and infrastructure;
- To extend the life of mature trees through sound arbouricultural management; and
- Creating a healthy tree and shrub understorey to knit into the proposed soft landscaping proposals, offering a series of mature/interconnected wildlife corridors

5.3 Any tree/hedgerow works such as the removal of hazardous branches or the felling of mature trees will be completed outside of the active period for breeding birds (generally understood as March to August inclusive but some bird species may nest all year round). Should any management be required within the breeding bird period, checks for nesting birds by a suitably trained ecologist will take place prior to any works commencing to ensure that no breeding birds are present. Should a nest be present then a suitable buffer would be installed until the nest if confirmed as being inactive.

5.4 Checks for the presence of roosting bats would also be completed prior to management taking place regardless of the time of year. Potential bat roosting features can include woodpecker holes, rot holes, any cracks or splits in the tree bark, cankers, gaps between overlapping stems or branches, partially detached ivy (with stem diameters in excess of 50mm), and man-made holes. If any of the potential bat roosting features are identified, evidence of roosting bats is identified or a bat is found, then works would temporarily stop and an licenced ecologist/Natural England consulted.

Proposed Trees and Native Woodland Planting

5.5 The long-term design and management objective is to ensure that on-site trees thrive and contribute to an attractive environment. Trees shall me managed to develop to a healthy and even form. Stems should only be removed so as to retain the natural appearance of the individual plant species or to remove broken or badly damaged branches and dead wood. Tree surgery such as crown lifting should be carried out as required to prevent restriction to pedestrians or vehicles.

5.6 Any tree works will have consideration for the potential presence of roosting bats and breeding birds as per the management considerations stated within the retained tree prescriptions above.

Existing and Proposed Native and Amenity Shrub Planting

5.7 The long-term design objective of the shrub planting is to ensure the plants thrive to create shrubbery for local amenity and habitat for wildlife. Planting will be managed to achieve a maximum height of 2.5 metres. Pruning should be undertaken to promote flowering and fruiting in accordance with the species and age of the plant.

5.8 As such, any management will take place at the end of the winter months to avoid the active period for most wildlife, providing the plants with time to produce flowers, seeds and berries. Should any management be required within the breeding bird season (March and August inclusive), checks for nesting birds will take place prior to any works commencing by a suitably qualified ecologist. Should a nest be present then a suitable buffer would be installed until the nest if confirmed as being inactive. Any vegetation management will have consideration for the potential presence of breeding birds as per the management considerations stated above.

Proposed Native Hedgerow

5.9 Hedgerows are to be incorporated into the southern area of the site delineating the access pathway from the ecological habitat area as shown on the planting plan. The hedgerow should create a physical barrier to discourage access to the ecological planting to the south and provide an attractive edge to the car park and access path. The creation of hedgerow will also increase connectivity of the site for wildlife and provide additional foraging and nesting habitat for a variety of species.

5.10 Hedgerow planting will be managed to achieve a maximum height of 1.2m.

5.11 The ground around the hedgerow transplants will be bark mulched to conserve moisture and reduce weed growth.

5.12 Careful trimming and pruning will be required in the early years to ensure the development of a well-clothed hedge. Trimming should aim to form an 'A' profile.

5.13 Any hedgerow management will have consideration for the potential presence of breeding birds as per the management considerations stated above.

All Hedging

5.14 Inspect monthly for the first year and maintain shrubs/hedging in a weed free condition through combined techniques by hand, herbicides, cultivation and mulching.

5.15 Prune or clip to promote bushy, healthy growth and required shape when necessary.

5.16 Trimming back of growth overhanging adjacent footpaths or windows when required.

5.17 Remove/replace individual specimens as required.

Proposed Wildflower Meadow Mix, Amenity Grass Mix and Hedgerow Margins

5.18 Management aims to increase structural diversity and species composition both in a manner compatible with user's amenity requirements and with the needs of fauna such as invertebrates, reptiles, birds and foraging bats. The management objectives are as follows:

- Secure foraging habitats for wildlife without disturbance by retaining grassland within root protection areas of retained hedgerows and trees;
- Provide structured mosaics varying from regularly mown amenity grassland to wildflower and grass edges cut on less frequent mowing rotations;
- Enhance species composition in the seeding mix by specifying a species-rich wildflower and grassland mix for the public open space and hedgerow margins.

5.19 Amenity grass will be cut to a height of 50mm monthly during the growing season with arisings removed. Proposed wildflower meadow and hedgerow margins would be cut back once a year in late August and early September, left for a minimum of 3 days and then arisings removed, thus allowing the majority of the grassland plants to bloom and set seed.

Proposed Headwall Climbers

5.20 Management aims to develop a 'green wall' along the length of headwalls whilst maintaining functionality of inlet/outlets.

5.21 Climbers should be supported through the establishment phase to ensure adequate take to the headwall;

5.22 Climbers should not be allowed to form a ground cover mat and encroach into neighbouring areas such as amenity space nor within attenuation basins. Climbers should be cut back to headwall boundaries;

5.23 Climbers should be maintained as to ensure the functionality of attenuation basins are operational. Climbers should be cut back from all inlet/outlets connecting drainage infrastructure to attenuation basins.

