Landscape Maintenance & Management Plan

Gateway 36 Unit 4 site
Development Phase 2B

at

Dearne Valley Parkway
Rockingham
Barnsley

FOR PLANNING
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vector design concepts

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Introduction

The purpose of this document is to aid the efficient and effective management of the proposed landscaping following construction and provide the framework and necessary detail to guide operations relating to the maintenance of the landscape. This report schedules the maintenance activities required to ensure successful establishment and long-term success of the proposed landscape.

The document outlines the objectives, management responsibilities and maintenance schedules for all elements of the landscape and should be read in conjunction with the landscape plan (Vector drawing reference **12006-4-VL_L01**), which illustrates the landscape areas covered within this management plan.

The maintenance of the landscape will be the responsibility of the facilities management team and should be carried out in accordance with this document using the maintenance schedule as guidance to ensure all necessary procedures are followed.

DESIGN & MAINTENANCE OBJECTIVES

The proposed landscape scheme has been developed to create a pleasant landscape setting which compliments the proposed architecture and maximises the effective integration of the built form within the surrounding environment. (Refer to Vector Landscape plan **12006-4-VL_L01** for landscape proposals).

The soft landscaping will consist of tree and ornamental shrub planting with single species hedgerows used to define the plot boundaries. Flowering Lawn maintained as close mown grassland to the front of the site and between plots will provide a neat and tidy appearance improve the existing biodiversity. Grassland areas will be subject to a strict mowing regime to prevent them from becoming overgrown and unkempt.

Trees and specimen shrubs have been proposed to create a well-structured landscape with height and element of maturity from initial installation. Proposed tree planting is incorporated along the main access road to create an attractive frontage, reinforce the site layout and soften views into the site. It will be important to ensure that all existing and proposed trees are routinely inspected, and the appropriate maintenance operations are carried out as the landscape establishes to prevent excessive overhang and shading to the access roads.

A mix of broad leaf and evergreen native trees species at extra heavy sizes are proposed along the South and Western boundaries to provide a substantial canopy for screening of the service yard. Smaller native trees are interspersed with larger species to provide a well-structured and varied composition. These trees have been spaced at an appropriate spacing to create effective canopy screening in the short term whilst the trees establish. It is the intention for this boundary tree planting to be reviewed after 5 years to establish any requirement for pruning / thinning of the smaller species such as Birch, Hawthorn and Rowen to allow the larger species such as Beech, Cherry, Lime, and Pines to take precedence and proceed to grow uninhibited to maturity.

A mixed species native hedge is proposed along the service yard boundary to provide instant screening at lower level below the tree canopy mentioned above. This hedging will be maintained as outlined in maintenance schedule to form a dense hedgerow providing visual screening and benefit to birds, small mammals and invertebrates.

A mix of ornamental shrubs species have been selected to frame main entrances and hedgerows will surround car park boundaries to provide a strong and enhanced landscape scene that softens their visual impact. All these areas will require routine inspection and maintenance as the planting establishes to ensure it remains attractive and achieves the long-term desired effect. Routine maintenance including selective pruning and management as part of the maintenance works will prevent these areas from becoming overgrown and unkempt.

The general planting design is to be formal in character with the simple palette of shrubs arranged in groups to give a striking effect which will be easy to maintain. Species have been selected based on their suitability to the site, resilience, performance and seasonal interest. Planting will have an element of all year-round interest and be easy to maintain to ensure the longevity of the scheme.

LANDSCAPE MAINTENANCE SCHEDULE

The maintenance schedule below sets out the maintenance tasks, frequency, timing and year from implementation which they should be carried out. The total amount of work needed may not be finished in these 5 years, but at the end of this time a review of the work should be completed and the management plan and schedule updated accordingly.

The schedule should be used as a guide for maintenance tasks and should be flexible if necessary.

Item	Action	Year					Frequency	Timing*
		1	2	3	4	5		
Litter & Debris removal	• Pick all litter from areas of hard and soft landscape and remove from site. • Empty litter bins	■	■	■	■	■	Weekly	All Year round
	• Wash and clean bins with disinfectant	■	■	■	■	■	Once a month	All Year round
Leaf Fall	• Sweep up leaf fall under trees and windblown in formal and hard landscape areas.	■	■	■	■	■	Weekly – Adjust frequency to reflect leaf fall at different times of year or in spells of windy or frosty weather.	All Year round
Shrub Pruning	• Prune all shrubs to maintain a neat and tidy appearance in accordance with individual species pruning requirements.			■	■	■	Annually or as required	Autumn & Spring
	• Prune to remove any damaged shoots or branches. • Prune to remove all suckers	■	■	■	■	■	As required	All Year round
	• Prune winter flowering shrubs			■	■	■	Annually or as required	Spring
	• Prune shrubs which flower between period Mar – Jul.			■	■	■	Annually or as required	Immediately after flowering
Mulch Levels to ornamental planting areas	• Maintain full depth of mulch to planting areas by topping up / renewing mulch material to a depth of 75mm.	■	■	■	■	■	Monthly as required	All Year round

