# Landscape Management Plan

Proposed Construction of a New McDonald's Drive Thru Restaurant at

Lane End, Kirkby in Ashfield NG17 8AP

23rd April 2024

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ENVIRONMENTAL AND SUSTAINABILITY CONSULTANTS

encon associates

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## Document Control

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**Contents**

# Executive Summary

This Landscape Management Plan has been produced for the development of a new McDonald's Drive Thru restaurant at Lane End, Kirkby in Ashfield in respect to the application for planning consent to the local authority.

This document corresponds directly to the landscaping scheme as detailed on the drawing reference A6605-04 (see separate drawing for details). The plan should also be read in conjunction with the separate Ecological Appraisal.

The development includes the construction of a new McDonald's Drive Thru Restaurant, including car parking, landscaping and associated works.

The landscaping scheme incudes the planting of new trees, native hedgerow and planting new scrub. Nectar-rich shrubs will be planted to provide a food source for a variety of pollinators, birds and other urban wildlife. There are also opportunities to enhance the ecological value of the site. These include managing retained woodland to improve its quality, creating an ecologically valuable wildflower meadow, sowing diverse grassland within verge areas, and erecting bird and bat boxes on retained trees.

The aim of the report is to provide appropriate prescriptive management and recommendations to achieve the objective of the landscaping scheme and on-going maintenance.

This includes management actions and an annual work schedule for the initial 12-month defects liability period and a further 4 years thereafter.

# 1 Introduction

1.1 This management plan has been prepared in respect to the application for planning permission submitted to the local authority for a new McDonald's Drive Thru Restaurant at Lane End, Kirkby in Ashfield NG17 8AP.

1.2 This Landscape Management Plan corresponds directly to the landscaping scheme as detailed on drawing A6605-04 (see separate drawing for details). The plan should also be read in conjunction with the separate Ecological Appraisal.

1.3 The Plan is in accordance with BS8545:2014 Trees: from nursery to independence in the landscape – Recommendations. This British Standard gives recommendations for transplanting young trees successfully from the nursery, through to achieving their eventual independence in the landscape, specifically covering the issues of planning, design, production, planting and management.

This British Standard applies to trees where a distinct crown has been prepared in the nursery. It does not apply to whips, transplants and seedlings or to other woody material.

1.4 **Principles of the Maintenance Schedule**

This document sets out the principles and quality standards required for the installation of planting and ecological enhancement for the long term management operations.

It includes:

- Design Intentions
- Aims of the management plan
- Detailed installation specification
- Management objectives
- Detailed maintenance specification
- Annual schedule of operations

1.5 The report should be read alongside the approved landscaping scheme and used by the maintenance team to produce a detailed priced programme of work for the client. It should also form the basis for annual reviews and evaluation of maintenance works to ensure they continue to meet the needs of the site.

## 1.6 Long Term Landscape Design Objective

The design intention for the landscape and ecological enhancement at this site is to create a coherent environment and attractive setting, not only for the customers of the restaurant but also for the ecological enhancement of the site as a whole. The scheme is sympathetic to the current landscape setting which includes areas of commercial and residential use and aims to provide an enhanced external environment and biodiversity.

## 1.7 Aims of the Landscape Proposals

The landscape and its relationship with the new building is important to the success of the scheme. The design successfully integrates the new building into a cohesive external environment within the existing landscape. The overall design aim is for the new building and landscape to be logically linked, mainly influenced by the need for efficient circulation routes and a welcoming frontage.

1.8 For the purposes of management and maintenance of the landscape and biodiversity there are the following main areas:

1) Trees
2) Grass Verges
3) Wildflower Meadow
4) Shrubs
5) Native Hedge
6) Scrub Planting
7) Existing Woodland
8) Bird & Bat Boxes and Log Piles

# 2 Landscape Maintenance Objectives

## 2.1 The Maintenance Period

Maintenance is to be undertaken for the next 5 years as a minimum, including the initial 12 months defects liability period which should be built into the implementation contract to cover post-installation maintenance requirements for the whole of the landscape works. During this period the contractor is responsible for all horticultural maintenance operations, including the replacing of planting which has failed to flourish. At the end of the initial one-year aftercare period any defects in soft landscape materials due to materials or workmanship will be rectified and future responsibility will be handed over to the person responsible for grounds maintenance at the site thereafter and any trees or plants which die, are removed or become seriously damaged or diseased, shall be replaced in the next planting season with others, of similar size and species.

## 2.2 Access

For landscape maintenance purposes, vehicular access will be from an existing service road, connecting to Lane End.

## 2.3 Facilities

The grounds maintenance contractor shall liaise with the site management directly regarding permissions for parking, storage, use of water and any other resources.

