

Manchester College Arden Centre, Sale Road, Northenden, Manchester M23 0DD

LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

February 2022

[ERAP (Consultant Ecologists) Ltd ref: 2020-272f]

[Manchester City Council reference: 131147/FO/2021]

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Document Control

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1.0 INTRODUCTION

1.1 Background and Rationale

1.1.1 Full planning consent for the “Erection of 224 no. dwellings (Use Class C3) with associated access, landscaping, parking and other works following demolition of existing buildings” was granted in December 2021 (Manchester City Council reference: 131147/FO/2021).

1.1.2 Condition 22 of the planning consent states:

“Prior to first occupation of the dwellinghouses hereby approved, a maintenance agreement and scheme for the upkeep of incidental, communal areas of landscaping as identified within the 'Management Area' on approved drawing 2131 / MC / 01 shall be submitted to and agreed in writing by the City Council as Local Planning Authority. The submitted scheme shall include for a Habitat Management Plan as set out within section 5.8.1 of the approved Ecological Survey and Assessment. The approved agreement shall remain in operation at all times whilst the development is occupied.

Reason - To safeguard visual amenity and the character of the area and in the interest of enhancing the biodiversity of the site pursuant to policies DM1 EN9, EN15 and SP1 of the Manchester Core Strategy and paragraph 174d of the NPPF.”

1.1.3 This Landscape and Ecological Management Plan (LEMP), which covers the whole site, has been prepared to facilitate the discharge of Condition 22.

1.1.4 Drawing 2131/MC/01 is appended at **Appendix 2** for reference purposes.

1.2 Purpose and Aims

1.2.1 *Northenden Campus, Sale Road, M23 ODD. Ecological Survey and Assessment (including a Licensed Bat Survey). Ref: 2020-272, Version 2* (ERAP (Consultant Ecologists) Ltd, 2021), hereafter the ‘2021 Ecology Report’, was prepared to inform the planning application.

1.2.2 The purpose of this LEMP is to provide a comprehensive, practical document that can be referred to and consulted by the developer / management company and their appointed contractors tasked to undertake the works detailed within the LEMP.

1.2.3 This LEMP has been prepared to meet the requirements as specified by the planning condition as presented above at paragraph 1.1.2.

1.2.4 This LEMP has been prepared with the following aims:

- a. Detail the conservation objectives for the site and habitats within the site;
- b. Reference the *Landscape Proposals* (see below) that describe the specification of the habitats and features to be created within the site;
- c. Provide information of the long-term management of the habitats within the site; and
- d. Provide details relating to the funding mechanisms and responsibilities relating to the management and monitoring operations proposed.

1.3 Assumptions

- 1.3.1 This LEMP assumes that all landscape planting at the site has been carried out in accordance with *Landscape Masterplan, Moss Hey Drive, Northenden, Job Number: 3882, Drawing Number: 101, Revision F* (TPM Landscape, 2021), hereafter the 'landscape proposals' and the planting at the site is in accordance with the *Planting Plans (1-5 of 5)* (TPM Landscape, 2021).
- 1.3.2 It is assumed in this LEMP that all landscape planting / seeding has been carried out in accordance with the relevant British Standard (BS3882:2015) and supplier recommendations.

1.4 Responsibilities

- 1.4.1 It is expected that Miller Homes will hand the management of the 'Management Area' of the site as identified on drawing 2131/MC/01 (Miller Homes, 2021) to a dedicated management company. The Management Company (TMC) and their appointed contractors will be responsible for the implementation of actions detailed in the Work Schedule at **Appendix 1**. It will be TMCs responsibility to ensure monitoring is completed as described, by appropriately qualified, experienced and competent people, and that this monitoring informs the management of the habitats within the site.

2.0 SITE OPERATION AND PROTECTION OF HABITATS AND WILDLIFE

2.1 Health and Safety

- 2.1.1 The following precautions should be taken into consideration when carrying out the activities detailed within this LEMP:
- 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, also refer to the *Arboricultural Impact Assessment* (Ascerta, 2021).
- 2.1.2 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.

2.2 Site Operatives

- 2.2.1 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.

- 2.2.2 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.

2.3 Disposal of Materials from Site

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

2.4 Protected Species and Wildlife Legislation

- 2.4.1 All personnel working on site must be aware of the presence of wildlife and possibility of protected species at the site. Relevant wildlife legislation and information is presented at **Appendix 4**.

2.5 Bio-Security

- 2.5.1 To minimise the risk of introduction of invasive species to the site *and* the spread of invasive species around the site, all machinery / plant to be brought to the site must be clean. Wheels / tracks of machinery / plant must have been pressure washed before use at the site.
- 2.5.2 No excessive remnant soil or plant material from other sites must be present on the machinery / plant or in the tyre treads as this may increase the risk of spread of non-native and invasive plant species e.g. Japanese Knotweed, Indian Balsam and Giant Hogweed (*Heracleum mantegazzianum*).

2.6 Best Practice Measures to Be Applied During Habitat Management Works

- 2.6.1 The Management Company and their appointed contractor will be made aware of the following requirements and adopt them within the working practices of the management works:
- A safe system for the correct storage of materials / chemicals should be implemented to ensure that materials are stored in a suitable manner as to avoid potential impacts on vegetation and / or wildlife;
 - A system to ensure waste is removed at the earliest opportunity to avoid contamination of ground and possible disturbance to wildlife and soil quality;
 - Methods to adequately protect all features of ecological value from damage during site preparation activities;
 - Site operations and plant machinery should take into account wide and tall loads / machinery to prevent them coming into contact with off-site trees and with trees adjacent to and overhanging the site boundaries; and
 - Trees within and adjacent to the site should be protected from direct impact and from severance or asphyxiation of the roots in accordance with *BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations* (BSI, 2012), also refer to the *Impact Assessment* (Ascerta, 2021).

2.7 Protection of Wildlife

- 2.7.1 Legislation relating to the protection of wildlife relevant to the site is presented at **Appendix 4**.

Nesting Birds

- 2.7.2 It is recommended that any works that will likely disturb, damage or destroy an active nest are avoided during the bird breeding season (i.e. March to August inclusive). If restricting works to outside the bird nesting season is not possible, it is recommended that an ecologist conducts a check for the nesting birds within the site in advance of any works commencing. Once complete, a one to three day window (dependent on the time of year) will allow for site works to commence should no active nests be identified. Should works cease for more than three days then an additional check for breeding birds should be repeated.

Roosting Bats

- 2.7.3 Four trees scheduled for retention (as confirmed by *Arboricultural Impact Assessment* (Ascerta, 2021)) are identified to support features with low suitability for use by roosting bats. The location of the trees is identified at **Figure 2** at **Appendix 2**.
- 2.7.4 Three of these trees (T1, T2 and a G10.1 (a Norway Maple within G10) lie within the Management Area (T18 lies within private ownership / is on the site boundary). If management works will affect these trees then advice from a licensed bat surveyor must be sought.

