Peverill Securities

**Bicester Arc**

# ECOLOGY TECHNICAL NOTE – OVERALL BIODIVERSITY NET GAIN CALCULATIONS

August 2023

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# 1.0 INTRODUCTION & METHODOLOGY

## Introduction

1.1 The following report has been prepared on behalf of Peverill Securities and provides the overall biodiversity net gain calculations for a site known as Bicester Arc (hereafter referred to as the 'Site').

1.2 The Site was subject to an outline planning application in 2017 (Ref 17/02534/OUT) for the erection of a business park of up to 60,000 sq.m (GEA) of flexible Class B1(a) office / Class B1(b) research & development floorspace; associated vehicle parking, landscaping, highways, infrastructure and earthworks.

1.3 The calculations are to fulfil condition 25 of the above consent which states:

*25. No development shall take place until a scheme of landscaping and ecological mitigation/enhancement measures as well as a long-term management plan (to include a timetable and who is responsible for the management/ maintenance) in relation to all of the land edged blue to the east of the Superstore as shown on drawing no. 1105_P_004 Rev. A. has been submitted to and approved in writing by the Local Planning Authority. The approved landscaping and ecological mitigation/enhancement measures shall deliver a net biodiversity gain which shall be provided/created within the blue edged land prior to the first occupation of any development on the application site and shall thereafter be maintained in accordance with the approved long-term management plan.*

*Reason - To ensure that the development responds appropriately to the whole of the land allocated through Policy Bicester 4 in order to create a sustainable new business park and to ensure that the development leads to a net gain for biodiversity generally as well as preserves protected and priority species in accordance with the requirements of Policies ESD10 and Bicester 4 of the Cherwell Local Plan 2011-2031 Part 1 as well as Government guidance contained in the National Planning Policy Framework. This information is required prior to commencement of any development on the appropriate phase as it is fundamental to the acceptability of the scheme.*

1.4 An 'eco park' will be created within the Site which, along with limited landscaping across the rest of the development area, will serve to provide the necessary biodiversity net gain for the entire development site and thus any additional landscaping within each plot, for each forthcoming reserved matters application, will only serve to increase the net gain above this.

1.5 A Landscape and Ecology Management Plan (LEMP) will be produced to accompany this report and will detail the establishment and management procedures necessary for the proposed habitats to reach and be maintained in the proposed conditions. This will fulfil the remainder of condition 25.

## Methodology

1.6 National Planning Policy Framework 2021 (Paragraph 174) recommends that "*planning policies and decisions should…. minimise impacts on and provide net gains for biodiversity*." However, the government is seeking to mandate biodiversity net gain across all future developments in England, with the Environment Bill used to make the statutory changes necessary to implement

mandatory net gain. The Environment Bill was passed in November 2021 and Part 6 of the Bill 'Nature & biodiversity' is has not been mandated but this is expected in late 2023.

1.7 In addition, Policy ESD10 of the Cherwell Local Plan 2011-2031 (adopted 2015) begins with "*In considering proposals for development, a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources*".

1.8 To assess whether the proposals are capable of delivering a biodiversity gain, the Department for Environment, Food and Rural Affairs (DEFRA) Biodiversity Impact Assessment Calculator v3.1 was used. This is a transparent way to calculate the biodiversity value of the habitats and hedgerows on a site, before (based on the extended phase 1 habitat mapping) and after (based on the site layout) development. It is a proxy measure to determine if the development will result in an on-site habitat biodiversity net loss or gain.

1.9 An Extended Phase 1 Habitat Survey was undertaken in March 2021 and updated in April 2023 during which the existing habitats were mapped and assessed. This data was used for the baseline calculations. The habitat survey was conducted for the Ecological Appraisal and this Technical Note should be read in conjunction with this report[1].

1.10 The landscaping to be included in these calculations is shown in **Appendix A**. The rest of the Bicester Arc development footprint itself has been included, at this stage, as being 100% created sealed surface as a worst-case scenario to demonstrate that the 'eco park' can achieve a net gain for all future reserved matters applications whatever the level of landscaping provided.

