

Land South of Langley Lane and West of Silver Birch Stables, Birch, Middleton OL10 2QJ

LANDSCAPE MANAGEMENT PLAN

June 2023

[ERAP (Consultant Ecologists) Ltd ref: 2018-104d]

[Rochdale Borough Council ref: 18/00869/FUL]

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1.0 INTRODUCTION

1.1 Background and Rationale

1.1.1 ERAP (Consultant Ecologists) Ltd has been commissioned by Hollins Strategic Lane to prepare a Landscape Management Plan (LMP) to satisfy the requirements of the Planning Application for the land south of Langley Lane and West of Silver Birch Stables, Birch, Middleton OL10 2QJ, hereafter referred to as the 'site'.

1.1.2 The Greater Manchester Ecology Unit Consultation Response of the planning application (Rochdale Borough Council ref: 18/00869/FUL) states:

'No development shall take place until a landscape and environmental management plan is submitted to and approved in writing by the LPA. The content of the plan should include:

- *Management and enhancement objectives for the Brook Corridor;*
- *A landscape plan for the Brook Corridor including details of features to be retained and trees, shrub and ground layer species and numbers to be planted all of which should be native;*
- *Management and enhancement objectives for existing hedgerows and trees along the boundaries of the site;*
- *Full details of bird and bat box provision;*
- *Full details of the trees and shrubs to be planted within the garden landscapes, which should consist of native and wildlife attracting species;*
- *An implementation schedule;*
- *10 year maintenance plan;*
- *Details of organisation(s) responsible for implementing and maintaining the plan;*
- *Details of biodiversity enhancement and creation.*

The works shall be carried out strictly in accordance with the approved details.'

1.2 Purpose and Aims

1.2.1 The purpose of this LMP is to provide a comprehensive practical document that can be referred to and consulted by the Local Planning Authority, the developer, local residents and any management company and their appointed contractors tasked to undertake the works detailed within the LMP.

1.2.2 Following the above purpose, this LMP has been prepared with the following aims:

- a. To detail the conservation objectives for the site and individual habitats within the site;
- b. Specification of the habitats and features to be created within the site to ensure suitable mitigation, compensation and enhancements for wildlife;
- c. Provide detail on the number, location and type of bat and bird boxes proposed;
- d. Provide information of the long-term management of the habitats within the site, including details of who will undertake the responsibility for the habitat management and habitat and species monitoring at the site; and
- e. Provide details relating to the funding mechanisms and responsibilities relating to the management and monitoring operations proposed.

- 1.2.3 An assessment of Biodiversity Net Gain is presented in a separate report, namely *2018-104c Land South of Langley Lane, Birch OL10 2QJ: Assessment of Biodiversity Net Gain* (ERAP (Consultant Ecologists) Ltd, 2022).

1.3 Assumptions

- 1.3.1 It is assumed in this document that:

- a. All landscape planting will be carried out in accordance with *Langley Lane, Birch: Soft Landscaping Plan (96) 001 F* (Influence Environmental Ltd, 2022) hereafter referred to as the 'landscape proposal' and *Langley Lane, Birch: Soft Landscaping Plan Crib Wall Planting (96) 002* (Influence Environmental Ltd, 2022) hereafter referred to as the 'crib wall planting proposal';
- b. All landscape planting has been carried out in accordance with the relevant British Standard (BS3882:2015); and
- c. For the purposes of this Management Plan 'Year 1' in the management schedule at Appendix 1 (**Section 6.0**) refers to the first year of the habitat creation.

2.0 DESIGN AND LAYOUT OF PROPOSED HABITATS & MANAGEMENT OF RETAINED HABITATS

2.1 Design and Layout of the Brook Corridor

- 2.1.1 The watercourse lies beyond the site boundary and will not be directly impacted by the development. The vegetation associated with the brook corridor that lies directly adjacent to the site boundary will be retained and protected.
- 2.1.2 A total of 14 trees and one group of trees associated with the brook corridor will be retained and protected.
- 2.1.3 The proposed planting at the brook corridor (within the site boundary) will be in accordance with the landscape proposal. The habitat creation within the brook corridor will comprise meadow grass seeding with wildflower mix Emorsgate EM2, native shrub planting and new tree planting.