## 2.4 Maintenance Objectives for Soft Landscape

- apply good horticultural and ecological practice to all operations
- promote healthy growth and establishment of all plants and trees
- regularly cut grass areas to maintain a neat, short sward
- ensure consistent control of invasive weeds
- promote optimum display and flowering periods and stem colour
- ensure development of optimum plant form, shape, and planting density provide protection against pests and diseases
- promote wildlife value and species diversity where appropriate
- ensure long term commitment to replacement of defective plant material

- review opportunities for introduction of new species or replacement of exhausted species where appropriate, in line with original design intensions

# 3 Components with Specific Management Objectives

**3.1 Grass Verges:** Areas of grassland to be established in landscaped verges around the site

- Ensure sward is maintained so as to create an optimum functional surface
- Review requirements for whole or part sward refurbishment
- Establish an annual programme of aeration and feeding
- Review requirements for whole or part sward refurbishment
- Employ cultural techniques which use organic fertilisers and minimize the use of chemicals wherever possible

**3.2 Shrub Planting:** Ornamental shrubs planted in groups

Refer to drawing A6605-04 for full species list to determine correct management approach to create functioning habitats, for example dense blocks of ground cover species will not require pruning.

- Species selected for ecological enhancement including colourful, flowering groundcover to attract bees and invertebrates
- Ensure that good horticultural practice is employed to encourage long term health and vitality of all shrub planted areas to ensure they establish
- Allow shrubs to establish to provide a dense block of groundcover with a variety of species and various heights for biodiversity

**3.3 Native Mixed Scrub Planting:** Native trees and shrubs

- Five or more native woody species
- Variation in age of plants to promote a diverse structure
- After 3-5 years of growth planting should be pruned every 6 months to encourage an even and healthy growth pattern and develop a dense understorey for wildlife use

**3.4 Tree Planting:** Planted as individual specimens and native linear planting

- Ensure that good horticultural practice is employed to encourage long term health and vitality of all trees
- Ensure well-balanced crowns and natural shape
- Remove rubber ties and supporting stakes once the trees area well established enough to support themselves

**3.5 Native Hedgerow Planting:** Species rich native hedge

- At least 6 woody species of local provenance such as Hawthorn, Dogwood, Blackthorn, Hazel, Goat Willow and Elder (see landscape drawing A6605-04 for exact species list)
- The native hedge should be managed for its wildlife interest with only 50% cut annually on rotation, to allow fruits and shelter for birds and insects through the winter
- The hedge should be cut to form an A-frame shape to avoid it becoming leggy and diminishing its biodiversity value
- Hedges should be pruned in late winter (February) to prevent destroying berries and seeds vital food for birds, as well as the eggs of overwintering insects
- Cutting should not take place during the bird nesting season (March to August)
- Good horticultural practice should be employed to encourage long term health and vitality of all hedge planting
- Allow shrubs to establish to provide a dense hedge line maintained at 1.5m high

**3.6 Existing Woodland & Vegetation:** Retained and enhanced as per ecologist recommendations

- The existing woodland to the west and south edges of the site can be improved by promoting a more diverse structure, improving the ground layer and diversifying species
- Younger trees on the southern edge to be thinned out, retaining larger specimens and planting new trees in this area
- Ivy should be retained on existing trees but removed from the ground and woodland ground flora sown.
- Logs from trees felled around the site should be placed to provide deadwood of ecological value (see 3.12)

**3.7 Existing Trees to be Retained:**

- All existing trees have been assessed by a qualified Arboriculturalist to BS5837: 2012 "Trees in relation to design, demolition and construction – Recommendations".
- Recommendations within the report for all management works will be included as part of the specification and schedule of works issued to the building contractor.

- All work must be undertaken to BS3998: 2010 "Recommendations for Tree Work" and carried out by qualified, experienced and Arboricultural Association approved contractors who must be adequately insured.

**3.8 Wildflower Meadow:** To be created in the northeast corner of the site to provide ecological enhancement

- To be sown with a diverse wildflower seed mix containing a range of species
- Valuable habitat for invertebrates, containing a variety of wildflower species benefitting pollinating insects

**3.9 Non-native and Invasive Species Control:** There is the potential for colonisation of the habitats by non-native invasive species which needs to be monitored and eradicated where necessary.

- Prior to construction work starting, plants such as buddleia and snowberry should be carefully removed from the site and disposed of safely in accordance with regulations surrounding the transfer of waste.
- This includes the excavation and careful disposal of any root material

**3.10 Bat Boxes:** Secured to existing mature trees to the south and west of the site

- A minimum of 3 bat boxes should be provided
- Boxes should be suitable for pipistrelle species bats
- Boxes should be mounted at least 3m high, away from light sources and branches and with a clear line of flight
- Boxes should checked to make sure they are cleared of any obstructions to ensure they remain suitable for roosting

**3.11 Bird Boxes:** Secured to existing mature trees to the south and west of the site

- A minimum of 3 bird boxes should be provided
- A variety of designs should be used to be suitable for a number of species
- Boxes should be mounted at least 2.5m above ground level, in sheltered areas away from full sun
- Boxes should checked to make sure they are cleared of any obstructions to ensure they remain suitable for nesting

**3.12 Log Piles:** Using the existing trees which are to be removed to form 4 piles of logs to encourage insects located within the existing woodland.