[1] FPCR 2023. Bicester Arc – Ecological Appraisal. Produced for Peverill Securities

# 2.0 RESULTS & DISCUSSION

## Existing Habitats

2.1 The habitat distribution within the Site is shown on **Figure 2** of the Ecological Appraisal. The area in the north of the Site, north of lakeview drive was not included in the survey or calculations as this area will not be impacted by the proposed development.

### Improved Grassland/ Temporary Grass Ley

2.2 A majority of the Site was covered by improved grassland[2] dominated by perennial ryegrass *Lolium perenne* with very few other species. The past land use history of the Site indicates however that this grassland is temporary and has been sown in a rotation between cropping cycles. Therefore, as per the UK Habs Classifications[3] (used for the BIA) it is classed as a temporary grass ley.

2.3 Temporary grass leys are not given a condition assessment rating within the BIA metric.

### Dense Continuous Scrub

2.4 The Site was bounded to the northeast by dense continuous scrub. This habitat also extended along a drain located through the east of the Site. Scrub species included willow *Salix* species, hawthorn *Crataegus monogyna*, elder *Sambucus nigra*, common ash *Fraxinus excelsior*, blackthorn *Prunus spinosa* and field maple *Acer campastre*. The boundary scrub was edged by tall ruderal species such as green alkanet *Pentaglottis sempervirens*, common nettle *Urtica dioica,* cleavers *Galium aparine*, broad-leaved dock *Rumex obtusifolium*. cow parsley *Anthriscus sylvestris* and lesser burdock *Arctium minus*.

2.5 The criteria for scrub condition assessment for use in the BIA calculations is given in **Table 1** below. The scrub along the drain is in poor condition as it only passes criteria 1 and 2.

**Table 1. Condition Assessments of Scrub for the Defra BIA metric**

| Criteria | |
|---|---|
| 1 | Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover). |
| 2 | There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs. |
| 3 | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species[1] make up less than 5% of ground cover. |
| 4 | The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s). |
| 5 | There are clearings, glades or rides present within the scrub, providing sheltered edges. |
| Passes 5 of 5 criteria<br>Passes 3 or 4 of 5 criteria<br>Passes 0, 1 or 2 of 5 criteria | Good<br>Moderate<br>Poor |

### Tall ruderal

2.6 Tall ruderal vegetation had partially encroached onto the edges of the eastern field parcel. Species included broadleaved dock, nettle, white dead nettle *Lamium album*, spear thistle

[2] JNCC. 1990. Handbook for Phase 1 habitat survey – a technique for environmental audit. Peterborough: JNCC
[3] The UK Habitat Classification Habitat Definitions Version 1, UK Habitat Classifications Working Group, May 2018

*Cirsium vulgare*, lesser burdock and a few grasses such as cocks' foot *Dactylis glomerata* and false oat grass *Arrhenatherum elatius*. The area covered was small and comprised species considered to be undesirable. The criteria for tall herb communities were not met therefore this habitat is grouped with the temporary grass ley habitat.

**Urban Bioswale**

2.7 A drainage ditch along the side of Lakeview Drive was damp at the time of survey and dominated by reeds *Phragmites australis*.

2.8 This habitat for BIA purposes is an urban 'bioswale'. The condition assessment criteria for urban habitats are given in **Table 2** below. This bioswale is in poor condition as it only passes criteria 3.

**Table 2. Condition Assessment of Urban Bioswales for the BIA Metric**

| | | |
|---|---|---|
| CORE CRITERIA - applicable to **all urban habitat types:** | | |
| 1 | Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e., scrub, grassland, herbs) should not account for more than 80% of the total habitat area. | |
| 2 | There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife.<br>NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife). | |
| 3 | Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area.<br>NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover). | |
| ADDITIONAL CRITERION - only applicable to **Bioswale and SUDS** habitat types: | | |
| 4b | The water table is at or near the surface throughout the year. This could be open water or saturation of soil at the surface. | |
| • Passes 3 of 3 core criteria; AND<br>• Meets the requirements for good condition within criteria 2 and 3; AND<br>• Passes additional criterion 4a or 4b" | | Good |
| • Passes 2 of 3 of 4 criteria: OR<br>• Passes 4 of 4 criteria but does not meet the requirements for good condition within criteria 2 and 3" | | Moderate |
| • Passes 0 or 1 of 4 criteria | | Poor |

**Standing Water**

2.9 A ditch runs through the eastern part of the Site. This was almost entirely shaded by scrub vegetation. The banks were steep and at the time of survey there was little standing water; most of the ditch was damp with some areas containing 1-5cm of water. There was little aquatic vegetation; being only present in the few unshaded area and consisting of water crowfoot *Ranunculus fluitans*, water-plantain *Alisma plantago-aquatica*, water-starwort *Callitriche stagnalis* and brooklime *Veronica beccabunga*. Bulrush *Typha latifolia* was present and rosebay willow herb *Chamaenerion angustifolium* and bramble was encroaching in drier areas.