Meadow Grass Seeding

Target Conditions

- 2.1.4 The proposed target condition for the meadow grass seeding is 'good' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that the meadow grass seeding retains the plant species diversity, maintains a varied sward height (to create microclimates for invertebrates and other wildlife), that bare ground is kept below 5%, and Bracken and Bramble do not encroach (and less than 5% cover establishes for either species).

Management Regime – Establishment and Long-term Management

- 2.1.5 No topsoil shall be imported in to the wildflower areas and seed should be sown into good quality, clay free sub-soil. The area shall be cultivated to 150mm depth and all weeds, stones and refuse larger than 50mm shall be removed to tip (cultivation of soil not to occur beneath existing tree canopies). Cultivated soil shall be rolled and raked to produce a tilth 25mm deep and left for 2 to 3 weeks to allow existing weeds in the seed bank to germinate. After 2 to 3 weeks, a spray off of the newly germinated weeds will be carried out, allowed to die back and then raked off. Seed sowing must be undertaken immediately after the area has been prepared and weeds removed, lightly watering area before seeding. Seed shall be sown during late August or September or, if this is not possible, during April to May.
- 2.1.6 Sowing shall be carried out during calm weather. The operation should be carried out in equal sowings and transverse directions. The contractor must ensure that the grass and wildflower seed is thoroughly mixed

throughout sowing. The seed mix shall be sown at the rate specified by the manufacturer and then raked into the soil surface and lightly rolled.

- 2.1.7 All reasonable precautions shall be taken to ensure that pedestrian and other traffic does not cross the wildflower areas during cultivation, seeding or establishment. Where obvious desire lines are occurring, the contractor shall erect an approved temporary fence so as to minimise the maintenance period or until such time as it is no longer necessary, or as directed.
- 2.1.8 Areas seeded during August to September shall be cut lightly in the spring using a flail mower, or strimmer, when the meadow reaches a height of 100mm. Areas seeded during April to May shall be cut in October when flowering is over. In both cases, all cuttings shall be raked up and removed from site. Hereafter cutting shall be undertaken, with a flail mower or strimmer, when flowering is over, annually during September to October. All cuttings shall be raked up and removed.
- 2.1.9 Any defects such as sinkage, ponding, sparse germination or disease shall be made good and re-seeded all as above.

Native Shrub Planting and New Tree Planting

Target Conditions

- 2.1.10 The proposed target condition for the native shrub planting is 'poor' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that the plant species composition is retained (to secure at least 3 woody species with no one species attaining more than 75% cover), and the planted species remain in a healthy condition providing suitable cover for nesting birds.
- 2.1.11 The proposed target condition for the new trees is 'moderate' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that the trees are maintained in a healthy condition, that the species mix remains over 70% native in composition, vandalism and herbicide use does not impact upon the trees and that the trees are immediately adjacent to other vegetation.

Management Aims and Objectives

- 2.1.12 To maintain the health and vigour of the planted trees and native shrubs.

Monitoring

- 2.1.13 There will be an annual inspection of the trees and shrubs, when they are in full leaf, to ensure that they are thriving. There will be recording of defects requiring remedial works.

Management

- 2.1.14 Newly planted tree and shrub areas should be kept weed free as grasses and herbs are strong competitors for moisture and nutrients. Young trees in a grass sward often show classic stress symptoms: sparse small leaves, shoot dieback and a yellowing or browning of leaves caused by nitrogen deficiency and water stress respectively. Mowing or cutting is an ineffective means of controlling weeds. It has been demonstrated that mowing increases the vigour of a grass sward, thereby increasing soil moisture defects and decreasing tree vigour.
- 2.1.15 The careful use of herbicides is an effective method of weed control and it is therefore proposed that these be applied for a period of three years until the woodland canopy has sufficiently developed to suppress weeds naturally.
- 2.1.16 Some losses after planting are almost inevitable and therefore beating up (the process of replacing trees and shrubs that have died soon after planting) will be undertaken. This will be carried out in the season immediately following the planting operation.