Other Protected Species

- 2.7.5 The 2021 Ecology Report does not identify any other constraints in relation to protected species relevant to the implementation of habitat management.

General Best Practice

- 2.7.6 Care must be taken when removing litter / arisings to check for wildlife, which may be sheltering within or under items. Any wildlife found should be returned to suitable cover.

3.0 SCOPE OF MANAGEMENT PLAN AND EXCLUSIONS

3.1 Scope and Duration of Plan

- 3.1.1 Comparison between the landscape proposals and the Management Area as identified on drawing 2131/MC/01 identifies that the LEMP needs to cover the following:

Existing Habitats

- Existing trees and shrubs;
- Belts of plantation woodland at the site boundaries (north and east);

New Habitats

- Tree and shrub planting;
- Native hedgerows and ornamental hedgerows;
- Wildflower grassland;
- Amenity grassland / turf / mown grassland and bulb planting; and

- Bird and bat boxes (where they are installed on trees in the Management Area, refer to the separate *Plan to Show Location and Specification of Bird and Bat Boxes* (ERAP (Consultant Ecologists) Ltd, 2021)).

3.1.2 The Works Schedule presented at **Appendix 1** covers the first 5 years. Towards the end of the 5 year period the plan provisions will be reviewed, and the Works Schedule will be updated to cover the next 5 year period.

3.2 Exclusions

3.2.1 This LEMP has been prepared for land and habitats within the 'Management Area' as defined on drawing 2131/MC/01 only. It does not cover the ornamental shrub planting, planting and habitats / landscape planting that lie within private land and land and land that lies outside the Management Area.

4.0 HABITAT MANAGEMENT

4.1 Existing Trees and Belts of Plantation Woodland at the Site Boundaries (North and East)

Description of Habitats

4.1.1 Retained trees and shrubs comprise three Pedunculate Oak (*Quercus robur*) trees towards the northern end of the site, and trees at the north-western, southern and eastern site boundaries. Mature trees at the site boundaries include (but are not limited to) Leyland Cypress (*X Cuprocyparis leylandii*), Lombardy Poplar (*Populus nigra 'italica'*), Beech (*Fagus sylvatica*), Cherry (*Prunus* sp.), Ash (*Fraxinus excelsior*), Maple (*Acer* spp.), Sycamore (*Acer pseudoplatanus*), Plane (*Platanus occidentalis* x *orientalis* = *P. hispanica*), Lime (*Tilia* sp.) and Horse-chestnut (*Aesculus hippocastanum*).

4.1.2 Linear belts of plantation woodland and scrub are present at the north-western boundary, northern end of the eastern boundary and southern end of the eastern boundary and are described below.

Linear Belt of Plantation Woodland and Scrub at the North-western Boundary

4.1.3 The north-western corner of the site is occupied by a linear belt of plantation woodland and scrub planted on an earth bund. The plantation woodland appears unmanaged and is likely to have been planted as a screening bund when the campus was re-developed (circa 2004).

4.1.4 The vegetation is characterised by constant and frequent Silver Birch (*Betula pendula*), locally frequent Hawthorn (*Crataegus monogyna*) and Hazel (*Corylus avellana*), and frequent Holly (*Ilex aquifolium*) with very locally frequent Field Maple (*Acer campestre*), and very locally abundant Goat Willow (*Salix caprea*). Owing to its relatively young age, there is no defined canopy and shrub layer.

4.1.5 The shaded ground flora is characterised by constant and frequent Common Nettle (*Urtica dioica*) with very locally frequent Cleavers (*Galium aparine*), frequent and locally abundant Bramble (*Rubus fruticosus* agg.) and locally abundant, constant and frequent Ivy (*Hedera helix*). Woodland herbs are limited to very locally abundant plants of Wood Aven (*Geum urbanum*) throughout the plantation and a very small area of Bluebell (*Hyacinthoides non-scripta*), at the north-western corner of the area.

Linear Belt of Young Plantation Woodland at the Eastern Boundary (north)

- 4.1.6 At the north-eastern corner of the site is a steep sided raised bund of earth with planted trees and shrubs. The dense trees and shrubs are characterised by abundant Silver Birch and Hawthorn with frequent Hazel, Holly, Pine (*Pinus* sp.) and locally frequent Osier (*Salix viminalis*), Norway Maple (*Acer platanoides*), Cherry Laurel (*Prunus laurocerasus*) and Dogwood (*Cornus sanguinea*). The shrub layer is not defined.
- 4.1.7 Bramble is constant and locally abundant in the herb layer with locally frequent Cock's-foot (*Dactylis glomerata*), and very locally frequent plants of Wood Avens, Cleavers and Creeping Buttercup (*Ranunculus repens*) over otherwise shaded bare soil.

Linear Belt of Young Plantation Woodland at the Eastern Boundary (south)

- 4.1.8 The southern section of the eastern site boundary is occupied by a low earth bund with a linear belt of plantation woodland of young trees and scrub that forms a barrier between the adjacent wooded belt along Princess Parkway (A5103) dual carriageway and the residential properties, and the site.
- 4.1.9 The vegetation is characterised by locally abundant Goat Willow and Grey Willow (*Salix cinerea*), frequent and locally abundant Sycamore, locally frequent Field Maple, Norway Maple, Beech, Cherry Laurel and Butterfly-bush (*Buddleja davidii*) with an underscrub of locally frequent Bramble.

Evaluation of Habitats

- 4.1.10 The habitats currently provide habitat connectivity, structural diversity and opportunities for use by nesting birds, foraging and commuting bats and hedgehog. The management proposed is intended to ensure these habitats retain these functions in the long term.

Objectives

- 4.1.11 To ensure the retained trees and linear belts of plantation woodland are conserved in a suitable condition for the attraction of and use by wildlife such as foraging bats, feeding and breeding birds and invertebrates.
- 4.1.12 Tree and shrub works deemed necessary for health and safety reasons will be carried out in accordance with best practice.

Management Prescriptions

Retained Trees and Linear Belts of Plantation Woodland

- 4.1.13 No works are proposed at the retained / existing trees and shrubs.
- 4.1.14 Litter and debris that has collected in the linear belts of plantation woodland as part of the general management of the area will be removed.
- 4.1.15 Annual inspections by trained arborists will be carried out for all existing trees and shrubs within or adjacent to areas of public access to check for damage and disease, and to maintain appropriate height clearances for safe pedestrian access. Annual inspections will be undertaken at the trees, when they are in full leaf, to ensure that they are thriving and defects requiring remedial works will be recorded.
- 4.1.16 Management operations to be carried out in accordance with arborist guidance and in accordance with relevant wildlife legislation.