2.10 The condition assessment criteria for ditches in given in **Table 3**. The ditch was in poor condition as it only passed criteria 3, 5 and 8.

**Table 3. Condition Assessment of Ditches for the BIA Metric**

| Criteria | |
|---|---|
| 1 | The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. |
| 2 | A range of emergent, submerged and floating leaved plants are present. As a guide >10 species of emergent, floating or submerged plants in a 20 m ditch length. |
| 3 | There is less than 10% cover of filamentous algae and/or duckweed (these are signs of eutrophication). |
| 4 | A fringe of marginal vegetation is present along more than 75% of the ditch. |
| 5 | Physical damage evident along less than 5% of the ditch, such as excessive poaching, damage from machinery use or storage, or any other damaging management activities. |
| 6 | Sufficient water levels are maintained; as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains. |
| 7 | Less than 10% of the ditch is heavily shaded. |
| 8 | There is an absence of non-native plant and animal species[1]. |
| Passes 8 of 8 criteria | Good |
| Passes 6 or 7 of 8 criteria | Moderate |
| Passes 0, 1, 2, 3, 4 or 5 of 8 criteria | Poor |

### Flowing Water

2.11 A small brook bordered the Site to the southeast and at the time of survey contained 20-30cm of fast flowing water over a varied substrate of gravel and mud. Aquatic and emergent vegetation was sparse due to the overshading by trees and scrub. The brook is not within the Site and so was not included within the BIA calculations.

### Hedgerows

2.12 There are four hedgerows bounding the Site on the western and southern boundaries.

2.13 Hedgerow 1 is a mix of newly planted saplings to the eastern end and semi mature and mature hedge/trees at the western end.

2.14 Hedgerow H2 is more like a line of trees but is still managed as a hedgerow and thus is included as one.

2.15 Hedgerows H3 and H4 are relatively unmanaged hedgerows with few or no standards.

2.16 **Table 4** below details the habitat assessment criteria for hedgerows within the Site. Each of the four hedgerows is in moderate condition.

**Table 4. Condition Assessment of Ditches for the BIA Metric**

| Condition Assessment Criteria | H1 | H2 | H3 | H4 |
|---|---|---|---|---|
| **A1. Height**<br>>1.5 m average along length | Pass | Pass | Pass | Pass |
| **A2. Width**<br>>1.5 m average along length | Pass | Pass | Pass | Pass |
| **B1. Gap**<br>Hedge base gap between ground and base of canopy 90% of length (unless 'line of trees') | Fail | Fail | Fail | Fail |
| **B2. Gap –**<br>Hedge canopy continuity. Gaps make up 5 m | Pass | Pass | Pass | Pass |

| Condition Assessment Criteria | H1 | H2 | H3 | H4 |
|---|---|---|---|---|
| **C1. Undisturbed ground and perennial vegetation** >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length measured from outer edge of hedgerow, and is present on one side of the hedge (at least) | Fail | Fail | Fail | Fail |
| **C2. Undesirable perennial vegetation** Plant species indicative of nutrient enrichment of soils dominate | Fail | Fail | Fail | Fail |
| **D1. Invasive and neophyte species** >90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species | Pass | Pass | Pass | Pass |
| **D2. Current damage** >90% of the hedgerow or undisturbed ground is free of damage caused by human activities | Pass | Pass | Pass | Pass |
| **Condition** | Moderate | Moderate | Moderate | Moderate |

### Hardstanding

2.17 There was a small area of bare ground and hardstanding in the west of the Site that appears to be used for access onto the grass area from the A41.