- 2.1.17 During the establishment period, any stakes will be checked for stability and effectiveness. All ties will be adjusted as they become too tight so as not to cause damage to trees.
- 2.1.18 Once yearly all stakes shall be checked for stability and effectiveness. They shall be re-firmed if they have become loose and they shall be removed once they are no longer required for support of the tree. Ties shall be checked at the same time and adjusted if they have become too tight or if rubbing of the tree on the stake is occurring.
- 2.1.19 During the first planting season following completion of planting, all dead, dying, damaged or diseased plants shall be replaced by healthy specimens of the same variety and size as that originally planted.
- 2.1.20 During the winter months, three years following completion of the first planting operation, thinning by complete removal of a selection of plants and their roots shall be carried out. At the same time as the thinning operation, coppicing shall be carried out.
- 2.1.21 Thinning and coppicing operations, as detailed above, shall be carried out as deemed necessary by, and to the instructions of, the landscape architect.
- 2.1.22 Any damaged or vandalised planting will be removed and replaced with a healthy specimen of the same species and age.

2.2 Details of Meadow Grass Seeding, Wildflower Hedgerow Mix Seeding and Amenity Grassland (outside residential gardens)

Target Conditions

- 2.2.1 The proposed target condition for the meadow grass and wildflower hedgerow mix seeding is 'good' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that the meadow grass seeding retains the plant species diversity, maintains a varied sward height (to create microclimates for invertebrates and other wildlife), that bare ground is kept below 5%, and Bracken and Bramble do not encroach (and less than 5% cover establishes for either species).
- 2.2.2 The proposed target condition for the amenity grassland is 'moderate' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that that bare ground is kept below 5%, that an constant sward is maintained, and Bracken and Bramble do not encroach (and less than 5% cover establishes for either species).

Management Regime – Establishment and Long-term Management

- 2.2.3 No topsoil shall be imported in to the wildflower areas and seed should be sown into good quality, clay free sub-soil. The area shall be cultivated to 150mm depth and all weeds, stones and refuse larger than 50mm shall be removed to tip (cultivation of soil not to occur beneath existing tree canopies). Cultivated soil shall be rolled and raked to produce a tilth 25mm deep and left for 2 to 3 weeks to allow existing weeds in the seed bank to germinate. After 2 to 3 weeks, a spray off of the newly germinated weeds will be carried out, allowed to die back and then raked off. Seed sowing must be undertaken immediately after the area has been prepared and weeds removed, lightly watering area before seeding. Seed shall be sown during late August or September or, if this is not possible, during April to May.
- 2.2.4 Sowing shall be carried out during calm weather. The operation should be carried out in equal sowings and transverse directions. The contractor must ensure that the grass and wildflower seed is thoroughly mixed throughout sowing. The seed mix shall be sown at the rate specified by the manufacturer and then raked into the soil surface and lightly rolled.
- 2.2.5 All reasonable precautions shall be taken to ensure that pedestrian and other traffic does not cross the wildflower areas during cultivation, seeding or establishment. Where obvious desire lines are occurring,

the contractor shall erect an approved temporary fence so as to minimise the maintenance period or until such time as it is no longer necessary, or as directed.

- 2.2.6 Areas seeded during August to September shall be cut lightly in the spring using a flail mower, or strimmer, when the meadow reaches a height of 100mm. Areas seeded during April to May shall be cut in October when flowering is over. In both cases, all cuttings shall be raked up and removed from site. Hereafter cutting shall be undertaken, with a flail mower or strimmer, when flowering is over, annually during September to October. All cuttings shall be raked up and removed.
- 2.2.7 Any defects such as sinkage, ponding, sparse germination or disease shall be made good and re-seeded all as above.

2.3 Details of the Management and Enhancement of Retained Trees and Hedgerows

- 2.3.1 The proposed condition for the retained trees and hedgerows is to maintain the baseline 'poor' condition in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021).
- 2.3.2 There will be an annual inspection of the retained trees and hedgerows when they are in full leaf, to ensure that they are thriving. There will be recording of defects requiring remedial works.
- 2.3.3 Thinning and coppicing operations shall be carried out as deemed necessary by, and to the instructions of, the landscape architect.