- 4.1.17 Selective felling will be undertaken to create rides and glades through the areas. The location of the selective felling will be advised by the arborist and ecologist. Arising timber will be used to make deadwood habitat piles.

4.2 Tree and Shrub Planting

Habitat

- 4.2.1 As annotated on the Landscape Proposals, standard trees include Maple (*Acer* sp.), *Amelanchier*, Silver Birch, Hornbeam (*Carpinus betulus*), Midland Hawthorn variety (*Crataegus laevigata* 'Pau's Scarlet'), Beech, Apple (*Malus* sp.), Cherry (*Prunus* sp.), Plane (*Platanus x hispanica*) and Lime (*Tilia* sp.).
- 4.2.2 Shrub species to be planted, as annotated on the Landscape Proposals include ornamental species such as *Cornus*, *Choisya*, *Euonymus*, *Hebe*, *Lavandula*, *Prunus*, *Skimmia*, *Spiraea* and *Viburnum* species. Native shrub planting species will include Hawthorn, Holly, Blackthorn (*Prunus spinosa*), Dog-rose (*Rosa canina*) and Guelder-rose (*Viburnum opulus*).
- 4.2.3 The trees and shrubs will contribute to the diversity of habitats within the site, and (once established) increase the suitability of habitats for foraging and nesting birds, foraging bats, and nectaring invertebrates associated with the local area.

Objectives

- 4.2.4 To promote the establishment of the new tree and shrub planting so that they mature into valuable specimens (and productive specimens in the case of the fruit trees) which will provide valuable wildlife habitats, increase species and structural habitat diversity, enhance habitat connectivity and continue to contribute to the visual amenity of the site.

Management Prescriptions

Trees

- 4.2.5 Annual inspections will be undertaken at the trees, when they are in full leaf, to ensure that they are thriving and defects requiring remedial works will be recorded.
- 4.2.6 Newly planted trees take some time to establish, and until this occurs they are subject to competition from weeds. Weeds will be removed by hand from the base of each tree and 75mm deep mulch in a circle of 1sq.m will be maintained around the base of each trunk.
- 4.2.7 If the trees show signs of poor growth or reduced vigour an application of the appropriate fertiliser will be carried out. If the trees do not respond to a treatment of fertiliser, further investigations will be carried out, including the ground conditions for signs of compaction, contamination and investigation of topsoil quality. Problems uncovered with the soil will be remediated. Should the remediation works not resolve the problem a replacement tree may need to be planted.
- 4.2.8 During establishment trees will require regular watering particularly during prolonged dry period; mulch will also assist in retaining moisture within the soil and will be applied if needed.
- 4.2.9 Tree shelters and stakes will be inspected annually and adjusted accordingly. Damaged ties or stakes will be replaced. When the trees are established and can support themselves the ties will be carefully removed and the stakes cut down to ground level. This operation is likely to be required after 3 to 5 years (dependant on establishment rates, stability and growing conditions).

- 4.2.10 Pruning of young trees should not generally be required during the first 5 years unless they have dead or diseased branches or are impeding paths or fences. In such cases the branch will be pruned back (using a sharp clean knife) to an outward facing bud whilst maintaining the natural shape of the specimen.
- 4.2.11 All trees which have been removed or which are found to be dying, severely diseased or damaged will be replaced by trees of similar size and species to those originally planted. These should be replaced as soon as seasonal weather conditions allow.

4.3 Native Hedgerows and Ornamental Hedgerows

Description and Evaluation of Habitat

- 4.3.1 In accordance with the Landscape Proposals the native hedgerows comprise Hawthorn, Hazel, Holly, Blackthorn, and Dog-rose (*Rosa canina*).
- 4.3.2 The native species hedgerows will (once established) increase the habitats suitable for use by foraging and nesting birds, foraging bats and nectaring invertebrates at this area of the site, as well as increasing the suitability of the habitats within the site for other wildlife such as hedgehog, a Priority Species. Native species hedgerows (of over 20 metres length) can represent a Priority Habitat.
- 4.3.3 Ornamental hedgerows, as proposed around the pumpstation, comprise non-native species characterised by Portugal Laurel (*Prunus lusitanica*).

Objectives

- 4.3.4 Planting of new hedgerows will improve habitat connectivity around the site. Hedgerows will be maintained to provide connectivity, in addition to shelter and foraging opportunities for a diversity of wildlife.
- 4.3.5 The objectives of the hedgerow management are to provide healthy specimens which achieve full growth and provide dense cover for nesting birds (and other wildlife), provide flowers for nectaring invertebrates and berries for foraging birds.

Management Prescriptions

Monitoring

- 4.3.6 Monitoring of the hedgerows will be undertaken on an annual basis to ensure that they are healthy and thriving, to locate any gaps or unhealthy sections of hedgerow and to identify any areas where Bramble is becoming dominant.
- 4.3.7 Monitoring should be completed on an annual basis and in June / July, to inform any management practices required the following winter. A record of the monitoring inspection undertaken and any management operations recommended must be kept electronically.

Cutting

- 4.3.8 Once established the hedgerows will be cut to an 'A' shape to create a broad base and thus continuing to provide shelter for wildlife. All hedgerow cuts must be undertaken using appropriate hand or power tools.
- 4.3.9 Hedgerow cuts will be scheduled at a time when there is no risk of disturbing breeding birds or mammals (i.e. works will be undertaken between September and February inclusive).

4.4 Wildflower Grassland

Description and Evaluation of Habitats

- 4.4.1 The Landscape Proposals identify that an area of meadow grassland will occupy land at the northern boundary, adjacent to the pumpstation.

Objectives

- 4.4.2 The aim of the grassland management is to conserve the wildflower grassland by preventing the area succeeding to scrub vegetation, and provide a dense, tussocky sward favourable for use by foraging and sheltering invertebrates and their prey (such as bird and bat species).

Monitoring

- 4.4.3 It is recommended that annual checks are undertaken in June / July and the spread of scrub vegetation, any invasive plant species, and the condition of the grassland generally should be noted. Plant species-lists and diversity should be made and checked against previous year's results to determine any changes in plant species composition and diversity. If significant decreases in diversity are encountered then changes to the management may be required.

Management Prescriptions

First Year

- 4.4.4 Seeded areas will require cutting in the first year to a height of 40 to 60mm to encourage grasses to produce shoots and to control annual weeds.