- The log piles should be left undisturbed and allowed to naturally decay to encourage insects to colonise them.

# 4 Maintenance Specification

## 4.1 Maintenance Details

The following specification items are to be addressed within the long term landscape maintenance contract. Included are performance specifications, quality standards and some detailed operational descriptions. The landscape maintenance contractor will be required to apply their expertise in relating these to the Management Objectives above in producing annual programmes of work.

## 4.2 Maintenance to accord with requirements of BS 7370:1991

- Duration: Carry out the operations in the following clauses from completion of planting and continue in perpetuity (unless otherwise agreed by the Local Planning Authority)
- Frequency of maintenance visits: Monthly during growing season and as per schedule in clause 5.3

**4.3 Tree Planting**: trees planted as individual specimens and native linear planting

**Specification for Tree Planting:**

- Refer to the separate landscaping drawing A6605-04 species and planting locations.
- All trees to be supplied in accordance with Section 8.4 "Root system development and management" within BS8545:2014 Trees: from nursery to independence in the landscape – Recommendations
- Specimen trees to be pit planted in accordance with Section 10 "Planting" within BS8545:2014 Trees: from nursery to independence in the landscape - Recommendations.
- All trees to be "Heavy Standard" 18-20cm girth, 4.5m high (supplied by Barcham Trees or similar approved)

**4.4 Native Hedge Planting:** to the east of the site

**Specification for Native Hedge Planting:**

- Plants to be 60-80cm high, bareroot transplants, pit planted at 5 plants per metre in a double staggered row
- Spiral rabbit guards for each plant with bark mulching between plants to suppress weed growth

- Hedge to be established and maintained at 1.5m high

**4.5 Shrub Planting:**

**Specification for Shrub Beds:**

- Refer to the landscaping drawing A6605-04 for species and planting locations.
- All plants to be 5 litre pot grown stock, planted in random groups of 5, 7 or 9 plants of same species throughout the planting bed.
- Cultivate and grade soil, bring top 150mm to a fine tilth prior to planting
- Shrubs to be pit planted at 4 per $m^2$

**4.6 Tree, Hedge & Shrub Maintenance:**

- Trees, hedges and shrubs to be maintained by the landscape contractor appointed by the developer in accordance with Section 11 "Post-planting management and maintenance" within BS8545:2014 Trees: from nursery to independence in the landscape - Recommendations.

**Watering:**

- The timing and frequency of irrigation should take into account the prevailing weather conditions, soil moisture release characteristics and the response of the tree species to water deficits or periods of prolonged soil saturation.
- Ensure sufficient water is applied to maintain healthy growth; taking into account published meteorological data on rainfall for any given period, in particular in periods of Spring drought (April, May & June)

**Quantity:**

- Standard trees: a general guide would be10 gallons per tree per application. However, the frequency of irrigation is more important than the volume of water given at any one time
- Shrubs: Wet soil to full rooting depth
- Monitoring should take place if there are 10 consecutive days during the growing season at >$25^0$C

**Weed control:**

- All planting areas shall be kept clear of weed growth for the first 3 growing seasons during the establishment period
- After 3 years, a herb layer can be allowed to return to all planting except the ornamental planting which should be kept weed free
- Achieve by a combination of herbicide applications and hand-weeding/hoeing
- Ensure that the methods used will cause a minimum of damage to adjacent planted areas

**Tree and plant stems:**

- Do not allow nylon filament rotary cutters or other mechanical tools closer than 200mm to the stem of any tree or plant
- Maintain a grass & weed-free area around the base of each tree, min diameter 500mm during the first 3 growing seasons during the establishment period
- Carry out operations close to stems using hand tools

**Herbicide application:**

- A foliar acting translocated or contact herbicide shall be applied to emergent weeds

**Hand weeding:**

- Hoe and loosen the soil throughout the planting areas, taking care to avoid disturbance of roots of planted material
- Remove weeds entirely, including roots
- Remove the minimum of soil and minimise disturbance to plants, bulbs and mulched surfaces
- On completion, rake areas to a neat condition

**Mulch:**

- All mulches should be replenished to their original depth of 75mm
- The mulched area around the tree should be enlarged, if practicable, as the tree develops to the canopy drip line
- Mulch spill on adjacent surfaces to be removed to avoid a build up of mulch around the root flare and the base of the stem
- Any weeds and debris to be taken out of the spilled mulch before returning to planted areas