2.18 These habitats and conditions give the Site a value of **35.14 habitat units** and **8.11 hedgerow units**.

## Proposed Habitats

### Assumptions

2.19 Below is a description of the habitat types proposed and their potential habitat conditions assigned.

2.20 The 0.63ha of existing scrub that falls within the Site boundary and a majority of the bioswale habitat (0.08 ha) alongside Lakeview Drive will all be retained. All hedgerows will be retained.

2.21 A total of 1 ha of temporary grass ley will be enhanced and become permanent grassland within the 'eco park'.

2.22 All other habitats within the Site are considered to be lost.

2.23 The flood risk assessment carried out by BuroHappold identified the 'eco park' as within flood risk zones 2 and 3. This could result in a temporary inundation of 300mm of water in the 1 in 100 year even and 600mm of water in the 1 in 1000 year event. These temporary inundations are considered unlikely to impact the scrub, grasslands and pond habitats significantly. Management plans for each habitat will be in place to monitor for any changes in habitat quality as a result of flooding or any other impacts and act accordingly.

2.24 All ecologically desirable habitats created within the 'eco park' (other neutral grassland, scrub and ponds) have been classed in the metric as 'ecologically desirable but not in local strategy'. This is because the land does not fall into any locally designated biodiversity areas, but the habitats created will compliment those within the Bicester Wetland Reserve LWS to which it will be functionally linked by Langford Brook. The remainder of the habitats are entered as 'Area/compensation not in local strategy/ no local strategy'.

**Business Park**

2.25 All units and roads/other infrastructure of the business park have been entered into the metric as sealed surface. This habitat has no condition assessment.

**Within the 'eco park'**

*Breedon Stone*

2.26 The Breedon stone areas have been inputted as artificial unvegetated, unsealed surface. This has no condition assessment.

*Pond*

2.27 The pond to be created within the 'eco park' has been classed as achieving moderate condition. The assessment criteria for ponds are given in **Table 5** below. The pond will have minimal access and will be within a signed 'quiet zone' for wildlife, with appropriate planting and management (as detailed within an agreed LEMP). The pond is expected to meet criteria 1, 2, 3, 4, 5, 7, 8 and 9. As criteria 6 and potentially criteria 1 after flood events cannot be guaranteed, the condition has been set to moderate.

**Table 5. Condition Assessment Criteria of Ponds for the Defra Metric**

| **Condition Assessment Criteria** | |
|---|---|
| **CORE CRITERIA - applicable to all ponds (woodland[1] and non-woodland):** | |
| 1 | The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock. |
| 2 | There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge. |
| 3 | Less than 10% of the pond is covered with duckweed or filamentous algae. |
| 4 | The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework. |
| 5 | Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework. |
| 6 | There is an absence of non-native plant and animal species[2]. |
| 7 | The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities. |
| **ADDITIONAL CRITERIA - only applicable to non-woodland ponds:** | |
| 8 | In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds)[3], should cover at least 50% of the pond area that is less than 3 m deep. |
| 9 | The surface of non-woodland ponds is no more than 50% shaded by woody bankside species. |
| Passes 9 of 9 criteria | Good |
| Passes 6, 7 or 8 of 9 | Moderate |
| Passes 0, 1, 2, 3, 4 or 5 of 9 criteria | Poor |

*Scrub*

2.28 The proposed scrub habitat has been calculated as being of good condition. It is considered likely to pass criteria 1, 3 and 4 of those listed in **Table 1** very quickly and in time criteria 2 and 5 could also be met with appropriate management.

*Grassland – retained/ enhanced 'ley'*

2.29 A proportion of the grassland in the western portion of the 'eco park' will be the current grass ley retained. This will class as an enhancement as it will become a permanent modified grassland. The condition assessment criteria for this grassland are shown in **Table 6** below. With minimal management, this grassland is likely to pass criteria 3, 4, 5 and 6 with potential to pass 2 and 7 dependant on cutting regime. Therefore, it has been set to moderate condition.