Proposed Swale Meadow Grass Mix

5.24 Wetlands and other aquatic environments on site will aim to provide a unique habitat for thousands of species of aquatic and terrestrial plants and animals. Equally wetlands, swales and attenuation basins will offer flood protection and water quality improvement as well as a valuable, aesthetically pleasing, recreational resource.

5.25 This would be cut back annually as per the prescription for Wildflower Meadow.

Improve Opportunities for Bats

5.26 The retention of hedgerows on site in conjunction with the new hedgerow and tree planting will maintain and enhance the foraging and commuting opportunities for bats across the site and to the wider area. The provision of wildflower grassland, wetland scrapes and swale planting will also provide foraging opportunities for some bat species.

5.27 Additional roosting opportunities are proposed in order to provide further ecological enhancement for bats post-development. This will include the installation of six bat bricks / boxes avoiding north facing elevations (Vivaro Pro Build-in Woodstone or similar). Bricks / boxes should be placed as high as possible (3 m and above), ensuring the entrance is free from obstruction. Favoured sites are close to linear features along the hedge line or incorporated into the building and away from street lighting.

5.28 The bat bricks are designed to be low maintenance and the only monitoring which should be completed after Year 1 is to confirm that the spec and location is appropriate.

Improve Opportunities for Birds

5.29 The creation and appropriate management of new native shrub, hedgerow, wetland scrapes and tree planting will provide and overall enhancement to bird foraging and nesting resources within the site post-development.

5.30 To provide an additional enhancement for birds, six bird boxes will be erected on the buildings or suitable retained trees. Boxes will be positioned so they are sheltered from prevailing wind, rain and strong sunlight, normally facing north through to south east on buildings, at a higher of between 2m and 5m, ensuring a clear flight path to the entrance.

5.31 All boxes should be Vivara Pro or similarly created from woodcrete as these are known to be durable, long-lasting and to regularly attract birds to nest.

5.32 All boxes should be annually inspected for presence, damage, obstruction and if necessary, should be cleaned. Inspection and cleaning should be conducted annually during the winter months to avoid impact to nesting birds. If replacement through loss or damage is required, it should be for an identical product positioned in the same or a similar location.

Section 6: Management Regimes and Responsibilities

6.1 The landscaping works will receive post installation maintenance for a one-year defects liability period (DLP). All defects resulting from plant loss, disease, or failure will be replaced on a like for like basis. A visit every month, or more frequently should watering be required, is recommended during the DLP. Subsequently a minimum of 12 maintenance visits per annum is recommended.

6.2 Maintenance and management activities are set out below (which covers a minimum period of five years) to ensure the soft landscaping is managed effectively beyond the time limits of the implementation and establishment works. The responsibility for this management and maintenance is to be agreed. LBLA's recommendation is for the landscape contractor that undertakes the planting works to be engaged to carry out the one-year establishment maintenance.

6.3 Management and maintenance operations will be monitored and reviewed annually on an on-going basis and where required, modified if the operations and frequencies set out do not deliver the required results or meet the specific aims and objectives.

6.4 As a minimum, maintenance visits should be undertaken to inspect, monitor as well as to carry out routine operations, including weeding and litter picking, with other specific operations being undertaken as scheduled below.

Section 7: Soft Landscaping Maintenance Works Schedule

Component	Task	Time of Year	Frequency
Visits every month throughout the one-year defects and establishment period, more frequently if required due to prologued dry weather conditions and the need for watering. Subsequently management and maintenance operations will be monitored and reviewed annually on an on-going basis and where required modified if the operations and frequencies set out do not deliver the required results or meet the specific aims and objectives.			
Trees & Native Woodland Planting	Prune and repair wounds in accordance with good horticultural and arboricultural practice.	Oct-Feb	As required (annually).
	Check the ties regularly for rubbing and adjust if necessary. Constriction of the stem by ties happens very quickly, so fast-growing trees need frequent checking. After bad weather, check for abrasion and snapped stakes or ties. Re-firm tree by adjusting tree ties and ensuring soil is re-firmed around the base.	All year round and especially after strong winds, frost heave and other disturbances.	As required (annually).
	Hand weed mulched areas around trees.	Mar-Sep	Every visit.
	Apply suitable non-selective herbicide to control weeds.	Mar/Oct	Only if required.
	Replace any failed specimens.	Oct-Mar	As required during the one-year DLP (next available planting season).
	Remove debris/litter	Throughout	Every visit.

Component	Task	Time of Year	Frequency
	Top up bark mulch around bases of trees to full depth of 75mm.	Mar/Apr	As required during the DLP.
	Newly planted trees will be watered throughout May-August months after any period of four weeks without significant rain to thoroughly wet the top 150mm of soil around the tree roots.	Throughout	As required after a period of four weeks without significant rainfall.
	Trimming and selective thinning of the canopy. Trim back growth overhanging adjacent footpaths when required.	Oct-Mar	Annually if required.
	In years 2 and onwards remove staking if tree has established well and the stakes are no longer required.	Any	As required.
Amenity Shrub Planting	Trimming and reshaping to encourage healthy bushy growth. Trim back growth overhanging adjacent footpaths when required.	Oct-Mar	Annually if required.
	Hand weed.	Throughout	Every visit.
	Apply suitable non-selective herbicide to control weeds.	Apr-Sep	Only if required.
	Remove debris/litter.	Throughout	Every visit.
	Replace any failed specimens.	Oct to March	Within the DLP, as required (next available planting season).