Ornamental bark mulch circle within lawn area	• Ensure 1m circle of ornamental bark mulch as per BS8545:2014 recommendations around proposed tree planting with a mulch depth between 50 mm to 100 mm.	■	■	■	■	■	Annually & as required	All Year round
Irrigation	• Water ornamental shrub planting areas and trees to full depth of topsoil. • Inspect soil conditions to determine when watering is required.	■	■				Immediately after planting then as required until planting is established.	All Year round
Weed Control to shrub planting beds	• Remove weeds within planting beds by hand weeding where appropriate.	■	■	■	■	■	Monthly	Apr - Oct
	• Supress weeds with the application of a non-residual herbicide. Rate and application as per manufacturer's specification.	■	■	■	■	■	3 No. applications per year whilst weeds are actively growing.	Apr, July & Oct
Fertiliser to Planting Areas	• Apply slow release fertiliser to planting beds. Rate and application to manufacturer's specification.		■		■		Annually	Mar - Apr
Shrub Replacements	• Inspect all planting areas for dead or damaged plants. • Replace all dead / dying / vandalised shrubs.	■	■	■	■	■	Annually or as required	Nov
Specimen Trees - Standards	• Carryout inspection for general health • Cut back broken/diseased branches • Prune to remove branches to give a min clear stem height of 2m above footpaths. • Replace / re-secure loose or missing guy wires if required. Adjust to suit stem growth and provide correct and uniform tension. • Re-firm ground around base if required.	■	■	■			Twice a year	Mar & Oct

	• Carryout inspection for general health • Cut back broken/diseased branches • Prune to promote highest standard of growth & form. • Adjust tree tie if required. • Remove tree tie and stakes if no longer required to support the tree.				■	■	Twice a year	Mar & Oct
South & West Boundary Tree Planting	• Carryout inspection for general health. • Remove support staking • Carryout formative pruning as required to smaller tree species and review spacing to establish if any thinning of the smaller nursery species is required to allow the larger species to establish without overcrowding.					■	Annually	Nov
Tree Replacements	• Inspect for dead or severely damaged trees at the end of the growing season. • Replace all dead / severely damaged / vandalised trees with same size, species and maturity as that originally planted.	■	■	■	■	■	Annually	Nov
Species Rich Flowering lawn areas (EL1)	Cut to maintain a sward height of 40-60mm.	■	■	■	■	■	Cut once every two weeks or as required to maintain sward height. During flowering season (March-July) reduce mowing regime to once a month to allow flowering	Apr - Oct
	Control/Remove Weeds through application of selective herbicide.	■	■	■	■	■	Twice a year	Apr & Aug
	Remedial works - repair worn areas / top dress hollows.	■	■	■	■	■	Twice a year	Apr & Aug
Native Single species Hedge	Formative pruning.	■	■				Annually	Winter
	Maintenance pruning to maintain maximum 1.4 metre hedge height			■	■	■	Twice a year	Spring & late summer

Proposed Mixed Species Native Hedge	• In the spring after planting trim all lateral branches back by 50% (not holly) • Cut back broken/diseased branches. • Maintenance pruning to maintain maximum 2 metre hedge height. • Light trim every second year. • Maintain in a weed free condition as per rest of site.	■ ■ ■	 ■ ■	 ■ ■ ■	 ■ ■	 ■ ■ ■	Once after leaf fall. Annually after leaf fall. Annually after leaf fall. Bi-annually after leaf fall.	Mar Late Winter Late Winter Late Winter
Proposed Native Woodland Mix	• Keep weeded and topped up with mulch as above. • Review of buffer zone & selective thinning as required. • Thin buffer zone by 20% or as required (review to be taken prior to thinning) to ensure bed does not become unkempt and overgrown. •	■	■	■ ■	■	■ ■	Monthly / as required. Once in Year 3. Once in Year 5 and then monitor annually going forward.	As above Mar or Oct Mar or Oct

LANDSCAPE WORKS & MAINTENANCE SPECIFICATION

To be read in conjunction with Landscape Plan drawing ref **12006-4-VL_L01**:

To ensure the success of tree and shrub planting, the landscape workmanship should adhere to the following:

- BS 3998 1989: Recommendations for tree work
- BS 4043 1989: Recommendations for transporting root balled trees
- BS 4428 1989: Code of practice for general Landscape Operations
- BS 7370 1993: Part 4, Grounds maintenance recommendations
- BS 3882 2015: Topsoil

Shrub Planting

All shrubs to be planted in accordance with the planting specification stated on the landscape plan and shall be defined and described in British Standard Specification No 3936 1992: Nursery Stock part 1 – Specification for Trees and Shrubs. All Shrubs to be true to name, vigorous, well grown specimens of their type, free from disease and insect pest.

Maintenance should be implemented for a minimum of five years until the planting stands independently, is dominating surrounding vegetation and producing reasonable growth every year.

Shrub planting to be mulched and kept free of weeds and debris, watering is also paramount to ensure establishment. Watering should be carried out daily during periods of dry weather.

Shrubs to be pruned in accordance with British Standard 7370: Part 4, 1993: 3.6 and only by operatives knowledgeable and aware of the varieties of plant being treated and the reasons for pruning.

Setting Out and Planting Instructions

The landscape contractor shall carry out all planting in accordance with the landscape plan. All trees shall be planted in the positions and in numbers indicated on the drawing.

Standards of workmanship and materials used for planting and staking shall be as outlined in British Standard Specification No 4428 1989: Code of Practice for General Landscape Operations, Section 7 – Amenity tree planting, Section 8 – Woodland Planting, Section 9 – Planting of Shrubs, Herbaceous plants and bulbs.

The roots of all bare root shrubs and transplants are to be treated with alginure root dip prior to planting, using a mixture of, one-part alginure to three parts water.

Timing of Planting

Planting of field grown plants should not commence before the 1 October and no later than the 31 March and shall also be suspended during periods of severe frost and where plant locations are waterlogged.

Establishment of New Planting

The soil in beds should be kept loose with gentle cambers and no hollows. Mulch depth should not be reduced however. Trees crowns should be sprayed when in leaf in the evening during warm weather.

Re-firming of Trees and Shrubs

Ground should be re-firmed around the base of plants by treading until they are firmly bedded after strong winds, frost heave and other disturbances. Any collars in soil at the base of tree stems, created by tree movement should be broken up by fork and backfilled with topsoil and re-firmed whilst avoiding damage to roots.

Tree Pruning

Excessive overhang of any growth encroaching onto paths, roads, signs, sightlines and road lighting luminaries should be carried out as required. All pruning operations should suit the type and timing of the plant species. No pruning should take place during the late winter / early spring sap flow period. Young trees up to 4 metres should be crown pruned by removing dead branches and reducing selected side branches by one third to preserve a well-balanced head and ensure the development of a single strong leader. Duplicated branches and potentially weak or tight forks should be removed by cutting back to live wood. Whips should not be pruned.

All pruning works should be carried out by an approved member of the Arboricultural Association or other approved specialist using approved methods.

Pruning Ornamental Shrubs

Shrubs should be pruned to encourage healthy and bushy growth and desirable ornamental features. All suckers should be removed by cutting back level with the source stem or root. Timing as follows: Winter flowering shrubs in Spring, shrubs flowering between March and July immediately after flowering period. Shrubs flowering between July and October should be cut back to old wood in winter. No pruning or trimming of woody vegetation and climbers to be carried out during the bird nesting season of March to August.

Shrub Planting Replacement

Planting that has failed to show growth or development of full foliage during the first growing season after planting, should be replaced by the landscape contractor within the following planting season. All such replacement planting shall be at the landscape contractor's expense, who shall also be responsible for any preparatory and other work necessary to be properly carried out, including the removal and disposal of dead plant material. The replacement planting and pits should match the size of adjacent or nearby plants of same species or match original specification, whichever is greater. Reapply slow release fertilizer after new planting installed.

Fertilizer

Fertilize with Miracle Professional 'Enmag' or equal approved in March or April by spreading evenly throughout bed at the manufacturers recommended rate per m2. Carefully lift and replace any mulch materials.

Weed Control & Mulching

Keep planting beds clear of weeds by use of suitable herbicides and maintaining full thickness of mulch (to be 75mm thick Melcourt Amenity bark mulch by Melcourt Industries Ltd or equal approved). Mulch top ups should take place on a regular basis as required to ensure the 75mm thickness is retained at all times and should continue until close cover of vegetation is achieved. A weed free area should be maintained around each tree and shrub to a minimum diameter the larger of 1 metre or the surface of the original planting pit. Weed control should be carried out monthly from April to September for ornamental shrub planting through the use of translocated herbicide treatments to manufacturer's instructions. All dead plant material should be removed from site once herbicide treatment has taken effect without damaging adjacent plants, trees and grass.

Watering

All planting to be subject to a watering regime with trees watered in accordance with BS8545 2014 Trees from Nursery to Independence. This is absolutely essential to ensure the continued success of the scheme, particularly in the key first 12 to 18 month establishment period. The frequency should be as necessary to ensure the continued thriving of all planting. During dry periods minimum weekly visits should be made to site to ensure the soil is not too dry and to water if necessary. The soil should be checked for dryness using either a soil moisture sensor or pushing a spade into the top 300mm of soil and seeing how the soil looks. If it is moist there is no need to water but if it is bone dry then water immediately. Supply should be from potable mains water or an approved alternative. The full depth of topsoil should be wet without loosening or damaging plants. Any compacted soil should be loosened or scooped out to direct water to the rootzone. Trees should be watered via their irrigation pipes, in accordance with the manufacturer's instructions, to ensure the water reaches the rootball of the tree.

Species Rich Flowering Lawn Areas (EL1)

EL1 – Flowering Lawn mixture should be implemented as per Emorsgate Seeds Recommendations:
Sowing rate: 4g/m^2
Sowing Time: Autumn – Spring

Prior to cutting, grass areas are to be inspected and all litter / debris is to be removed in accordance with the procedures described in the general site cleanliness section below.

First year of management:

- Mow newly sown flowering lawns regularly (every 7 -10 days during growing season) throughout the first year of establishment. Cut to a height of 40-60mm, removing cuttings if dense.
- Carefully dig out or spot treat any residual perennial weeds such as docks.

Management once established:

- Mow regularly as a lawn but not too short (25-40mm).To permit flowering, mowing can be relaxed from late June. Cut again when the sward gets untidy (after 4-8 weeks). Heavy quantities of cuttings should be collected and removed from site.

Proposed Single Native Hedge

In the first winter after planting formatively prune back all lateral branches back by 30 – 40% and cut back all damaged, diseased or dead wood. Follow with a light trim in the second year, allowing the hedge to increase in size until it reaches 1.4 metres.

Once the target height is reached and the hedgerow has thickened out maintenance pruning should be continued twice a year, once in spring and again in late summer, to ensure the hedge grows no higher than 1.4 metres in height.

Make sure that the sides are slightly tapered so that the base is wider than the top. This allows sunlight to reach the bottom of the hedge and encourages growth.

Replace dead, dying or damaged stock with the same species as soon as practicable in the first planting season following failure.

Check regularly that the shrub guards are sound and secure, and replace as necessary.

Maintain a metre wide strip in a weed free condition for at least three years, to reduce competition from grass and weeds for moisture and nutrients.

Proposed Mixed Native Hedge

In the first spring after planting trim all lateral branches back by 50% (not Holly). Prune damaged, diseased or dead wood immediately after first leaf break. Follow with a light trim every second or third year, allowing the hedge to increase in width each time although the height should not exceed the initial planted height of 2metres so an annual maintenance prune should also be carried out in late winter to keep the height of the hedge under control.

Replace dead, dying or damaged stock with the same species as soon as practicable in the first planting season following failure.

Check regularly that the shrub guards are sound and secure, and replace as necessary.

Maintain a metre wide strip in a weed free condition for at least three years, to reduce competition from grass and weeds for moisture and nutrients.

Proposed Native Woodland Mix

The proposed native whip buffer planting around the western edge of the service yard will be subject to the same weeding, mulching, fertilizing and watering regime as the rest of the proposed planting above, however, going forward it will need maintaining slightly differently to the ornamental beds which will be more maintained and pruned on a species by species basis.

By year three the native mix planting will have filled out and started to form a much denser buffer. At this point a review should be taken of the overall form and structure of the zone and, if required, selective thinning should take place to ensure that there is room for the individual shrubs to grow and thicken out over the next few years.

By year five the buffer zone should have formed a very dense and compact structure and may be in danger of becoming overgrown. At this point another review should be taken of the overall form of the zone and if deemed necessary up to 20% of the shrubs within the buffer should be removed. This will prevent the planting from becoming unkempt and will allow the individual shrubs and trees more space to establish as individual specimens.

Going forward from here an annual review should then take place to monitor the buffer zone and to carry out any pruning / thinning operations that are deemed necessary for the future success and growth of the native buffer.

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