2.4 Details of Proposed Tree, Shrub and Hedgerow Planting (outside residential gardens)

Target Conditions

- 2.4.1 The proposed target condition for the native shrub planting is 'poor' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that the plant species composition is retained (to secure at least 3 woody species with no one species attaining more than 75% cover), and the planted species remain in a healthy condition providing suitable cover for nesting birds.
- 2.4.2 The proposed target condition for the new trees is 'moderate' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that the trees are maintained in a healthy condition, that the species mix remains over 70% native in composition, vandalism and herbicide use does not impact upon the trees and that the trees are immediately adjacent to other vegetation.
- 2.4.3 The proposed target condition for the native hedgerow planting is 'good' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that the hedgerows have an average height and width of greater than 1.5 metres, maintain a gap of less than 0.5 metres between the base of the hedgerow and the ground, maintain a continuous hedgerow with no gaps, have an undisturbed 1 metre wide strip along length of hedgerow (can be present on just one side), removal of undesirable and non-native invasive species and have less than 10% of the total length damaged by human activities.
- 2.4.4 The proposed target condition for the new ornamental hedgerow planting is 'poor' in accordance with the condition assessments presented in *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., July 2021). Management should ensure that a continuous hedgerow with no gaps is maintained, removal of undesirable and non-native invasive species and have less than 10% of the total length damaged by human activities.

Management Aims and Objectives

- 2.4.5 To maintain the health and vigour of the planted trees, shrubs and hedgerows.

Monitoring

- 2.4.6 There will be an annual inspection of the trees, shrubs and hedgerows, when they are in full leaf, to ensure that they are thriving. There will be recording of defects requiring remedial works.

Management

- 2.4.7 Newly planted tree, shrub and hedgerow areas should be kept weed free as grasses and herbs are strong competitors for moisture and nutrients. Young trees in a grass sward often show classic stress symptoms: sparse small leaves, shoot dieback and a yellowing or browning of leaves caused by nitrogen deficiency and water stress respectively. Mowing or cutting is an ineffective means of controlling weeds. It has been demonstrated that mowing increases the vigour of a grass sward, thereby increasing soil moisture defects and decreasing tree vigour.
- 2.4.8 The careful use of herbicides is an effective method of weed control and it is therefore proposed that these be applied for a period of three years until the woodland canopy has sufficiently developed to suppress weeds naturally.
- 2.4.9 Some losses after planting are almost inevitable and therefore beating up (the process of replacing trees and shrubs that have died soon after planting) will be undertaken. This will be carried out in the season immediately following the planting operation.
- 2.4.10 During the establishment period, any stakes will be checked for stability and effectiveness. All ties will be adjusted as they become too tight so as not to cause damage to trees.
- 2.4.11 Once yearly all stakes shall be checked for stability and effectiveness. They shall be re-firmed if they have become loose and they shall be removed once they are no longer required for support of the tree. Ties shall be checked at the same time and adjusted if they have become too tight or if rubbing of the tree on the stake is occurring.
- 2.4.12 During the first planting season following completion of planting, all dead, dying, damaged or diseased plants shall be replaced by a healthy specimen of the same variety and size as that originally planted.
- 2.4.13 During the winter months, three years following completion of the first planting of the first planting operation thinning, by complete removal of plants and their roots, shall be carried out. At the same time as the thinning operation, coppicing shall be carried out.
- 2.4.14 Thinning and coppicing operations, as detailed above, shall be carried out as deemed necessary by, and to the instructions of, the landscape architect.
- 2.4.15 Any damaged or vandalised planting will be removed and replaced with a healthy specimen of the same species and age.

2.5 Bulb Planting

- 2.5.1 Bulbs to be planted in season (as per individual species) at a depth of approximately twice the height of the bulb or as per individual species recommendations.
- 2.5.2 The ground should be broken up prior to planting with the roots making full contact with the soil.

Management Aims and Objectives

- 2.5.3 To maintain the health and vigour of the planted bulbs.

Monitoring

- 2.5.4 There will be an annual inspection of the areas of bulb planting, to ensure that they are thriving. There will be recording of defects requiring remedial works.

Management Regime – Establishment and Long-term Management

2.5.5 Any defects such as failure or disease shall be made good and re-planted all as above.

2.6 Details of the Crib Lock Retaining Wall with Planting

2.6.1 The Crib Lock retaining wall will be planted as detailed on the crib wall planting proposal (Influence Environmental Ltd, 2022).

2.6.2 All planting and seeding to be undertaken within the first planting season following the completion of construction of the development at each phase.

2.6.3 No tree will be planted closer than 4.5 metre to any adoptable cable or 3 metre to any private cable.

2.6.4 Irrigation to Crib Lock Wall manufacturers specifications.

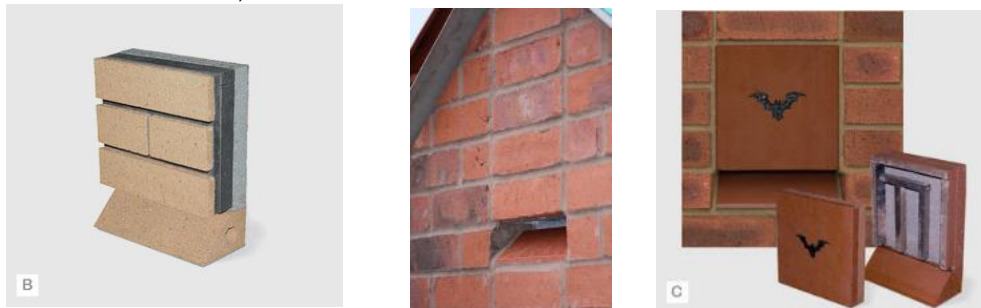
2.7 Bat Access Panels and Bird Box Strategy

2.7.1 The location of the bat and bird boxes is presented at **Figure A**.

Bat Boxes

2.7.2 It is recommended that the development incorporates the installation of 6 commercially available bat access panels at the new buildings.

2.7.3 The bat access panels should be sited at least 4 metres above ground level, ideally facing or close to areas of landscape planting or existing linear features. The bat access panels should not be positioned over windows or doorways where bat droppings may become a nuisance. Suitable bat access panels are presented at **Insert 1**, below:



Insert 1: (left to right) *IBStock 'B'*, *Habibat panel* and *IBStock 'C'*

2.7.4 Bat access panels should be installed to the following guidelines (Bat Conservation Trust, 2016):

- a. At least 4 metres above the ground (where safe installation is possible);
- b. Sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west). Ideally several bat boxes will be installed to provide a variety of different thermal options for bats. Grouping a number of boxes each with a different aspect can achieve this; while a number of boxes is preferable to one, a single box is still viable and may be used by roosting bats;
- c. Located close to unlit linear features, such as lines of trees or hedgerows; and
- d. Installed where the bat box entrance is not cluttered or impeded by branches, or accessible to predators (such as cats) by large branches underneath them.

2.7.5 The location of the bat access panels is summarised at **Table 2.1** below.

Table 2.1: Proposed Locations of Bat Access Panels within the Site

Plot No.	Facing	Box Type
5	West	IBStock 'B' or Habibat panel or IBStock 'C'
8	West	IBStock 'B' or Habibat panel or IBStock 'C'
11	West	IBStock 'B' or Habibat panel or IBStock 'C'
14	East	IBStock 'B' or Habibat panel or IBStock 'C'
17	South	IBStock 'B' or Habibat panel or IBStock 'C'
20	South	IBStock 'B' or Habibat panel or IBStock 'C'

Bird Boxes

- 2.7.6 The installation of 5 house sparrow terrace nest boxes is recommended at the proposed new housing. Boxes will not be positioned over windows or doorways where droppings may become a nuisance. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. Example of a suitable bird box is given below at **Insert 2**, below:



Insert 2: House Sparrow Nesting Terrace

- 2.7.7 Such bird boxes are available from the NHBS (www.nhbs.com) or Wild Care (www.wildcare.co.uk).