Component	Task	Time of Year	Frequency
	Top up bark mulch around bases of shrubs to full depth of 75mm.	Apr	As required during the DLP.
	Watering of newly established shrubs.	Throughout	As required after a period of four weeks significant rainfall, during the DLP.
Native Hedgerows/ Native Shrub Mix	Re-shaping.	Hard-prune Oct-Feb	Annually if required.
	Hand weed.	Throughout	Monthly/every visit.
	Apply suitable non-selective herbicide to control weeds.	Apr-Sep	As required.
	Apply fertiliser: Slow release, applied as per manufacturer's recommendations.	Mar/Apr	Annually.
	Remove debris/litter.	Throughout	Monthly/every visit.
	Replace any failed specimens.	Oct-Mar	As required (next available planting season).
	Top up bark mulch hedge base to full depth of 75mm.	Apr	Annually.
	Watering of newly established hedgerows.	Throughout	As required after a period of four weeks without significant rainfall.
	Trim and top hedgerow as necessary avoiding bird nesting season.	Feb	As required (annually).
Headwall Climbers	Cut back all climbers from encroachment into basin back in line with headwall. Cut	May and September	Twice annually

Component	Task	Time of Year	Frequency
	back all climbers from inlet/outlets to the attenuation basin.		
Wildflower Meadow Mix	Mowing/strimming.	Late Aug/early Sep	Cuttings must be left for a minimum period of 3 days before being raked up and removed, to allow wildflowers to bloom and disperse seeds
	Weeding.	Throughout	Monthly/every visit. Weeds exceeding 75mm and which don't feature in the seed mix should be removed.
	Re-seeding (if required).	Sep	Any bare patches of ground where seed has failed to germinate should be re-seeded as per the original specification.
Amenity Grass Mix	Mowing and removal of arisings.	Mar-Oct	Monthly/every visit. Grass should be mown regularly to aid with establishment to a height of 50mm.
	Clearance of debris/rubbish	Throughout	Water bodies to be regularly checked for rubbish or other detritus material. Any rubbish to

Component	Task	Time of Year	Frequency
			be cleared by hand and removed from site.
Swale Meadow Grass Mix	Weed control.	Mar-Sep	Invasive weeds to be spot treated with a glyphosate herbicide applicator. Herbicide must not be applied within 2m of attenuation or swale bank if permanent standing water is present. Any weeds within this 2m zone or on sloping banks should be removed by hand or mechanically.
	Aquatic planting management/thinning.	Sept-Oct	Aquatic plant thinning should be carried out on a 3-year cycle to halt the natural succession process and ensure an open body of water maintained.
	Weeding.	Mar-Sep	Invasive weeds to be spot treated with a glyphosate herbicide applicator. Herbicide must not be applied

Component	Task	Time of Year	Frequency
			within 2m of attenuation or swale bank if permanent standing water is present. Any weeds within this 2m zone or on sloping banks should be removed by hand or mechanically.
Improve opportunities for bats	Installation of bat bricks / boxes into the buildings on site or suitable retained trees to include a range of different aspects (mainly to the south or west, but providing a variety of different positions to offer a range of climatic conditions). Bricks / boxes should be placed as high as possible (3m and above), ensuring the entrance is free from obstruction. To be installed within six months of implementation of the LEMP preferably between November and February.	During construction phase	Once
	After Year 1 a check would be completed to ensure that they have been installed in the correct/optimal locations. Bricks / boxes should then be checked annually for presence, damage and obstruction.	Anytime	Annually
	Installation of bird boxes into the buildings on site or suitable retained trees to include	During construction phase	Once

Component	Task	Time of Year	Frequency
Improve opportunities for bats	a range of different aspects (mainly to the north or north-west, but providing a variety of different positions to offer a range of climatic conditions). Boxes should be placed as high as possible (3m and above), ensuring the entrance is free from obstruction. To be installed within six months of implementation of the LEMP preferably between November and February.		
	All boxes should be inspected annually for presence, damage, obstruction and if necessary, should be cleaned. Inspection and cleaning should be conducted during the winter months to avoid impact on nesting birds.	Oct-March	Annually

Section 8: Hard Landscaping Maintenance Works Schedule

Component	Task	Time of Year	Frequency
Visits every month throughout the one-year defects and liability period. Management and maintenance operations will be monitored and reviewed annually on an on-going basis and where required modified if the operations and frequencies set out do not deliver the required results or meet the specific aims and objectives.			
Hard landscape surfaces	Weeding/litter picking/sweeping.	Throughout	Hard surfaces within the landscape areas should be maintained in a clean and tidy appearance free from weeds and litter, and this will include a general sweep, and occasional spray of surfaces if required.
	Repairs to cracked or worn surfaces.	Throughout/weather permitting	Hard landscape road and footways should be checked quarterly; any areas of wear that may become a safety concern should be assessed and repaired.