- Melcourt 'Forest BioMulch' or similar approved to be used
- After 5 years any compost created on site should be used if possible

**Re-firming, check/tidy:**

- Trees and shrubs shall be maintained in a firm position in the ground and all stakes and ties shall be checked regularly, particularly after strong winds, frost heave and other disturbances
- The soil around newly planted trees should be regularly inspected for soil capping or compaction.
- All trees should be checked on a regular basis for mammal, human and other external damage
- All trees should be checked on a regular basis for pests and diseases
- Any significant failures should be reported and remedial action should be taken as necessary

**Tree stakes and ties:**

- Inspect all trees twice a year to ensure that the root system remains stable and firm in the ground and that ties are still effective and not causing damage
- Adjust fixing to suit stem growth and provide correct and uniform tension. Any stakes and ties that are found to be not fit for purpose should be adjusted, replaced or removed.
- If growth is sufficient for tree to be self-supporting, remove fixing and fill holes with lightly compacted soil
- Check stakes for looseness, breaks and decay and replace as necessary
- Remove stakes and ties once tree has established sufficiently to support itself or after 3 years establishment whichever is the sooner

**Hedge Pruning:**

- Generally to be carried out in accordance with good horticultural and arboricultural practice
- In accordance with BS 7370.4, clauses 3.6.3 to 3.6.5
- Before starting work, agree which shrubs and hedges are to be pruned.
- 50% of hedges are to be cut annually on a rotational basis, ie 50% cut in year 1, 50% left uncut and then alternated for year 2 and all subsequent years.
- Hedges to be cut to an A-frame shape

- Trim individual plant appropriate to species, location and season to leave a well-balanced natural shape
- All cutting to be done with appropriate clean sharp tools
- Clean cuts back to sound wood
- Do not use growth retardants, fungicides or sealant unless instructed

**Pruning of trees:**

- In accordance with BS 3998 and Forestry and Arboriculture
- During pruning protect adjacent structures, plants or trees
- Trees to be maintained with a well-balanced natural appearance
- Remove any suckers or basal growth
- Cut back level with source stem or root
- For any chain saw work, operatives must hold a certificate of competence

**Timing:**

- Prune between leaf fall and mid winter
- After 3 years full growing seasons, selectively thin, re-space and crown raise trees

**Pruning of shrubs:**

- At the end of the growing season, check all shrubs and remove all dead foliage, dead wood and broken/damaged branches and stems
- Prunings to be retained on site and either composted or woodier prunings to be utilised in the creation of habitat piles in un-obtrusive areas if possible
- Unless otherwise specified or instructed, prune shrubs flowering between March and July immediately after the flowering period and shrubs flowering between July and October back to old wood in winter;

**Reinstatement:**

- Remove dead plants as soon as possible and replace in the next scheduled round of replacement planting during the dormant season

**Maintaining a safe, clean and secure environment:**

- Litter and dog waste to be collected as necessary to maintain a clean, litter-free environment
- Include clear signage against dog fouling and litter at entrances
- Report fly tipping

## 4.7 Grass Verges

**Specification for Grass Verges:**

- Species rich turf supplied by wildflowerturf.co.uk (or similar approved)
- Culitvate and grade the soil, bring top 150mm to a fine tilth, rake and bring to given levels. Remove all stones and debris over 50mm
- Lay turf in stretcher bond, firm turves using wooden turf beater

**Watering and Feeding:**

- This biodiverse turf is treated in the same way as a conventional lawn and should be regularly watered and fertilised
- Newly laid turf for grass verges and existing grass areas which have been re-seeded to be well watered at time of laying/seeding and regular watering thereafter during the first 2 growing seasons to ensure healthy establishment of the grass
- Ensure sufficient water is applied to maintain healthy growth; taking into account published meteorological data on rainfall for any given period, in particular in periods of summer drought (June, July & August)
- Slow release fertiliser to be spread over grass areas in accordance with manufacturer's instructions
- Carry out a single application between March and May for the first 3 years after laying

**Weed control:**

- All grass to be kept clear of weed growth for the first 3 growing seasons during the establishment period
- Achieve by a combination of herbicide applications and hand-weeding
- Ensure that the methods used will cause a minimum of damage

**Mowing:**

- This biodiverse turf is treated in the same way as a conventional lawn and should be regularly mown to maintain the sward to create an optimum functional surface
- Grass verges are to be cut a minimum of 15 times during the growing season usually between March and October, depending on weather conditions
- Cut grass should be removed from paved areas at the time the grass is cut
- Strimming around obstacles such as trees or furniture to be carried out early in the growing season and then herbicide applied around the base of trees and obstacles in April/May and again in September/October to prevent weed or grass growth

**4.8 Wildflower Meadow:** to be created to the north east of the site

**Specification for Wildflower Meadow:**

- Meadow to be established with seed mix EM3 General Purpose Meadow Mixture supplied by Emorsgate Seeds (or similar approved).
- The mix contains a range of 22 native flowers and 12 species of grass

**Watering:**

- No watering is required.