Table 2.2: Locations of Proposed Bird Boxes

Plot No.	Facing	Box Type
7	North	House sparrow nesting terrace
15	East	House sparrow nesting terrace
16	East	House sparrow nesting terrace
19	North	House sparrow nesting terrace
23	North	House sparrow nesting terrace

2.8 Details of the People or Organisation Responsible for Implementation and Management of the Biodiversity Mitigation areas

Site Operatives

- 2.8.1 Where necessary, operations on site are to be carried out by suitably qualified operatives with appropriate safety clothing. Contractors, where relevant, are to adhere to the latest guidance on safe working practice, including information from the recognised industry body, the local authority and the government Health and Safety Executive.
- 2.8.2 Any appointed maintenance contractor is to carry out all operations with regard to the safety and welfare of the general public, the protection of private and public property, and the conservation of domestic and native flora and fauna, as well as maintenance of Statutory Services.

Management Company

- 2.8.3 A suitable management company will be appointed by the developer.

3.0 SITE OPERATION

3.1 Health and Safety

- 3.1.1 The following precautions should be taken into consideration when carrying out the activities detailed within this Plan:
- a. Personnel working on site should make themselves aware of the location of any underground and above ground services and cables;
 - b. Consideration must be given to vehicular and pedestrian use by local residents: roads and paths should be kept clear at all times, and potentially dangerous tools or machinery must not be left unattended; and
 - c. Works to existing trees must be undertaken following current best practice guidelines, with suitable risk management practices undertaken for all operations, including the use of chainsaws / machinery, climbing, and felling branches.
- 3.1.2 Methods for reducing the potential site risks are well established and are common practice of competent contractors. The contractor is expected to identify the hazards associated with any maintenance operations proposed, together with an assessment of the risks involved and methods for reducing risks. The risk assessment should be recorded and retained for reference in the future if necessary.

3.2 Disposal of Materials from Site

- 3.2.1 All rubbish, leaves, grass and general arisings removed from the site are to be checked for wildlife and deposited at an appropriately licensed tip.

3.3 Litter and Fly-tipped Waste Removal

- 3.3.1 All litter will be removed from site and disposed of in an authorised manner. Any fly tipping will be removed immediately to prevent an accumulation of debris.
- 3.3.2 Care must be taken when removing litter to check for wildlife, which may be sheltering within or under items. Any wildlife found should be returned to suitable cover. Litter removal will be implemented on a quarterly basis.
- 3.3.3 Litter picking will cover all areas of the site.

3.4 Invasive Plant Species

Aims and Objectives

- 3.4.1 To control the spread of Japanese Knotweed and Indian Balsam at the site, and monitor the status of invasive species at the site, and to implement remedial actions if invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) are detected.

Management

- 3.4.2 An appropriately qualified and experienced specialist contractor will be employed to facilitate the control / removal of Japanese Knotweed and Indian Balsam at the site.

- 3.4.3 Prior to any habitat creation or management works being undertaken the works areas and surrounds will be inspected for evidence of Japanese Knotweed and Indian Balsam. Any identified infestations of Japanese Knotweed should be isolated with fencing, and signage should be erected to identify the Japanese Knotweed to inform site contractors (when fencing, it is important to note that the area of infestation can be 7 metres horizontally from the nearest stem growth that can be seen).

Monitoring

- 3.4.4 The presence and spread of the Japanese Knotweed, Indian Balsam and any other invasive species, should be monitored annually in June / July. A handheld GPS unit and/or map will be used to map the locations of all invasive species within the site, and the results kept electronically to inform further management decisions.

3.5 Estate Fabric

Aims and Objectives

- 3.5.1 That all estate fabric (i.e. fences, signs, paths and gates) is well-maintained and fit for purpose.

Monitoring

- 3.5.2 Regular monitoring of the estate fabric will inform any repair / other operations required. It is recommended that inspections are undertaken during the proposed quarterly litter picking operations.

Management

- 3.5.3 Estate fabric throughout the site should be inspected on a regular basis and any repairs needed carried out at the earliest opportunity to ensure a high level of maintenance.
- 3.5.4 Control vegetation along the paths by chemical and / or physical control, as needed.

3.6 Liaison with Local Residents

- 3.6.1 As the new properties become occupied, resident interest in the greenspaces and wildlife at the site is likely to occur and is likely to increase with time.
- 3.6.2 Regular liaison between the local residents and the appointed management company may be encouraged through an annual newsletter / social media page detailing the work which has been carried out, the wildlife value of the habitats on site and contact details of the management company.