Component	Task	Time of Year	Frequency
Self-binding surfaces	Weeding/litter picking.	Throughout	Self-binding surfaces within the landscape areas should be maintained in a clean and tidy appearance free from weeds and litter, and occasional spraying of surfaces if required.
	Repairs to cracked or worn surfaces	Throughout/weather permitting	Self-binding gravel paths should be checked quarterly and after periods of excessive rainfall; any areas of wear that may become a safety concern should be repaired.

Component	Task	Time of Year	Frequency
Street Furniture	Check/assessment of street furniture.	Throughout	Undertake regular checks, maintenance, and repairs as necessary to ensure furniture and boundary treatment remains safe, in a usable condition and in a good state of repair. Empty litter bins at intervals appropriate to level of use.
	Litter collection.	Throughout	Empty litter and dog bins at intervals appropriate to level of use.

Plan:

LB291_D02b – RM3- Soft Landscaping Proposals (Sheets 1 – 3)

Notes
1. Do not scale from this plan
2. All information outside red line boundary shown for contextual purpose only.
3. All hatch patterns are indicative only unless stated otherwise.
4. This drawing is to be read in conjunction with the following Laird Bailey Landscape Architects documentation:
- LB291_D02b (sheets 1 to 3)
- AND all relevant documentation from the design team
5. Any discrepancies in the design information are to be brought to the attention of Laird Bailey Landscape Architects, in writing.
6. Refer to other consultants' drawings and specifications for the following design information:
- Levels & Drainage design and infrastructure
- Lighting and ducting
- Existing & proposed utilities
7. Plant quantities are to suit site areas in accordance with scheduled plant densities.
8. Any proposed plant substitution shall be agreed with the landscape architect prior to ordering.
9. Drawings are for planning purposes only.

65.3m

65.3m

1no. Quercus robur (M)

1no. Quercus robur (M)

3no. Acer campestre (M)

2no. Sorbus aria (S)

1no. Tilia cordata 'Greenspire' (M)

6no. Tilia cordata 'Greenspire' (M)

1no. Betula pendula (M)

1no. Acer campestre (M)

Headwall Climbers
23 no. Hedera helix 'Buttercup'
24 no. Hedera helix 'Glacier'
70 no. Hedera hibernica

2no. Betula pendula (M)

1no. Betula pendula (M)

2no. Sorbus aria (S)

3no. Sorbus aria (M)

1no. Acer campestre (M)

1no. Tilia cordata 'Greenspire' (M)

1no. Tilia cordata 'Greenspire' (M)

Unit 7a

Glass Link

Native Hedgerow
222 no. Cornus sanguinea
295 no. Corylus avellana
295 no. Crataegus monogyna
222no. Euonymus europaeus
222 no. Prunus spinosa
222 no. Rosa canina

Unit 7b

First Floor Mezzanine

Drain

1no. Betula pendula (M)

Totem Type 3 (phase 2 works)

First Floor Offices

Unit 6

131 car parking spaces

POSSIBLE FUTURE PATH

Totem Type 1

Totem Type 1

Totem Type 3

Totem Type 2

Attenuation

- Site Boundary
- Land Under Applicants Ownership
- Existing Vegetation to be Retained
- Proposed Tree
- Proposed Native Woodland Planting
- Proposed Hedgerow
- Proposed Headwall Climbers
- Proposed Amenity Planting Mix
- Proposed Native Shrub Planting
- Proposed Amenity Grass Seed
- Proposed Wildflower Meadow Mix
- Proposed Swale Seed Mix

Locaion Plan

Rev	Comment	Date
b	Engineering Layout Update	18.03.22
a	Layout Update	09.03.22

N

0m 25m

LAIRD BAILEY LANDSCAPE ARCHITECTS

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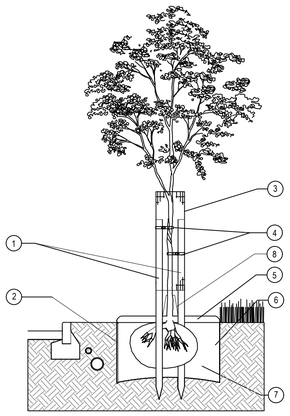
Client:
Albion Land

Project Title:
Catalyst Bicester

Drawing Title:
RM3 - Soft Landscape Proposals (Sheet 1 of 3)

Date: 19 February 2022
Drawing Number: LB291_D02
Scale: 1:500 at A1

Drawn By: AL
Checked by: DB
Revision: b



Tree Pit Detail (for trees in proximity to hard landscaping)

1. 2x tanalised timber tree stakes 2m, 75mm Ø driven into backfilled pit to provide support to the tree.

2. *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 four 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.

3. Tubex Treegaurd Mesh Roll or similar approved. 12mm mesh roll cut to size and bent in circle 320mm Ø and tied to tree stake to protect tree from damage by people and animals. Bottom of mesh should be 300mm above ground level to allow strimmer guard to be fitted and prevent litter and grass/weeds building up around the base of the tree. Top of mesh should be below the first lateral branch.

4. Use 2x Tree Ties *GLB25A* with *GLPFA* spacer sleeves or similar to secure tree to support post.

5. 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.
Alternatively, a suitable mulch mat can be used covering the same area.

6. Excavate tree pit to sufficient size to accommodate tree root ball. 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.

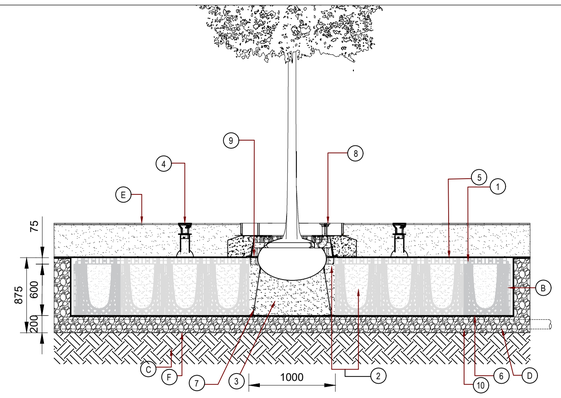
7. Backfill tree pit with subsoil and topsoil excavated from pit if this is regarded as of sufficient quality to promote the healthy establishment of the tree. If either the top soil or sub soil excavated from the pit is of poor quality, then soil ameliorants may be used sparingly or imported topsoil compliant with BS3882 should be used.

8. *Strimmer guard* by Arbortech or similar to be fitted around base of tree to protect from damage by grass maintenance machinery primarily, but also to provide an additional layer of defense against animal browsing.

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

The notes above are intended as a basic guide only. For further guidance on tree planting refer to BS8545:2014 Section 10.

Products suggested in italics above are available from Green Blue Urban (http://greenblueurban.com/) and Arbortech (www.arbortech.co.uk).



Tree pit detail (for trees in car parking areas)

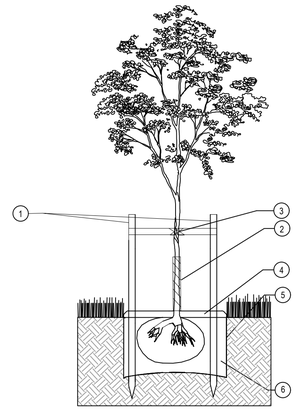
1. Rootspace @600mm depth (1 unit deep) c/w twin walled geonet & open reinforcing mesh - gburs61a -
2. Ropsoil for use within top 600mm of soil profile
3. Subsoil for use within soil profiles 600mm or deeper
4. Rootrain arborvent cast aluminium trafficable aeration inlet with 150mm square top and manifold - rrarbv150b (or acceptable equivalent)
5. Twin walled structural geonet (or acceptable equivalent)
6. 20mm Open reinforcing mesh
7. Arborguy anchorplate strapped anchor system - sasap06a (or acceptable equivalent)
8. Rootrain arborvent irrigation system - castle12a (or acceptable equivalent)
9. Medium rootdirector with root deflecting ribs - rd1000-rsa (or acceptable equivalent) set at edge of planting area
10. 10 - 20mm Clean angular drainage aggregate - gbudrsa (or acceptable equivalent)

Notes:

A. Allow 20% additional for geotextile and reinforced geogrid for ovelap and cutting requirements
B. Install rootspace side panels to installation as directed by engineer
C. Existing ground
D. Positive drainage pipe (110mm perforated pipe)
E. Build-up to suit engineer designs and requirements

Structural engineer's note:

F. Additional twinwall geonet (gltwgna) to be installed where sub-base is installed below 3% cbr - minimum 2% cbr of formation level to be assessed by engineer



Tree Pit Detail (for trees in open space)

1. 2x tanalised timber tree stakes 2m, 75mm Ø and crossbar driven into backfilled pit to provide support to the tree.

2. Clear spiral guard to be fitted to trunk to protect against animal browsing.

3. Use 2x Tree Ties GLB25A with GLPFA spacer sleeves or similar to secure tree to support post.

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.
Alternatively, a suitable mulch mat can be used covering the same area.

5. Excavate tree pit to sufficient size to accommodate tree root ball. 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.

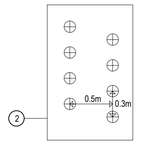
6. Backfill tree pit with subsoil and topsoil excavated from pit if this is regarded as of sufficient quality to promote the healthy establishment of the tree. If either the top soil or sub soil excavated from the pit is of poor quality, then soil ameliorants may be used sparingly or imported topsoil compliant with BS3882 should be used.

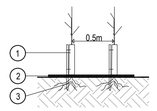
Immediately after planting, water the tree, saturating the tree pit to field capacity.

The notes above are intended as a basic guide only. For further guidance on tree planting refer to BS 8545:2014 Section 10.

Products underlined above are available from Green Blue Urban (http://greenblueurban.com/).

Double Staggered Row





Native Hedgerow Planting Detail

1. Tubex shrub shelter with supporting cane or stake.

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.

The notes above are intended as a basic guide only. 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/).