**Table 6. Condition Assessment Criteria of low Distinctiveness Grasslands for the Defra Metric**

| **Condition Assessment Criteria** | |
|---|---|
| 1 | There must be 6-8 species per $m^2$. Note - if a grassland has 9 or more species per $m^2$ it should be classified as a moderate distinctiveness grassland habitat type.<br>**NB - this criterion is non-negotiable for achieving good condition.** |
| 2 | Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed. |
| 3 | Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type. |
| 4 | Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities. |
| 5 | Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens. |
| 6 | Cover of bracken less than 20%. |
| 7 | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species[1] make up less than 5% of ground cover. |
| Passes 6 or 7 of 7 criteria including non-negotiable criterion 7 | Good |
| "Passes 4 or 5 of 7 criteria: OR<br>Passes 6 of 7 criteria excluding non-negotiable criterion 7" | Moderate |
| Passes 0, 1, 2 or 3 of 7 criteria | Poor |

*Grassland – neutral grassland*

2.30 Large amounts of the grassland within the wildlife areas of the 'eco park', will be scarified and sown with an appropriate meadow mix which would establish as a moderate distinctiveness grassland – likely classified as 'other neutral grassland'. The condition assessment criteria for this grassland are shown in **Table 7** below. As this grassland will have access mostly contained to footpaths and some will be within a signed 'quiet zone' for wildlife, it could pass criteria 2, 3 and 4 with relative ease, and with appropriate management could potentially pass 1 and 5. The condition has been set to moderate on a precautionary basis.

2.31 The small areas within the mown footpaths have been set to poor condition.

**Table 7. Condition Assessment Criteria of moderate Distinctiveness Grasslands for the Defra Metric**

| Condition Assessment Criteria | |
|---|---|
| 1 | The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. |
| 2 | Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed. |
| 3 | Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens. |
| 4 | Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%. |
| 5 | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of undesirable species[1] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. |
| Passes 5 of 5 criteria | Good (3) |
| Passes 3 or 4 of 5 criteria | Moderate (2) |
| Passes 0, 1 or 2 of 5 criteria | Poor (1) |

*Hedgerows*

2.32 The hedgerow to be created between the 'eco park' and Bicester Arc development will be native and species rich. With time and appropriate management, (as detailed within the LEMP) these hedgerows are likely to pass criteria A1, A2, B1, B2, C2 and D1 (listed in **Table 4**). This would indicate good condition, however as a precaution, they have been set to moderate condition.

*Trees*

2.33 Urban tree numbers have been estimated at this stage and the 'street tree helper' within the metric used to determine an area. The condition assessment criteria are listed in **Table 8** below. The trees within the 'eco park' could pass criteria 1, 4, 5 and 6 which would make them moderate condition. A total of 33 small trees are proposed which equates to 0.1343 ha using the 'street tree helper' in the metric.

**Table 8. Condition Assessment Criteria of Urban Trees for the Defra Metric**

| Condition Assessment Criteria | |
|---|---|
| 1 | More than 70% of trees are native species. |
| 2 | Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide. |
| 3 | More than 50% of trees are mature[2] or veteran[3]. |
| 4 | There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height. |
| 5 | Management regime has encouraged micro habitat sites for birds, mammals and insects e.g. presence of deadwood, cavities or loose bark etc. |
| 6 | Trees are immediately adjacent to other vegetation, and tree canopies are oversailing vegetation beneath. |

| Condition Assessment Criteria | |
|---|---|
| Passes 5 or 6 of 6 criteria | Good |
| Passes 3 or 4 of 6 criteria | Moderate |
| Passes 0, 1 or 2 of 6 criteria | Poor |

## Biodiversity Net Gain Calculations

2.34 The habitat losses, retention and creation described above will result in the site post-development having a biodiversity value of 35.04 habitat units and 9.42 hedgerow units, i.e., a **gain of 2.52 habitat units** and **1.31 hedgerow units**.

2.35 This equates to a **7.76% net gain** in habitat units and a **16.18% net gain** in hedgerow units.

**TREE PLANTING**

1. CLEAR STEM TREE

SYMBOL

QUANTITY
**9 No.**
Planting Height 3.5m

MOUNTAIN ASH ROWAN TREE
*Sorbus aucuparia*
Ultimate Height - 6m
Ultimate Spread - 4m