4.0 REVIEW OF LMP

- 4.1 This LMP is a reviewable document which can be updated and revised as required (although it is considered the lifetime of this LMP is 10 years, after which a detailed review will be required). The LMP and the management regime will be informed by the on-going works at the site.
- 4.2 This LMP will also be reviewed to ensure the objectives and prescriptions are in accordance with current wildlife legislation and conservation objectives.

5.0 REFERENCES

- Bat Conservation Trust, 2016. *Bat Box Information Pack*. [Online]
Available at: <https://cdn.bats.org.uk/pdf/Bat-Box-Information-Pack.pdf?mtime=20181101151309>
[Accessed 11 April 2019].
- BSI, 2012. *Trees in relation to design, demolition and construction. Recommendations*. London: BSI Standards Limited.
- ERAP (Consultant Ecologists) Ltd, 2022. *2018-104c Land South of Langley Lane, Birch OL10 2QJ: Assessment of Biodiversity Net Gain*. Chorley: ERAP (Consultant Ecologists) Ltd.
- Great Britain, 1981. *Wildlife and Countryside Act*. London: H.M.S.O.
- Great Britain, 2006. *Natural Environment and Rural Communities Act*. London: H.M.S.O.
- Great Britain, 2017. *The Conservation of Habitats and Species Regulations*. London: H.M.S.O.
- Influence Environmental Ltd, 2022. *Langley Lane, Birch: Soft Landscaping Plan Crib Wall Planting (96) 002*. Newark: Influence Environmental Ltd.
- Influence Environmental Ltd, 2022. *Soft Landscaping Plan, DWG No. (96)001 Rev. F*. Nottingham: Influence Environmental Ltd.
- Panks, S. et al., July 2021. *The Biodiversity Metric 3.0: Auditing and accounting for biodiversity: technical supplement*, Peterborough: Natural England.

6.0 APPENDIX 1: WORK SCHEDULE

6.1 The developer and then their appointed management company will be responsible for all actions. Where indicated specialist ecological advice will be necessary. Currently, Year 1 = 2023, Year 2 = 2024, Year 3 = 2025, Year 4 = 2026, Year 5 = 2027, etc.

Table 6.1: Work Schedule to Be Applied

	Habitat and Prescription	Month												Total	Years	Comments / Notes / Prerequisites
		J	F	M	A	M	J	J	A	S	O	N	D			
Created Habitats	Meadow Grass and Wildflower Hedgerow Mix Seeding															
	Seeding of grasslands as per suppliers instructions and following preparation of soil. Subsequent managed as described in text.							1						1	2	At appropriate time. Refer to landscape proposals plans
	Tree, Shrub and Hedgerow Planting															
	Planting of trees, shrubs and climbers in accordance with the landscape proposals plans											1		1	2 and 3	Refer to landscape proposals plans
	Amenity Grassland															
	Turf to be laid / seeded at the relevant areas.								1					1	2 / 3	At appropriate time. Refer to landscape proposals plans
Management of Habitats	Bird Boxes and Bat Access Panels															
	Purchase and installation of bird boxes and bat access panels	1	1	1	1	1	1	1	1	1	1	1	1	12	1-3	As plots are constructed. Refer to specification at Figure A .
	Standard Trees and Shrub / Hedgerow Planting															
	Annual inspection to check trees are in full leaf					1								1	1-10	Record defects requiring remedial works.
	Treatment of pests and diseases and/or removal of diseased trees													As required	1-10	As required and advised by arborist.
	Replacement tree / shrub planting											1		1	-	All felling to be carried out in accordance with BS3998. Felling outside bird breeding season.
	Litter pick within the tree and shrub groups	1	1	1	1	1	1	1	1	1	1	1	1	12	1-10	As required
	Weed control and tidying			1	1	1	1	1	1	1	1			8	1-10	Appropriate disposal
	Watering													As required	-	At least 8 operations - using manual removal / strimming and if necessary, non-residual herbicides
	'Heeling in' and straightening of young transplants and whips										1			1	1-3	As required. Watering to be carried out if there has been a period of dry weather for 2 weeks or more between June and September.
	Tree shelter and stake inspection, repair and adjustment			1							1			2	1-5	-
	Removal of tree stakes, if needed										1			1	5	Remove stakes, ties and rabbit guards when trees have rooted sufficiently.
	Pruning shrubs		1											1	5	Appropriate time for each species, but avoiding bird breeding season
	Thinning													As required	1-10	As required as advised by arborist.
	Monitoring of root systems at Lowton Brook			1		1								2	1-5	Monitoring in year 5 to inform requirement for further monitoring

Habitat and Prescription	Month												Total	Years	Comments / Notes / Prerequisites
	J	F	M	A	M	J	J	A	S	O	N	D			
Amenity Grassland															
Litter pick															
Mow			1	2	2	2	2	2	2	1			14	2-5	All arisings to be removed.
Invasive Plant Species															
Control of Japanese Knotweed and Indian Balsam													As required	1-5	As required. A specialist contractor should be used to control spread of Japanese Knotweed within the site.
Monitor presence and location of invasive plant species to inform works, as needed													As required	1-5	
Estate Fabric															
Inspections of fences, signs, gates and paths					1			1					2	2-5	Remedial actions to be implemented as needed.
Litter and Fly-tipped Waste Removal															
Litter and fly-tipped waste to be removed from site	1	1	2	2	2	2	2	2	2	1	1	1	19	1-5	Care taken to check debris for wildlife before discard.
Liaison with Local Residents															
Regular meetings between the management company and local residents, to provide updates on status and ecological status, as needed.													TBC	1-5	To continue in perpetuity provided there are interested parties.
Review of LMP															
Update of LMP following first five years of management									1				1	5	Update of LMP following the first five years of management to include years 6 to 10.
LMP to be reviewed and updated / revised as required.													As required	1-5	Review and update LMP as required.

7.0 APPENDIX 2: FIGURES

Figure A: Bat Access Panels and Bird Box Plan



8.0 APPENDIX 3: EXAMPLE MONITORING SHEETS

- 8.1 The objectives and frequency of the monitoring inspections are detailed under each section / habitat and included on the Work Schedule at **Appendix 1**.
- 8.2 The example record sheet below provides an example table to be completed throughout the year (and collated at the end of each year) to detail the results of the monitoring and actions. The notes and recommended actions should be informed by the aims and objectives described for that habitat type, as presented above.
- 8.3 This Record Sheet will be used to identify / inform the need for remedial actions and amendments to the management regime / prescriptions.

Table 8.1: Example Record Sheet: Habitats

Note: This form and an updated map should be either scanned, or ideally entered digitally, and stored by the Management Company and their relevant contractors with the rest of this Management Plan. The findings of this form will be used to inform the future management of these habitats.

Habitat Inspections			
Surveyor Details and Survey Conditions:			
Name:		Date: (dd/mm/yyyy):	
Survey Conditions: (i.e. air temperature, precipitation, wind speed (Beaufort scale))			
Habitat / Feature			
Notes and Recommended Actions:			

9.0 APPENDIX 4: SUMMARY OF RELEVANT WILDLIFE LEGISLATION

9.1 Breeding Birds

- 9.1.1 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.

9.2 Bat Species

- 9.2.1 All British bat species and their roosts are legally protected under the *Wildlife and Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species Regulations 2017* (as amended). Under this legislation it is an offence to intentionally kill, injure or capture bats, deliberately disturb bats and damage, destroy or obstruct access to bat roosts. Since the introduction of the *Countryside and Rights of Way* (CROW) Act in 2000 it is also an offence to recklessly harm or disturb bats in their roosting places.

9.3 Invasive Species

- 9.3.1 Section 14(1) of the *Wildlife and Countryside Act 1981* (as amended) prohibits the 'release' or 'allowing to escape' into the wild of any animal of a kind which is not ordinarily resident in, and is not a regular visitor to, Great Britain in a wild state, or any species of animal listed in Part 1 of Schedule 9. Section 14(2) prohibits 'planting' or 'causing to grow' in the wild of any plant listed in Part 2 of Schedule 9.