**Feeding:**

- Grassland and wildflowers thrive in impoverished conditions and therefore no fertiliser should be applied.

**Weed control:**

- The grassland and wildflower seed mix contains a certain amount of plants which ordinarily would be considered as "weeds", however those plants form an important part of the overall mix and should be left to establish. Therefore, no weed control is necessary in the grassland areas.
- Regular inspections for any non-native invasive species and notifiable native weeds such as ragwort to be carried out and removed where identified.
- Any invasive species and notifiable weeds identified are to be removed by hand digging and disposal off site at a licenced receptor site and/or chemical weed

killing, depending on which is the most appropriate for the type of invasive species.

**Mowing:**

- Grassland/wildflower areas are to be mown less frequently than the other grass areas on site to enable the flowers to establish and produce seeds before being cut and should only be cut twice a year in March to mid-April and then again August/September.
- No mowing during the spring and summer.
- Mown to a height of approximately 100-150mm from the ground with all grass arisings removed from site.
- After the autumn cut, the vegetation should be left on the ground for a few days to allow to set-seed before being raked and taken away to form compost heaps located away from the wildflower areas.
- 20% of the wildflower grassland should remain uncut annually, on a rotational basis, in order to provide over-wintering habitat for invertebrates.

**Year 1**:

- For newly created grassland (for enhanced grassland skip to year 2)
- Provide temporary protection if required to ensure satisfactory establishment
- Mow newly sown grass regularly to 40-60mm, reducing to <25mm from July to the end of the growing season to control annual weeds, removing all arisings.
- Control weeds by hand weeding or spot treatment of herbicide as required
- Stone rake on at least one occasion

**Year 2:**

- Grassland left to grow throughout spring and summer to allow to flower
- After flowering, a single 'hay' cut to 50mm in mid-July-August
- Arisings will be left for up to one week to dry and re-seed before removal
- Following the summer cut mow again to 40-75mm in October to leave the grass short through the winter, collecting and removing all arisings
- Control weeds by hand weeding or spot treatment of herbicide as required
- Monitor for scrub/bracken encroachment and reinstate damaged areas by changing the management regime, protecting areas of high wear or reseeding as appropriate

**Subsequent Years:**

- Repeat Year 2 for Years 3, 4 and 5, etc.

## 4.9 Scrubland Planting:

Scrub is an important wildlife habitat, including isolated shrubs, young trees, dense thickets and grassland and forms an important component of the landscape. Well-managed scrub and its margins will support a range of wildlife and provide nectar, seeds, fruits, shelter and nest sites for invertebrates, birds and mammals and a suitable habitat for many flowering plants.

If left unmanaged, scrub will eventually develop into mature woodland and therefore requires periodic maintenance to retain its character and value to wildlife.

**Planting & Establishment**

- Native trees and shrubs to be planted to create a buffer of mixed scrub along the northern boundary. Refer to the landscaping drawing A6605-04 for exact species and planting locations.
- Planting between November and March ensures the maximum establishment
- Only use stock with a local provenance, either from locally-collected seeds or bare-rooted whips (nursery-grown saplings) which should only be planted within the dormant season ie October to March. Any planting outside the dormant season must be container grown plants which are regularly watered immediately after planting.
- Plants to be bareroot, 60-80cm in height (except Ilex aquifolium to be 2 litre container, 40-60cm) protected with spiral rabbit guard and secured with a cane.
- Trees to be secured in an upright position with a single timber stake and rubber tie and spacer
- Do not plant in rows, as this creates wind tunnels.
- Scallop the edges of the planted areas
- Plant randomly across the whole area as individuals and groups of 3 of the same species
- Leave unplanted gaps, which will infill naturally

- Scarify compact ground prior to seeding and planting to help species with light seeds to establish.
- Weed when seedlings and whips are establishing to remove competing vegetation.
- Use wood chips to mulch a one metre radius around each plant to suppress weeds and help to retain soil moisture.
- Use herbicides only if there are no alternative methods of control. Spraying up to a one-metre radius around each plant will suppress weed competition. Avoid spraying wild flowers as they are important for nectar-feeding. Use a product that only controls grasses. It is a legal required to comply with all statutory regulations when using herbicides.
- Shrubs are vulnerable to rabbits during establishment and must be protected with spiral guards or tubes. Larger scrub areas should be fenced off to protect them from rabbits and/or deer as required, using a 1.2m high timber post and wire, stock proof fencing with rabbit netting attached and buried 300mm below ground and turned out to deter burrowing rabbits getting under the fence.