GENERAL PLANTING SPECIFICATIONS:

- Proposals to be read in conjunction with Architect's and Engineers Drawings;
- All landscape operations to be in accordance with BS4428: 1989 & BS 3936: 1992 and all amendments to date;
- Plant material to conform to the National Plant Specification;
- Any plant material planted outside the recognised planting season (Nov-Feb), to be containerised stock and supplied at the sizes specified;
- Plant handling and planting operations to be in accordance with HTA "Handling and Establishing Landscape Plants parts I - III;
- All planting to be maintained and guaranteed for 12 months to include watering, weeding, pest & disease control;
- The landscape sub-contractor is to take all safety precautions to prevent any injury to any persons. The landscape sub-contractor shall comply with the requirements of the Health and Safety at Work Act 1974 and current Construction, Design and Management Regulations.
- The landscape sub-contractor shall confirm the location of all underground services before commencement of planting and report where trees/ hedges are suggested within 2m of underground services and 5m of buildings.

SOIL AND MULCH
- Existing topsoil (if present and suitable) to be stripped and stored on site in heaps not exceeding 2m in height and kept weed free;
- Any compacted subsoil to be broken up to allow free drainage and to enable topsoil to key into surface;
- Any imported topsoil to be to BS3882, medium texture, neutral PH value, reasonably stone free with no stones over 20mm in size;
- Soil for meadow grassland to be composed of prepared sub-soil (nutrient poor);
- Topsoil depths to be 300mm for shrubs, hedges, climbers and groundcover planting;
- Finished topsoil levels to be 25mm above adjacent paved surfaces, and 300mm wide hard surfaced mowing margin to be provided where lawn adjoins buildings;
- All planting areas to be covered with a 75mm depth of medium grade bark mulch.

PLANT MATERIAL TREATMENT
- All to be British grown stock and fully hardened off;
- Root Dip – Proprietary Root Dip applied to all bare root stock at time of lifting at nursery and prior to planting;
- Anti-Desiccant – Proprietary anti-desiccant to be applied to foliage of all containerised/rootballed material in leaf, specimen conifers and evergreens etc. prior to transportation and during any delay in planting;
- Pruning - Allow for pruning of all deciduous trees and shrubs by 1/3rd /following planting at Landscape Architect's direction or as indicated in the planting schedule;
- Tree Stakes and Ties – Stakes to be pressure treated, round, smooth and peeled Larch or Chestnut, not less than 100mm in diameter. Advanced nursery stock – double staked with cross bar.

EXISTING TREES AND SHRUBS
- Avoid damage to branches, trunks and roots of trees. All existing trees and hedges to be retained are subject to BS5837 (2005 and all amendments to date) 'Trees in relation to Construction – Recommendations', and should be fully fenced off, prior to the commencement of any works.
- Where existing trees and shrubs are to be retained they should be subject to a full Arboricultural inspection for safety;
- Any surgery required shall be in accordance with BS3998 (2010 and all amendments to date) 'Tree Work – Recommendations', shall comply with any existing T.P.O requirements and shall require the prior approval of the Landscape Architect;
- No storage of materials, disposal of rubbish, site fires, spillage of oil and chemicals, ground compaction, excavation or changes in level shall be carried out within existing tree/hedge canopies.

TREES
- No trees to be planted within 3 metres of sewers or services or other easement recommended by the relevant statutory undertaker without the use of tree root barriers eg Greenleaf Reroot 600/100 placed between the tree and services;
- All trees shown to be planted ensuring that they are at least 5 metres away from buildings;
- Contractor to ascertain the location of all sewers and services prior to tree planting;
- Root barrier to be installed in planting pits in near proximity to underground services;
- Allow for the use of container grown stock during the periods 1 April to 31 October, and field grown stock from 1 November to 31 March unless otherwise specified in the planting schedule;
- Trees planted within grassed areas to be provided with appropriate conical strimmer guards;
- Feathered trees (up to and including 14-16cm girth) to be planted in topsoil pits 900 diameter x 600mm deep, supported by a single stub stake;
- Multi-stem trees to be planted in topsoil pits 2000mm diameter x 750mm depth or larger as necessary to allow 500mm soil around rootball with angled stakes;
- Standard trees (up to and including 10-12cm girth) to be planted in topsoil pits 900 diameter x 600mm deep, supported by a single stub stake;
- Heavy standard trees (12-14cm girth) to be planted in topsoil pits 1200 diameter x 900mm deep, supported by double stakes;
- Tree pits of extra heavy standard trees to be underground guyed. Detailing of tree pit to include tree pit irrigation "Root rain precinct" or similar approved; "Green leaf root director; Underground "Deadmen" guying system "Platipus" attached to 2 no concrete kerbs and pit backfilled with urban tree sand or similar approved. Base of pit to be broken up to 150mm depth beneath 150mm clean coarse angular gravel.
- Where necessary increase tree pit dimensions to ensure that tree pits are at least 75mm deeper and 150mm wider than rootball. Break up bottom of pits to a depth of 150mm. Compacted glazed sides of pits should be roughened.

SHRUBS (ORNAMENTAL AND SPECIMEN)
- All specimen shrubs to be planted in pits twice the size of the pot in depth and width and backfilled with a 50 -50 topsoil and shrub planting mix.

SEEDING
- Grass seeding cultivation to be brought to a fine tilth and all stones over 25mm in all directions removed. Areas to be uniformly firmed.
- Apply approved herbicide to control perennial weeds and allow period of time to elapse as recommended by manufacturer before final cultivation.
- Grass seed to be sown at rates shown below and as per Emorsgate recommendations.
- Amenity Grass areas to be seeded with Germinal Amenity A19 All purpose landscaping Mixture (or similar approved), sown at 50g/m;
- Other Meadow grassed areas to be seeded with Emorsgate EM1 'Basic General Purpose Meadow approved), sown at 50g/m;
- Other Meadow grassed areas to be seeded with Emorsgate EM2 'Standard General Purpose Meadow Mixture' (or similar approved), sown at 4g/m;
- Swale areas to be seeded with Emorsgate EG8 'MEadow Grass Mixture for Wetlandscape' sown at 5g/m2;
- Roll the seeded area with a ribbed crinkle or Cambridge roller upon completion;
- When grass is between 40-75mm high remove stones and debris exceeding 50mm in any dimension. Cut grass to approximately 35mm high; Meadow grass to be cut twice a year in March and October.
- Remove and dispose of all arisings.

TURF
- Turf supplied to be according BS3969 standards from an approved source;
- When topsoil is reasonably dry and workable, grade to smooth, flowing contours removing all minor hollows and ridges;
- Cultivate soil to full depth and break up any compacted topsoil;
- Apply approved herbicide to control perennial weeds and allow period of time to elapse as recommended by manufacturer before final cultivation. Apply proprietary fertiliser;
- Reduce top 25mm topsoil to a fine tilth by further cultivation. Remove stones exceeding 50mm in any dimension;
- Lay turf with broken joints, well butted up, working from planks laid on previously laid turfs, during appropriate season and weather condition;
- Adjust levels by raking out of filling of fine soil under turfs;
- Consolidate by lightly and evenly firming with wooded beaters as laying proceeds. Do not use rollers;
- Dress turf with fine topsoil and brush in to fill joints;
- Thoroughly water completed turf within 24 hours of laying;
- When grass is 50mm high remove debris, litter and any stones, in dry conditions cut grass to between 25-30mm;
- Remove and dispose of all arisings.

Notes
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2. All information outside red line boundary shown for contextual purpose only.
3. All hatch patterns are indicative only unless stated otherwise.
4. This drawing is to be read in conjunction with the following Laird Bailey Landscape Architects documentation:
   - LB291_D02b (sheets 1 to 3)
   - AND all relevant documentation from the design team
5. Any discrepancies in the design information are to be brought to the attention of Laird Bailey Landscape Architects, in writing.
6. Refer to other consultants' drawings and specifications for the following design information:
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7. Plant quantities are to suit site areas in accordance with scheduled plant densities.
8. Any proposed plant substitution shall be agreed with the landscape architect prior to ordering.
9. Drawings are for planning purposes only.

Rev	Comment	Date
b	Engineering Layout Update	18.03.22
a	Layout Update	09.03.22

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Client:
Albion Land

Project Title:
Catalyst Bicester

Drawing Title:
RM3 - Soft Landscape Proposals (Sheet 2 of 3)

Date: 19 February 2022
Drawing Number: LB291_D02
Scale: 1:500 at A1
Drawn By: AL
Checked by: DB
Revision: b

Planting Schedule

Trees			
Botanical Name	**Min Girth (cm)**	**Min Height (cm)**	**Specification**
Medium (M)			
Acer campestre (M)	14-16	450-500	RB; 4x; Extra Heavy Standard; 2m Clear Stem; Double Staked
Betula pendula (M)	14-16	450-500	RB; 4x; Extra Heavy Standard; 2m Clear Stem; Double Staked
Quercus robur (M)	14-16	450-500	RB; 4x; Extra Heavy Standard; 2m Clear Stem; Double Staked
Sorbus aria (M)	14-16	450-500	RB; 4x; Extra Heavy Standard; 2m Clear Stem; Double Staked
Tilia cordata 'Greenspire' (M)	14-16	450-500	RB; 4x; Extra Heavy Standard; 2m Clear Stem; Double Staked
Small (S)			
Acer campestre (S)	8-10	250-300	RB; Select Standard; 1.8-2m Clear Stem; Single Stake
Fagus Sylvatica (S)	8-10	250-300	RB; Select Standard; 1.8-2m Clear Stem; Single Stake
Sorbus aucuparia (S)	8-10	250-300	RB; Select Standard; 1.8-2m Clear Stem; Single Stake

Native Woodland Planting Mix

PLANTING NOTES:
REFER TO PLANTING MATRIX
Notch planted in a matrix pattern at 1500mm centres with rabbit protection.
Plant in single species groups with 7-13no. plants by species.

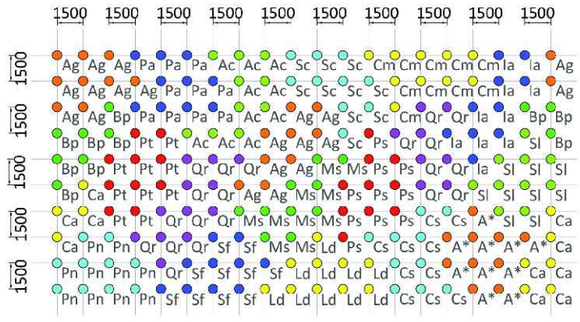
%	Code	Botanical Name	Min Height (cm)	Specification
5	A*	Alnus glutinosa	150	BR; Feathered
5	Ag	Alnus glutinosa	60-80	BR; 1+1
5	Bp	Betula pendula	60-80	BR; 1+1
5	Ca	Corylus avellana	150	BR; Feathered
5	Pn	Populus nigra spp. betufolia	60-80	BR; 1+1
5	Pt	Populus tremula	150	BR; Feathered
10	Qr	Quercus robur	150	BR; Feathered
5	Pa	Prunus avium	60-80	BR; 1+1
5	Ac	Acer campestre	150	BR; Feathered
5	Sc	Salix caprea	60-80	BR; 1+1
5	Sf	Salix fragilis	60-80	BR; 1+1
5	Ms	Malus sylvestris	150	BR; Feathered
5	Ld	Larix decidua	60-80	BR; 1+1
10	Pn	Pinus sylvestris	150	BR; Feathered
5	Cs	Cornus sanguinea	60-80	bushy, 3 brks
5	Cm	Crataegus monogyna	60-80	bushy, 3 brks
5	Ia	Ilex aquifolium	60-80	bushy, 3 brks
5	Sl	Sorbus leyana	60-80	bushy, 3 brks

Native Shrub Mix

PLANTING NOTES:
Plant in groups of 3-5, species selected randomly and planted at 1m centres. All specimens to be fitted with rabbit guard and caned.

%	Botanical Name	Min Height (cm)	Specification	Planting density
15	Cornus sanguinea	60-80	BR; 1+1	1/m2
20	Viburnum opulus	60-80	BR; 1+1	1/m2
20	Viburnum lantana	60-80	BR; 1+1	1/m2
15	Euonymus europaeus	60-80	BR; 1+1	1/m2
15	Crataegus monogyna	60-80	BR; 1+1	1/m2
15	Salix purpurea	60-80	BR; 1+1	1/m2

Native woodland planting matrix
For wider/narrower areas use same proportion of each species.



Amenity Shrub Planting

PLANTING NOTES:
REFER TO PLANTING MATRIX. Notch planted in a matrix pattern at 500mm centers.
Plant in single species groups to establish diagonal swathes of planting

Code	Botanical Name	Pot Size	Specification	Planting density
Co	Carex oshimensis 'Evergold'	2L	Full Pot	4/m²
Cs	Cornus sanguinea 'Midwinter fire'	3L	Full Pot	4/m²
Cc	Cotinus coggygria 'Purple Flame'	5L	Full Pot	As shown
Ea	Escallonia 'Apple Blossom'	3L	Full Pot	4/m²
Hr	Hebe 'Red Edge'	3L	Full Pot	4/m²
Hm	Hebe 'Mrs Winder'	3L	Full Pot	4/m²
Px	Photinia x fraserii 'Red Robin'	5L	Full Pot	4/m²
Po	Prunus 'Otto Luyken'	3L	Full Pot	4/m²
Ln	Lonicera nitida 'Maigrun'	3L	Full Pot	4/m²
Ms	Miscanthus sinensis	3L	Full Pot	4/m²

Native Hedgerow

PLANTING NOTES:
Plant in a double staggered row –500mm between rows and at 300mm centres at 5 plants per linear meter. All plants to be fitted with rabbit guard and caned.

%	Botanical Name	Min Height (cm)	Specification	Planting density
20	Cornus sanguinea	80-100	BR: 1+1	5/LM
20	Corylus avellana	80-100	BR: 1+1	5/LM
20	Crataegus monogyna	80-100	BR: 1+1	5/LM
10	Euonymus europaeus	80-100	BR: 1+1	5/LM
20	Prunus spinosa	80-100	BR: 1+1	5/LM
10	Rosa canina	80-100	BR: 1+1	5/LM

HEADWALL CLIMBERS

PLANTING NOTES:
Plant in same species groups of 3-5 plants. To be caned.

%	Botanical Name	Min Height (cm)	Specification	Planting density
20	Hedera helix 'Buttercup'	40-60	2L Pot; caned or framed	1/LM
20	Hedera helix 'Glacier'	40-60	2L Pot; caned or framed	1/LM
60	Hedera hibernica	40-60	2L Pot; caned or framed	1/LM

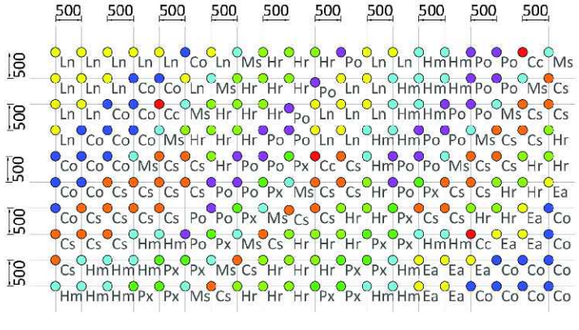
Swale Meadow Grass Mix (Seasonally Wet)

Mixture	Supplier	Sow Rate
EG8 (Meadow grass mixture for wetlands)	Emorsgate Seeds	5g/m2 (50kgs/ha)

Wildflower Meadow Mix

Mixture	Supplier	Sow Rate
EM2 – Standard General Purpose Meadow Mixture	Emorsgate Seeds	4g/m2 (30kg/ha)

Amenity planting matrix
For wider/narrower areas use same proportion of each species.



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