6. CLEAR STEM TREE

QUANTITY
**6 No.**
Planting Height 3.5m

FIELD MAPLE
*Acer campestre*
Ultimate Height - 20m
Ultimate Spread - 10m

7. CLEAR STEM TREE

QUANTITY
**6 No.**
Planting Height 3.5m

SILVER BIRCH
*Betula pendula*
Ultimate Height - 15m
Ultimate Spread - 10m

8. CLEAR STEM TREE

QUANTITY
**6 No.**
Planting Height 3.5m

COMMON HORNBEAM
*Carpinus betulus*
Ultimate Height - 12m
Ultimate Spread - 6m

9. CLEAR STEM TREE

QUANTITY
**6 No.**
Planting Height 3.5m

COMMON ELDER
*Sambucus nigra*
Ultimate Height - 6m
Ultimate Spread - 4m

NEW WILDFLOWER MIX PLANTING

EMORSGATE EM1 MIX
Sow at 16KG/ACRE

**NEW HEDGEROW PLANTING**

Beech Hedgerow
*Fagus sylvatica*
2No. 1m tall stems / linear m

**NEW SCRUB PLANTING**

Blackthorn
*Prunus spinosa*
40% coverage of area

Hawthorn
*Crataegus monogyna*
30% coverage of area

Hazel
*Corylus avellana*
30% coverage of area

**MANAGED NATURAL GRASSLAND**

Meadow Grass
*Poa pratensis*
50% coverage of area

Common Bent Grass
*Agrostis capillaris*
50% coverage of area

**ORNAMENTAL PLANTING**

NEW LANDSCAPED AREAS
Ornamental Native Planting

Verbena 'Buenos Aires'
*Verbena bonariensis*
1No. 5L pot / 5m²

Agapanthus 'White African Lilly'
*Agapanthus africanus 'Albus'*
1No. 5L pot / 5m²

Lesser Calamint
*Calamintha nepeta ssp. nepeta*
1No. 2L pot / 5m²

Tussock Grass
*Deschampsia cespitosa 'Tautrager'*
1No. 5L pot / 4m²

Cone Flower
*Echinacea pallida 'Hula Dancer'*
1No. 5L pot / 5m²

Lysimachia Ephemerum
*Lysimachia ephemerum*
1No. 5L pot / 5m²

Penstemon Beardtongue
*Penstemon digitalis 'Husker Red'*
1No. 5L pot / 7m²

Milk Parsley
*Selinum wallichianum*
1No. 2L pot / 7m²

Burnet
*Sanguisorba 'Tanna'*
1No. 2L pot / 8m²

Mexican Bush Sage
*Salvia leucantha*
1No. 5L pot / 5m²

Fountain Grass
*Pennisetum alopecuroides 'Hameln'*
1No. 5L pot / 4m²



Thames Water Pumping Station



**KEY:**

- NEW CLEAR STEM TREE PLANTING
- NEW MULTI STEM TREE PLANTING
- NEW CLEAR STEM PINE TREE PLANTING
- NEW CLEAR STEM CHERRY TREE PLANTING
- EXISTING TREES Evergreen
- EXISTING TREES Deciduous
- EXISTING TREES Mature Deciduous
- BREEDON STONE ROLLED TO DUST
- PONDS 1504m²
- EXISTING RETAINED PLANTING / HEDGEROW TO BE PRUNED / MANAGED 6696m²
- NEW LANDSCAPED AREAS Ornamental Native Planting 321m²
- NEW LANDSCAPE AREA TO BE DETAILED
- NEW SCRUB PLANTING 10741m²
- NEW WILDFLOWER PLANTING 2731m²
- NEW HEDGEROW PLANTING
- RETAINED EXISTING GRASSLAND 10000m²
- POND EDGE PLANTING 216m²
- MOWN PATHWAY 1056m²
- KNEE RAIL FENCE Timber
- 1.8m WELDMESH FENCE PPC Steel
- 1.35m STOCK PROOF FENCE Timber
- PLAY / EXERCISE EQUIPMENT
- CYCLE RACKS / BOLLARDS All Stainless Steel. Racks Sheffield Type

SEL Design
Architecture Planning Broxam

SLADEN ESTATES

PEVERIL SECURITIES

PROJECT
**BICESTER ARC**

TITLE
**BNG MASTERPLAN**

CLIENT
PEVERIL SECURITIES

| DRAWN BY | CHECKED BY | DATE |
|---|---|---|
| DW | | 03.04.23 |

| SCALE (@ A1) | PROJECT NUMBER |
|---|---|
| 1:1000 | 16SK109 |

| DRAWING NUMBER | REV |
|---|---|
| F100 | |