Cutting

- 4.4.5 A flail mower / strimmer or other machine with adjustable cut height must be utilised. Grass cutting must be undertaken in a progressive manner, working from one side of the area to the other, or from the centre of the grassland out to the perimeters to allow fauna to escape.
- 4.4.6 Grass cutting will be timed to allow the various grass species to flower and to avoid sensitive periods for fauna such as amphibians and invertebrates. Cutting must allow for seed to be dropped and should therefore be timed during a period with suitable ground conditions in late summer / early autumn.
- 4.4.7 No fertilisers will be used in the grassland. In the event that invasive plant species or harmful species are identified, the treatment plan will be prepared with spot treatment of herbicide, as appropriate, by hand will be the preferred method.
- 4.4.8 More frequent cutting (every fortnight in the growing season) will be applied at a 1 metre wide strip along the pavement at the access road to maintain a close mown area.

Control of Scrub Encroachment

- 4.4.9 The cutting regime should be appropriate to control encroachment by self-seeded shrubs and Bramble (*Rubus fruticosus* agg.).

4.5 Amenity Grassland / Turf / Mown Grassland and Bulb Planting

Description and Evaluation of Habitats

- 4.5.1 Amenity grassland will be present in the Management Area with areas of bulb planting in the areas of public open space at the northern end of the site.

Objectives

- 4.5.2 To maintain a neat and tidy appearance and safe environment.

Management Prescriptions

- 4.5.3 Regular maintenance of the close mown grass areas throughout the growing season, approximately March to September, will maintain a neat and tidy appearance. This is dependent on weather conditions, but a fortnightly cut will be aimed for. The initial and subsequent cuts should be to a height of approximately 40mm with the cuttings dispersed. If the fortnightly cut cannot be undertaken due to adverse weather conditions and the grass becomes too long to allow dispersal of cuttings, they should be removed to prevent the build-up of thatch and to maintain a neat appearance.
- 4.5.4 Cutting of all grass around obstacles including trees in grass will be carried out with particular care, using 'strimmers' fitted with guards so as to protect obstacles from damage. All grass cuttings arising from mowing or strimming operations will be removed from site.
- 4.5.5 Ensure sufficient irrigation during establishment and during dry periods.
- 4.5.6 Any defects such as sinkage, ponding, sparse germination or disease shall be made good and re-seeded.
- 4.5.7 To promote the re-growth of flowering bulbs, cutting will avoid the areas of bulb planting when the bulbs are in flower and until the leaves have turned yellow and died back.

4.6 Invasive Plant Species

Objectives

- 4.6.1 To monitor the status of invasive plant 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.

Monitoring

- 4.6.2 The presence and spread of invasive plant species should be monitored annually in April. A handheld GPS unit and/or map will be used to map the locations of any invasive plant species within the site, and the results kept electronically to inform further management decisions.

4.7 Estate Fabric

Objectives

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

Monitoring

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

Management

- 4.7.3 Any repairs identified by the monitoring will be carried out at the earliest opportunity to ensure a high level of maintenance.

4.8 Bird and Bat Boxes

Description and Evaluation of Habitats

- 4.8.1 As annotated on 'Plan to Show Location and Specification of Bird and Bat Boxes' (ERAP (Consultant Ecologists) Ltd, 2021) the following boxes will be installed within the Management Area:
- a. Three robin (open fronted) boxes onto retained trees;
 - b. Three small bird nest boxes onto retained trees; and
 - c. Five tree mounted bat boxes.
- 4.8.2 The provision of bat and bird boxes will increase the suitability of habitats within the site for roosting bats and nesting birds, thereby increasing the overall biodiversity value of the site for wildlife including protected and Greater Manchester Biodiversity Action Plan species.

Objectives

- 4.8.3 To maintain bird and bat boxes in a suitable condition for use.

Management Prescriptions

- 4.8.4 Management of the bird boxes to comprise:
- a. Replacement / repair of damaged or fallen boxes;
 - b. Annual cleaning the boxes and removal of old nest material in October; and
 - c. Avoidance of obstruction of box accesses by climbing plants.
- 4.8.5 The tree mounted bat boxes are of a specification / product that do not require any management or maintenance. Although the location of the boxes should be recorded and checked and any damaged or fallen boxes must be identified and replaced.

5.0 REVIEW OF LEMP

- 5.1 This LEMP is a reviewable document which can be updated and revised every 5 years / as required. The LEMP and the management regime will be informed by the on-going works at the site.
- 5.2 This LEMP will be reviewed to ensure the objectives and prescriptions are in accordance with current wildlife legislation and conservation objectives.

- 5.3 Updates to the Work Schedule (**Appendix 1**) will be prepared for subsequent 5 year periods and will be held electronically by the Management Company for subsequent reviews if required by any party.

6.0 REFERENCES

Ascerta, 2021. *Arboricultural Impact Assessment, Manchester College Northenden Campus*, St Helens: Ascerta.

BSI, 2012. *Trees in relation to design, demolition and construction. Recommendations*. London: BSI Standards Limited.

ERAP (Consultant Ecologists) Ltd, 2021. *Figure 1: Plan to Show Location and Specification of Bird and Bat Boxes. Land at Northenden Campus, Sale Road, M23 ODD. V4 (CH) 16.11.21*, Chorley: ERAP (Consultant Ecologists) Ltd.

ERAP (Consultant Ecologists) Ltd, 2021. *Northenden Campus, Sale Road, M23 ODD. Ecological Survey and Assessment (including a Licensed Bat Survey). Ref: 2020-272, Version 2*, Preston: ERAP (Consultant Ecologists) Ltd.

Miller Homes, 2021. *Former Manchester College, Moss Hey Drive, Northenden. Management Company Layout. drawing 2131/MC/01*, Warrington: Miller Homes.

TPM Landscape, 2021. *Landscape Masterplan, Moss Hey Drive, Northenden, Job Number: 3882, Drawing Number: 101, Revision F*, Manchester: TPM Landscape.

TPM Landscape, 2021. *Planting Plan (1-5 of 5) Moss Hey Drive, Northenden, Job Number 3882, Drawing Number 201, Revision A*, Manchester: TPM Landscape.

7.0 APPENDIX 1: FIVE YEAR WORK SCHEDULE

TMC = The Management Company

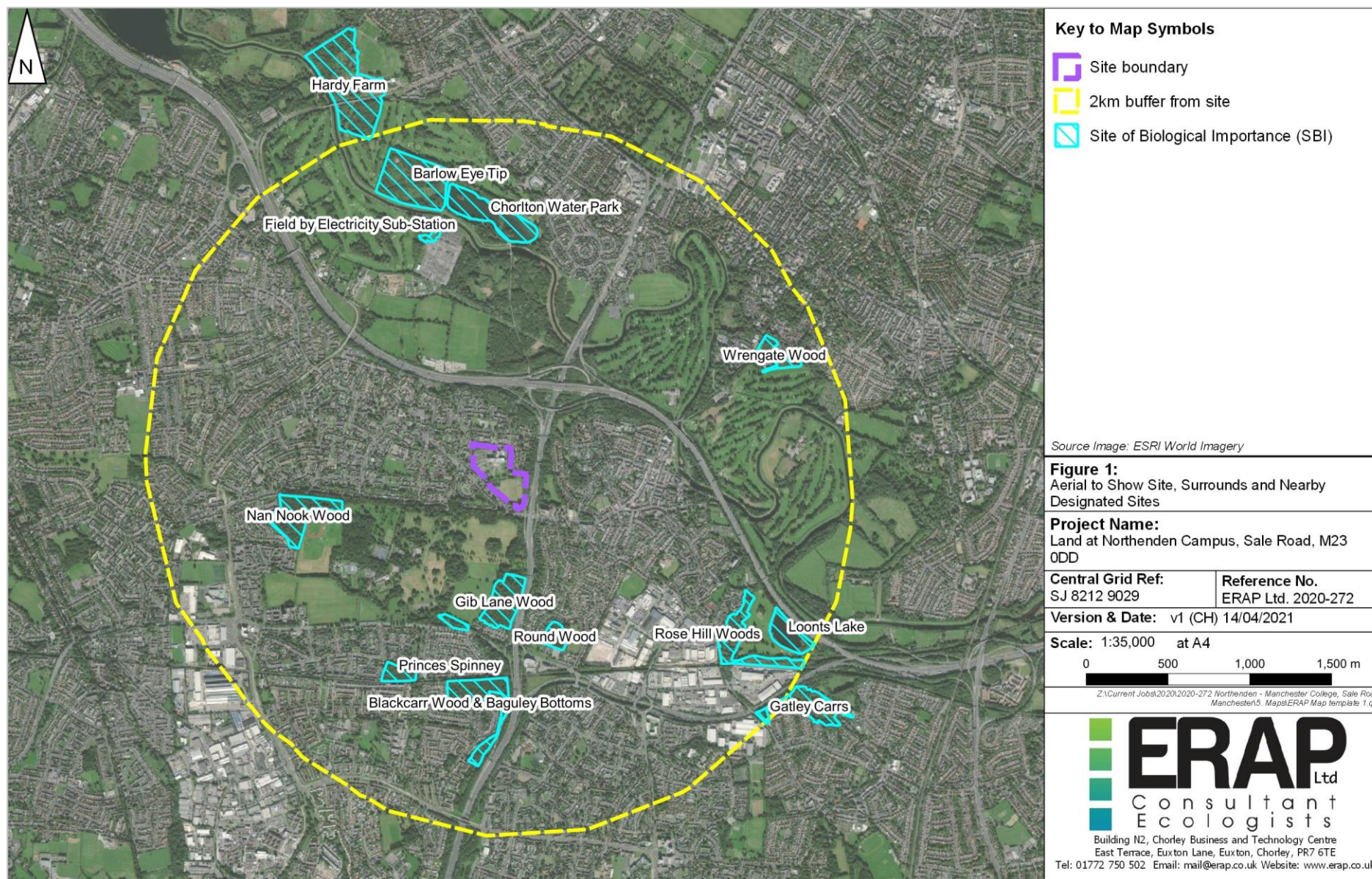
Table 7.1: Work Schedule

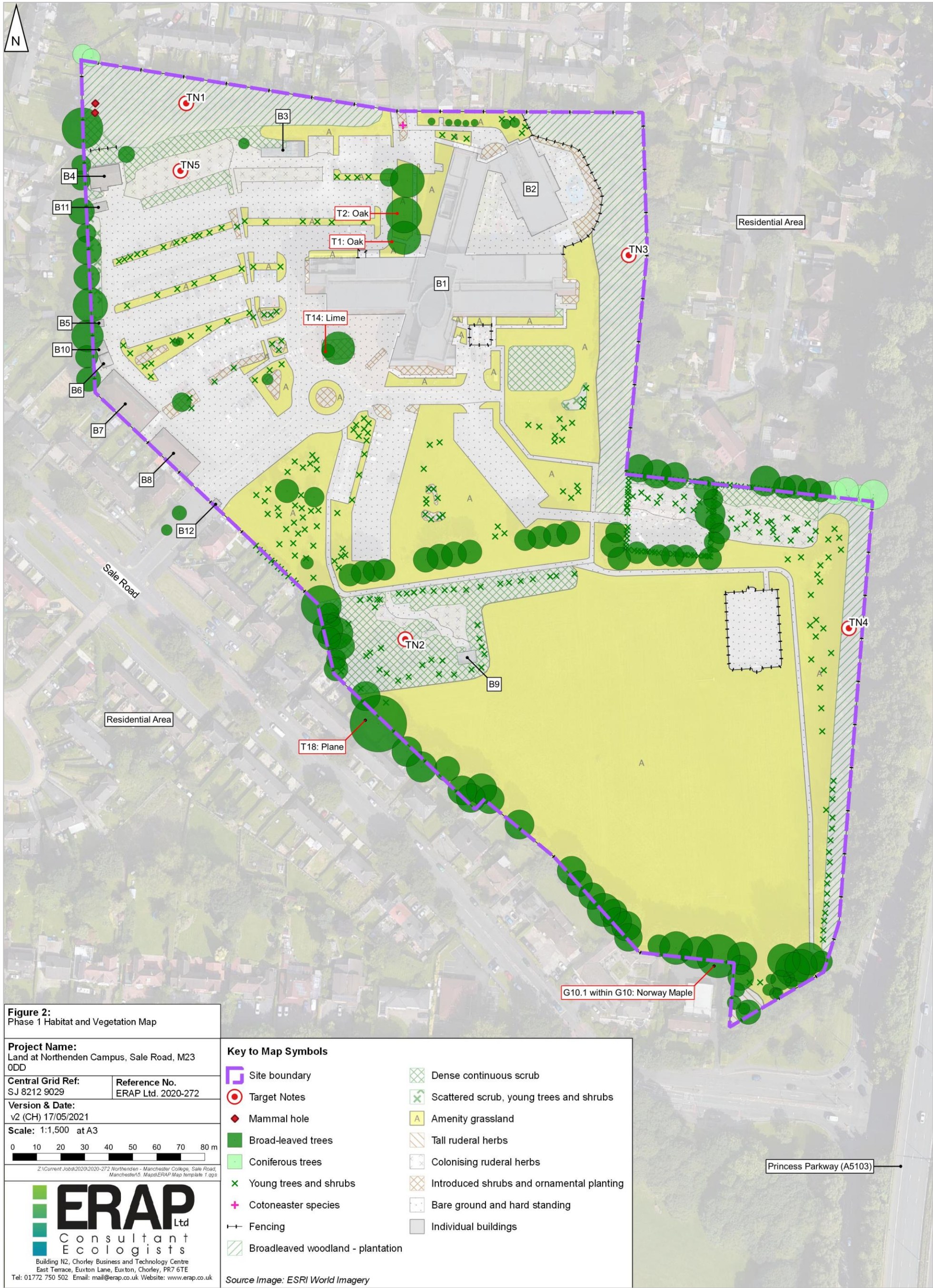
SECTION	HABITAT AND PRESCRIPTION	MONTH												TOTAL PER YEAR	YEARS	RESPONSIBILITY	COMMENTS / NOTES / PREREQUISITES
		J	F	M	A	M	J	J	A	S	O	N	D				
4.1	Existing Trees and Belts of Plantation Woodland at the Site Boundaries (North and East)																
	Remove litter	1		1		1		1		1		1		6	1-5	TMC	All litter to be disposed of appropriately.
	Selective felling to create rides and glades for use by wildlife								1					1	1	TMC as guided by Arborist and Ecologist	Arisings to be used to make dead wood habitat piles.
	Inspection of trees and shrubs		1											-	5	TMC / Arborist	Every five years or as needed. Arrange remedial actions, as needed.
4.2	Tree and Shrub Planting																
	Annual inspection to check trees are in full leaf					1								1	1-5	TMC / Arborist	Record defects requiring remedial works.
	Treatment of pests and diseases and/or removal of diseased trees													-	1-5	TMC	As required and advised by arborist. All felling to be carried out in accordance with BS3998 Felling outside bird breeding season.
	Replacement tree/shrub planting											1		-	-	TMC	As required
	Weed control and tidying			1	1	1	1	1	1	1	1			8	1-5	TMC	At least 8 operations - using manual removal and if necessary, non-residual herbicides
	Application of slow release fertiliser				1									-	1-5	TMC	Once in late spring, if needed.
	Watering						1	1	1	1				-	1-5	TMC	Watering to be carried out if there has been a period of dry weather for 2 weeks or more between June and September.
	If required, the young trees may also receive some formative pruning to remove dead, diseased and crossing branches.											1		1	1-5	TMC	As required. Appropriate time for each species, but avoiding bird breeding season
	Tree shelter, rabbit guard and stake inspection				1									1	1-5	TMC	Repair and adjustment, as needed.

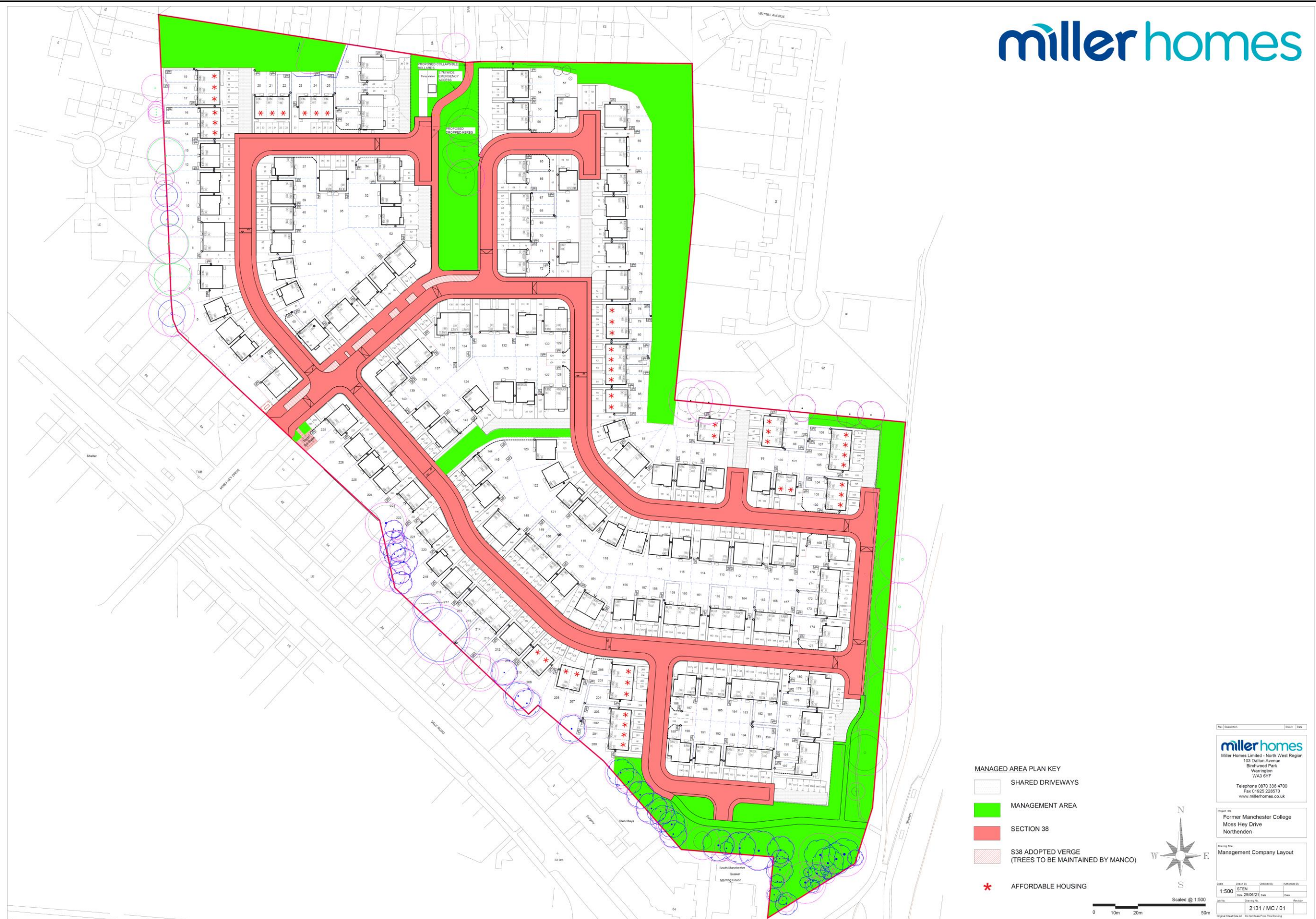
SECTION	HABITAT AND PRESCRIPTION	MONTH												TOTAL PER YEAR	YEARS	RESPONSIBILITY	COMMENTS / NOTES / PREREQUISITES
		J	F	M	A	M	J	J	A	S	O	N	D				
4.3	Native Hedgerows and Ornamental Hedgerows																
	Monitoring of condition						1							1	1-5	TMC	Annual completion of form at Appendix 3 .
	All plants shall be firmed in by treading after frost lift or wind rock.		1											1	1-5	TMC	-
	Remove litter prior to cutting / strimming		1											2	1-5	TMC	Litter to be removed and appropriately disposed of/recycled.
	Replacement tree/shrub planting													As required	1-5	TMC	As required in the appropriate planting season.
	Cutting		1											1	1-5	TMC	Once established, all new hedges are to be maintained in a neat and tidy condition and to a maximum height of 2 metres by means of pruning.
4.4	Wildflower Grassland																
	Monitoring of condition						1							1	1-5	TMC / Ecologist	Annual completion of form at Appendix 3 .
	Remove litter prior to cutting / strimming									1				1	1-5	TMC	Litter to be removed and appropriately disposed of/recycled.
	Strim to a heigh of 40mm and remove all arisings									1				1	1	TMC	Compost arisings in the allocated position or remove from site.
	Strim to a height of 15cm (no lower) and remove all arisings.									1				1	2-5	TMC	Compost arisings in the allocated position or remove from site.
	Control noxious, broad-leaved weeds and invasive species													As required	1-5	TMC	Using appropriate methods. Herbicide must not contain the surfactant polyoxy-ethyleneamine (P.O.E.A)
	Control encroaching self-seeded shrubs and Bramble scrub									1				1	As required	TMC	Outside bird breeding season Brush cutter / chainsaws to be used. Removal of all arisings.
	Cutting of verge alongside pavement / paths			2	2	2	2	2	2	2	2			16	1-5	TMC	1 metre wide strip. Removal of arisings
4.5	Amenity Grassland / Turf / Lawn and Bulb Planting																
	Remove litter prior to cutting / strimming			2	2	2	2	2	2	2	2			16	1-5	TMC	Litter to be removed and appropriately disposed of/recycled.
	Strim / flail to a height of 40mm (no lower) and remove all arisings			2	2	2	2	2	2	2	2			16	1-5	TMC	Removal of arisings. Avoid areas of bulb planting until leaves have turned yellow and died back.

SECTION	HABITAT AND PRESCRIPTION	MONTH												TOTAL PER YEAR	YEARS	RESPONSIBILITY	COMMENTS / NOTES / PREREQUISITES
		J	F	M	A	M	J	J	A	S	O	N	D				
	Control noxious, broad-leaved weeds and invasive species													As required	3-5	TMC	Using appropriate methods. Herbicide must not contain the surfactant polyoxy-ethyleneamine (P.O.E.A).
4.6	Invasive Plant Species																
	Monitor to advise on location of invasive plant species to inform works, as needed													As required	1-5	TMC	Prepare and implement an Invasive Plant Species Management Plan, as needed
4.7	Estate Fabric																
	Inspections of fences, signs, gates and paths					1			1					2	2-5	TMC	Remedial actions to be implemented as needed.
4.8	Bird and Bat Boxes																
	Check and clean out the bird boxes										1			1	2-5	TMC	Bat boxes require no specific maintenance. Replace/ repair damaged or fallen boxes.
	Check bat boxes										1			1	2-5	TMC	Obtain guidance from a licensed bat surveyor, if needed. Replace/ repair damaged or fallen boxes.
5.0	Review of LEMP																
	LEMP to be reviewed and updated / revised as required.												1	1	5	TMC / Ecologist	-

8.0 APPENDIX 2: PLANS TO SHOW EXISTING HABITATS, LANDSCAPE PROPOSALS AND PROPOSED BIRD AND BAT BOXES









LEGEND

SOFT LANDSCAPE

- Existing Trees to be Retained
- Existing Trees to be Removed
- Proposed Spine Road Trees
Trees to be planted as 20-25cm girth, Semi-Mature, 6-7m high with 2m clear stem. Trees to be secured with underground guying system.
- Proposed Medium Size Ornamental Trees
Trees to be planted as 14-16cm girth, Extra Heavy Standard, 3.5-4m high. Trees to be staked and secured with suitable rubber ties.
- Proposed Small Ornamental Trees
Trees to be planted as 10-12cm girth or 50L containers, 2-3m high and secured with single stake and suitable rubber ties.
- Proposed POS Trees
Trees to be planted as 16-18cm, Extra Heavy Standard, 4.5-6m high with 2m clear stem. Trees to be secured with underground guying system.
- Proposed Ornamental Hedgerows
Evergreen hedgerows to be planted in 10L containers at a rate of 3-4 per lin. metre.
- Proposed Native Hedgerows
Evergreen hedgerows to be planted in 10L containers, double staggered, 300mm centres, at a rate of 5 per lin. metre.
- Proposed Shrub Planting
Ornamental shrub planting, to be planted in 3-4L containers at 3-4 p/m² and enhanced by feature specimens in 10-20L pots.
- Proposed Native Shrub Mix
To be planted as bare root stock, 60-80cm, at 2p/m², and protected with spiral guards. To be planted in groups of 3-5 plants.
- Proposed Bulbs
- Proposed Wildflower Meadow
To be Emorgate Elvis Meadow Mixture, supplied by Emorgate or similar approved. Including 80% of ornamental grasses and 20% of wildflowers. Sowing rate 4/gm².
- Proposed Amenity Grass
Front gardens to be turfed.
Back gardens to client specification.
Public Open Space to be seeded
- Proposed Shared Surface
Black Paving.
- Indicative Location of the Plaque and Information Board

LOCATION MAP



REVISION NOTES

Rev	By	Description	Date
F	AJ	Minor Updates	01.11.21
E	AJ	Hedges removed from primary route	29.10.21
D	AJ	Updated to accommodate boundary treatments	29.10.21
C	AJ	Updated in line with revised layout	28.10.21
B	TK	Annotation to green POS area added	23.07.21
A	TK	Amended in line with new layout	14.06.21

Client

Miller Homes North West

Project

Moss Hey Drive, Northenden

Description

Landscape Layout (1 of 2)

Status

For Approval

Scale @ A1	Drawn	Checked	Date
1:500	AK	DC	01.06.21
Job number	Drawing number	Revision	
3882	102	F	

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GENERAL NOTES

- This drawing is the copyright of tpm landscape Ltd and cannot be reproduced in any form without the consent of the company.
- This drawing is to be read in conjunction with detail landscape drawings, details and specification.
- This drawing is to be read in conjunction with all relevant Architects', Engineer's, Specialists, Bills of Quantities and Specifications.
- The insertion of any firm or proprietary brand on this drawing is an indication of the class or quality required and does not exclude the use of alternative materials that are equal in performance, quality and appearance, provided that they have been approved in writing by the Landscape Architect.
- The Contractor is responsible for accurately ascertaining the position of underground services and responding to all relevant service easement requirements.
- All dimensions are in millimetres unless stated otherwise, for the purposes of construction this drawing must not be scaled and only written dimensions used. Written and scaled dimensions to be checked on site, any discrepancies reported prior to work commencing. IF IN DOUBT PLEASE ASK.
- All work and materials are to be in accordance with the relevant British Standards and Code of Practice.
- All Proprietary products are to be used strictly in accordance with the manufacturer's instructions and details.



Robin (open fronted) Box

Quantity: 4

Installation: To be installed onto retained, mature trees at the site between 1.5 to 3 metres above ground level. Boxes should be positioned facing north to east to minimise exposure to harsh winds and prolonged sunlight. Positions impeded by branches to be avoided to minimise risk of predator such as by domestic cats, and to avoid likelihood of obstruction at the box entrance.

Bird nest boxes to be installed in accordance with <https://www.bto.org/sites/default/files/u15/downloads/publications/guides/nestbox.pdf>

Suitable Products: Vivara Pro Barcelona WoodStone Open Nest Box (Insert 1); or 2H Schwegler Open Fronted Nest Box (Insert 2)

Suppliers: www.nhbs.com; or www.wildcare.co.uk



Insert 1



Insert 2

Small Bird Nest Box

Quantity: 4

Installation: To be installed onto retained, mature trees at the site at least 3 metres above ground level. Boxes should be positioned facing north to east to minimise exposure to harsh winds and prolonged sunlight. Positions impeded by branches to be avoided to minimise risk of predation, such as by domestic cats, and to avoid likelihood of obstruction at the box entrance.

Bird nest boxes to be installed in accordance with <https://www.bto.org/sites/default/files/u15/downloads/publications/guides/nestbox.pdf>

Suitable Products: 1MR Schwegler Avianex nest box (Insert 3); or Vivara Pro Seville 28mm WoodStone nest box (Insert 4)

Suppliers: www.nhbs.com; or www.wildcare.co.uk



Insert 3 (left) & Insert 4 (right)

Tree Mounted Bat Box

Quantity: 7

Bat boxes 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.

Suitable Product: Greenwood's Ecohabitats Single Crevice Bat Box (Insert 5)

Suppliers: www.greenwoodsecohabitats.co.uk



Insert 5

Bat Access Panels (Integrated)

Quantity: 14

Bat boxes should be installed at least 4 metres above ground level beneath the eaves or gable apex onto or integrated to elevation walls of the properties. Positions directly above windows or doorways to be avoided to minimise nuisance via droppings

Suitable Product: Ibstock Enclosed Bat Box 'B' or 'C' (Inserts 6, top and 7, bottom)

Suppliers: www.nhbs.com



House Sparrow Nesting Terrace and Starling Nest Boxes

Quantity: 5 of each

Installation: To be installed onto or integral to properties at least 2 metres above ground level. Positions directly above windows or doorways to be avoided to minimise nuisance via droppings. Boxes should be positioned facing north to east to minimise exposure to harsh winds and prolonged sunlight.

Suitable Products: Vivara Pro House Sparrow Nest Box (Insert 8, left) and Vivara Pro WoodStone Starling Nest Box (Insert 9, right)

Suppliers: www.nhbs.com; or www.wildcare.co.uk



Plot No.	Box type	Aspect
7	Bat access panel	South-west
16	Bat access panel	South
22	House sparrow nesting terrace	North
30	Swift nest box	North
32	Bat access panel	South
58	Swift nest box	East
60	Bat access panel	South
80	Starling nest box	East
90	Starling nest box	North-east
98	Starling nest box	North
99	Starling nest box	North
100	Starling nest box	East
104	Bat access panel	South
107	Bat access panel	South
110	House sparrow nesting terrace	North
172	Bat access panel	South
175	Bat access panel	South
181	House sparrow nesting terrace	East
183	Swift nest box	East
185	Bat access panel	South
191	Bat access panel	South
192	House sparrow nesting terrace	North
197	Bat access panel	South
198	Bat access panel	South
204	Swift nest box	North
206	Starling nest box	South-east
212	House sparrow nesting terrace	South-east
214	Bat access panel	South-east
221	Bat access panel	South-west

Swift Nest Boxes

Quantity: 5

Swift nest boxes should be installed at least 4 metres above ground level beneath the eaves or gable apex onto or integrated to elevation walls of the properties. Positions directly above windows or doorways to be avoided to minimise nuisance via droppings.

Suitable Product: Vivara Pro Cambridge Swift Nest Box (Two parts: Inserts 10 and 11)

Suppliers: www.nhbs.com



Key to Map Symbols

- Site boundary
- Robin (open fronted) box
- Small bird nest box
- Tree mounted bat box
- Bat access panel
- Starling nest box
- House sparrow nesting terrace
- Swift nest box

Figure 1:
Plan to Show Location and Specification of Bird and Bat Boxes

Project Name:
Land at Northenden Campus, Sale Road, M23 ODD

Central Grid Ref: SJ 8212 9029
Reference No. ERAP Ltd. 2020-272

Version & Date:
v4 (CH) 16/11/2021

Scale: 1:2,000 at A3
0 20 40 60 80 100 m

Z:\Current Jobs\2020\2020-272 Northenden - Manchester College, Sale Road, Manchester\5. Maps\ERAP Map template 1.qgs

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Source Image: Proposed Overall Site Layout, Former Manchester College, Moss Hey Drive, Northenden. Drawing Number: 2131/SL/01, Revision: H (Miller Homes Ltd, 2021)

9.0 APPENDIX 3: EXAMPLE MONITORING SHEET

- 9.1 The objectives and frequency of the monitoring inspections are detailed under each section / habitat and included on the Work Schedule at **Appendix 1**.
- 9.2 The example record sheet below provide 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.
- 9.3 The Record Sheets will be used to identify / inform the need for remedial actions and amendments to the management regime / prescriptions.

Table 9.1: 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: (i.e. Presence of invasive plant species, species list for grassland and cross-referenced to the seed mixture, % cover of thistles and docks, presence of self-seeded shrubs)			

10.0 APPENDIX 4: SUMMARY OF RELEVANT WILDLIFE LEGISLATION

10.1 Invasive Plant Species

- 10.1.1 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.

10.2 Breeding Birds

- 10.2.1 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.

10.3 Badger

- 10.3.1 Badger and their setts are protected under the *Protection of Badgers Act* (1992) and they are included on Schedule 6 of the *Wildlife and Countryside Act 1981* (as amended). It is a criminal offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so; or to intentionally or recklessly interfere with a sett.

- 10.3.2 The Act makes it an offence to, or to attempt to:

- a. Wilfully kill, injure, or take any badger;
- b. Possess any dead badger or part of one;
- c. Possess or control a living, healthy badger; and
- d. Intentionally or recklessly damage, destroy or obstruct access to a sett, or disturb a badger whilst it is occupying a sett.

10.4 Bat Species

- 10.4.1 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.