**On-going Maintenance:**

The aim is to create and enhance the following:

- sunny, sheltered edges, which offer a hot microclimate that is important for insects
- scalloped edges that increase the length of edge and provide shelter
- rides through scrub that provide sheltered edges but avoid openings that face the prevailing wind
- patchworks of scrub and glades that provide a lot of edges
- encourage bramble, which is valuable for nesting and feeding birds and for nectar-feeding insects
- dead wood – which is valuable to fungi and invertebrates – leave dead trees or shrubs standing and retain small stacks of cut wood in dappled shade to rot slowly
- bare ground – which is valuable for insects and scarce plants

**Cutting scrub**

- Cutting most species of scrub encourages re-growth, and is an important par of the maintenance process

- Cut areas of scrub in a rotation, aiming to retain all ages. Scrub typically matures in 15 years, so cut 1/15th every year or 3/15ths every third year
- Cutting small patches will diversify scrub structure. Avoid cutting adjacent patches sequentially, as this reduces the foliage available for invertebrates to feed on.
- Cut between September and February, to avoid the bird breeding season.
- Leave berry-bearing scrub cutting until after Christmas so birds and mammals can eat the berries.
- Use tools according to the size of the task and access/resource limitations. Suitable tools range from hand tools – such as bow saws, mattocks, chainsaws and brush cutters – to tractor-mounted flails.
- Do not burn any cut material on site.

**Edge management by mowing or flailing:**

- Occasional mowing or flailing will maintain rides, glades and scrub edges.
- Annual mowing will keep the grassy scrub edges open and encourage flowering herbs.
- Avoid destroying seeding herbs by mowing once in late summer/autumn.

**Stump removal:**

- Stumps are important for wildlife, so should be retained where possible.
- Stump removal prevents the regeneration of most shrub species and as a general rule, should be avoided, however, removal may be necessary during ride or glade creation to allow access for mowing.

### 4.10 Bird & Bat Boxes and Log Piles

**General maintenance:**

- Bat boxes should be a 'self-cleaning' design which do not accumulate droppings and are less used by birds. These designs would require no ongoing management. Other designs should be checked in late autumn/winter period annually by a licensed bat-worker and cleared of any obstructions.
- Bird boxes would not require any specific management. However, if the bird boxes are regularly used it may be necessary to remove old nests from time-to-

time. This should be undertaken outside of the bird nesting season by an experienced ecologist or ornithologist.

- The nesting boxes are unlikely to become damaged but if for any reason they are no longer fit for purpose, they are to be replaced as soon as possible during the autumn/winter period.
- Log piles should be left undisturbed and allowed to naturally decay to encourage insects to colonise them

# 5 Programming of Maintenance and Management Operations

## 5.1 Monitoring

To protect the investment in the quality of soft and hard landscape works, the long term maintenance contractor must provide a high standard of maintenance. The long term success of the scheme is dependent on its maintenance regime. The management plan and maintenance operations included herewith will be reviewed on letting of the long term maintenance contract following the end of the initial contract works defects period and from then on a four yearly basis thereafter.

## 5.2 Schedule of Maintenance

The following is an indicative annual schedule of maintenance visits. This provides a reasonable frequency of the more common operations, and a good indication of the required level of intensity of management required but is not intended to be fully comprehensive or restrictive. The landscape contractor is required to construct a schedule of operations specifying operations and frequency using their own experience and horticultural knowledge. The ongoing programme of maintenance work will also include proposed frequency of visits and operations detailed in the specification, i.e. pruning. It shall also include scheduled dates for:

- Infrequent operations such as re-spacing of plants, pruning, topping up of mulch, replacement of plants/restocking of beds etc
- Planting review and refurbishment
- Monitoring and review; the effectiveness of the management operations is to be closely and continually monitored and reviewed annually against this Specification and Landscape Maintenance Plan, with any resulting changes incorporated into the subsequent years' programme.

## 5.3 Schedule of annual maintenance operations

The following schedules list the timings for key annual operations for the soft landscape areas as shown on the proposed landscaping plan:

**Schedule 1: General Maintenance**

| Month | Litter pick | Remove leaf fall | Check Paving |
|---|---|---|---|
| January | 1 visit | | |
| February | 1 visit | | |
| March | 1 visit | | |
| April | 1 visit | | |
| May | 1 visit | | |
| June | 1 visit | | 1 visit |
| July | 1 visit | | |
| August | 1 visit | | |
| September | 1 visit | | |
| October | 1 visit | 1 visit | |
| November | 1 visit | | |
| December | 1 visit | 1 visit | |

**Schedule 2: Existing Trees and Vegetation**

| Month | Tree inspection | Weed control | Pruning |
|---|---|---|---|
| January | | | |
| February | | | |
| March | | | |
| April | | 1 visit | |
| May | | | |
| June | | | |
| July | 1 visit | 1 visit | |
| August | | | |
| September | | | |
| October | | 1 visit | |
| November | 1 visit | | |
| December | | | 1 visit |

**Schedule 3: Specimen Trees & Hedgerows – Establishment Phase (first 3 years)**

| Month | Tree inspection | Replace dead | Weed control | Watering | Hedge cutting |
|---|---|---|---|---|---|
| January | | | | | |
| February | | | | | 1 visit |
| March | | | | | |
| April | | | 2 visits | 2 visits | |
| May | | | | 4 visits | |
| June | | | | 4 visits | |
| July | 1 visit | | 2 visits | 4 visits | |
| August | | | | 4 visits | |
| September | | | | 4 visits | |
| October | | | 2 visits | 2 visits | |
| November | | | | | |
| December | | 1 visit | | | |

**Schedule 4: Specimen Trees & Hedgerow – Continuing Maintenance after 3 years**

| Month | Tree inspection | Replace dead | Weed control | Watering | Hedge cutting |
|---|---|---|---|---|---|
| January | | | | | |
| February | | | | | 1 visit |
| March | | | | | |
| April | | | 1 visit | 2 visits | |
| May | | | | 2 visits | |
| June | | | | 2 visits | |
| July | 1 visit | | 1 visit | 2 visits | |
| August | | | | 2 visits | |
| September | | | | 2 visits | |
| October | | | 1 visit | 2 visits | |
| November | | | | | |
| December | | 1 visit | | | |

**Schedule 5: Ornamental Shrubs - Establishment Phase (first 3 years)**

| Month | Inspection for dead plants | Replace dead | Weed control | Watering | Deadhead flowering plants |
|---|---|---|---|---|---|
| January | | | | | |
| February | | | | | |
| March | | | 1 visit | | |
| April | | | 1 visit | 2 visits | 1 visit |
| May | | | 2 visits | 4 visits | 1 visit |
| June | | | 2 visits | 4 visits | 1 visit |
| July | | | 2 visits | 4 visits | 1 visit |
| August | | | 2 visits | 4 visits | 1 visit |
| September | 1 visit | | 1 visit | 4 visits | 1 visit |
| October | | 1 visit | 1 visit | 2 visits | |
| November | | | | | |
| December | | | | | |

**Schedule 6: Ornamental Shrubs - Continuing Maintenance after 3 years**

| Month | Inspection for dead plants | Replace dead | Weed control | Watering | Deadhead flowering plants |
|---|---|---|---|---|---|
| January | | | | | |
| February | | | | | |
| March | | | 1 visit | | |
| April | | | 1 visit | 2 visits | 1 visit |
| May | | | 1 visit | 2 visits | 1 visit |
| June | | | 1 visit | 2 visits | 1 visit |
| July | | | 1 visit | 2 visits | 1 visit |
| August | | | 1 visit | 2 visits | 1 visit |
| September | 1 visit | | 1 visit | 2 visits | 1 visit |
| October | | 1 visit | 1 visit | 2 visits | |
| November | | | | | |
| December | | | | | |

**Schedule 7: Grass Verges**

| Month | Weed control | Fertilizer | Mowing | Trim edges | Thatch removal | Watering |
|---|---|---|---|---|---|---|
| January | | | | | | |
| February | | | | | | |
| March | | | 3 visits | | 1 visit | |
| April | | 1 visit | 4 visits | 2 visits | | |
| May | 1 visit | | 4 visits | 2 visits | | 4 visits |
| June | | | 4 visits | 2 visits | | 4 visits |
| July | | | 4 visits | 2 visits | | 4 visits |
| August | | | 4 visits | 2 visits | | 4 visits |
| September | 1 visit | 1 visit | 4 visits | 2 visits | | |
| October | | | 3 visits | 2 visits | | |
| November | | | | | | |
| December | | | | | | |

**Schedule 8: Wildflower Meadow**

| Month | Weed control | Fertilizer | Mowing | Trim edges | Thatch removal |
|---|---|---|---|---|---|
| January | | | | | |
| February | | | | | |
| March | | | | | |
| April | | | | | |
| May | | | | | |
| June | | | | | |
| July | | | | | |
| August | | | | | |
| September | | | 1 visit | | |
| October | | | 1 visit | | |
| November | | | | | |
| December | | | | | |

**Schedule 9: Scrubland**

| Month | Cutting | Mowing | Re-planting |
|---|---|---|---|
| January | 1 visit | | |
| February | | | |
| March | | | |
| April | | | |
| May | | | |
| June | | | |
| July | | | |
| August | | | |
| September | | 1 visit | |
| October | | | 1 visit |
| November | | | |
| December | | | |

# 6 British Standards

6.1 As well as the standards described above the soft landscape works should meet the following British Standards where appropriate:

**Topsoil handling, stripping and storage:**

- BS ISO 15799:2022 Soil quality - guidance on ecotoxicological characterization of soils and soil materials
- BS 3882:2015 Specification for topsoil
- BS 4428:1989 guide of practice for general landscape operations (excluding hard surfaces) AMD 6784

**Quality of Trees and Shrubs**:

- BS 3936-1:1992 Nursery stock specification for trees and shrubs
- BS 3936-10:1990 nursery stock specification for ground cover plants
- BS 3998:2010 recommendations for tree work and AMD 6549

**Horticulture:**

- BS EN 12579:2013 Soil improvers and growing media - sampling
- BS EN 13037:2011 Soil improvers and growing media - determination of pH

# 8 Details of Bird & Bat Boxes and Log Piles

## *Bat boxes*

3 bat boxes should be erected on the larger retained trees. See locations indicated on the Proposed Landscaping Plan.

The following type is recommended from www.nhbs.com

**Kent Bat Box**

The Eco Kent Bat Box is based on the proven Kent Bat Box design, however, this box has an added weatherproof outer shell, making it more secure and long-lasting. The additional plastic layer also reduces draughts inside the box, thus providing a more attractive roosting environment for bats. The Eco Kent Bat Box is suitable for crevice-dwelling species. The two crevices inside the box are approximately 18mm wide, ideal for common and soprano pipistrelles. The FSC-certified spruce wood is roughly sawn on the inside, providing good grip for bats once inside the box. This box is self-cleaning and does not require any maintenance, as the droppings fall straight down out of the bottom entrance.

These bat boxes can be mounted on trees using the three concealed keyhole fixings located at the top of the box. If possible, site the box at a height of between 5m and 7m in a sheltered sunny place, away from artificial light sources. The box should not be positioned in direct sunlight. Ideally, boxes should be placed facing different directions, as this provides a choice for roosting bats. A clear path to the entrance of the box is essential.

## *Bird boxes*

3 bird boxes should be installed on the larger retained trees in a variety of aspects as per the locations indicated on the drawing. Different designs should be used, which are suitable for a variety of bird species.

The following types are recommended from www.nhbs.com

**Eco Starling Nest Box**


The Eco Starling Nest Box consists of a recycled plastic weatherproof outer shell protecting a wooden nesting chamber to create a robust long-lasting nesting box. It features a 45mm entrance hole; the ideal size for starlings.

Starlings use a wide range of nesting sites on buildings and trees. This eco-friendly nestbox provides a comfortable, safe and dry nest site for starlings to use when natural sites may be scarce. Starlings tend to favour higher nest sites so when putting up these boxes it is best (though not essential) that they are placed 2.5m or higher above the ground.

The box consists of a weatherproof outer shell made from UV stabilised 100% recycled plastic. Inside the outer shell is a wooden nesting chamber. The outer shell has been precision cut and uses an ingenious system of tabs to hold it together. This further extends the lifespan ensuring that there are no metal fixings that could rust or degrade over time. The removable wooden nesting chamber is constructed from FSC Certified Oriented Strand Board, which is made from flakes obtained from wood waste or from saplings thinned from forests to make space for larger trees. If you need to check or clean the box simply twist the fastening at the bottom and the wooden nesting chamber will slide out.

Fix to the building wall with three concealed mounting holes in the back of the box (located opposite the entrance hole for easy access). Often this is the only fixing needed, but a further hole is provided at the base for extra stability if required. The easiest way to mount the box is to remove the inner box, fix the outer shell onto the tree or wall, then slide the inner roost chamber back into the box and secure it in place.

**Wooden Bird Nest Box**

Manufactured from substantial 2cm thick FSC-certified wood. These simple, breathable wooden bird boxes have a sloping roof and four drainage holes and are ideal for providing crucial nesting spaces for the smaller garden birds. Nest boxes also provide vital roosting spaces for birds during the cold winter months and the thick walls of these nest boxes will ensure that roosting birds stay warm.

The boxes can be expected to last 5-10 years and are constructed using stainless steel staples which will not rust. These boxes can be installed on a tree or wall and should be placed 2-4m above ground. There should be a clear flight path to the entrance hole and the boxes should be placed so that the entrance is not exposed to strong sunlight or winds.

The 32mm entrance hole is suitable for general garden birds, and the 25mm entrance hole is suitable for the smaller tit species such as blue and coal tits.

## *Log Piles*

Log piles should be installed in a variety of aspects around the site as per the locations indicated on the drawing. Different designs should be used, which are suitable for a variety of insects.

**Log Piles (located in the habitat area to the north of the site)**

The existing trees to be removed to facilitate the construction of the new school should be retained for use in creating a log pile habitat to attract insects, particularly beetles. Other log piles should be created, if there are sufficient logs, in a variety of forms as per the following images: