Latchmere House

Ten Year Maintenance & Management Plan

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Landscape Maintenance and Management Plan Introduction

This Maintenance and Management plan has been prepared for submission to London Borough of Richmon-Upon-Thames and London Borough of Kingston Council as part of the Condition Discharge submission for the development at Latchmere House and as such should be read in conjunction with all associated landscape drawings and reports. It is crucial that the planning drawings, and any subsequent 'construction' or 'record drawings', are reviewed prior to conducting any works on site.

The landscape works comprise tree, shrub and perennial planting, a substantial lawn and meadow planting, together with associated hard surfaces. The planting and hard surfacing design is intended to create a distinct identity for development and to provide an environment and setting for Latchmere House and the new residential dwellings.

The management and maintenance of the external environment will be coordinated by the Berkeley Homes team in cooperation with Borough Councils to ensure works are conducted by suitably qualified grounds maintenance team.

It is for the Berkeley Homes management team to make appropriate arrangements for the subsequent years, and any future, management and maintenance of the landscape.

The value and aspirations of the external environment have been clearly expressed by Berkeley Homes, therefore this Maintenance & Management plan ensures the planting successfully establishes and matures and that the hard surfacing and external furniture is kept clean and functional to ensure a safe and enduring environment.

All operations, future management and maintenance planning, and post planting Management and Maintenance Report revisions must be in accordance with BS8545:2014 or subsequent replacement publication.

Landscape Implementation Programme

The construction works are to be confirmed by Berkeley Homes (West London) Ltd.

The landscape implementation will be undertaken in accordance with the below time scales:

- Wildflower and grass seeding would be implemented following completion of the building phase subject to suitable climatic conditions. This would likely to be in the latter part of 2017.

- Planting of trees and shrubs would commence during the first planting season following completion of the building, which is likely to be in the autumn of 2017.

- Should building and infrastructure works be completed sometime in advance of the recognised planting season, then soiling (including tree pits) would be undertaken ready for the next available planting season and all areas seeded.

Landscape Management Generally

- The control of invasive and pernicious weeds can be carried out with targeted applications of herbicides containing glyphosate. All pesticides and herbicides should be applied according to manufacturer's recommendations and current legislation:

  The Food and Environment Protection Act (1986);
  The Control of Pesticides Regulations (1986);
  The Control of Substances Hazardous to Health Regulations (2002);
  The Environment Protection Act (1990)

- It is the Contractor's responsibility to ensure that he is fully conversant with the requirements of the foregoing legislation and other relevant Codes of Practice, British Standards, rules, guidelines or directives that relate to the use of hazardous materials. The Contractor will make such notifications as are required under the terms of The Food and Environment Protection Act (1986), and will be responsible for replacing plants killed by inappropriate use of herbicides.

- Horticultural peat is not to be used as mulch on any beds or as a soil conditioner.

- Where appropriate use should be made of recycled components.

- Arisings from management and maintenance operations should be removed from site and deposited at a legal tip or green compost facility.

- Where necessary, management and maintenance staff are to water plants at appropriate times of the day to ensure minimum water evaporation.

- The Landscape Contractor is to visit the site and to fully acquaint himself with local conditions, the nature of the work, the state of the ground as he will be required to execute work upon it, the programme and manner of work and all other matters affecting the proposed work. No claim for extra work on the grounds of lack of knowledge will later be entertained.

- Care is to be taken to avoid interference with the established levels and contours of the ground, and to avoid damage to footpaths, roads, drains, manholes and existing structures and vegetation. Damage so occasioned is to be made good at the contractor's expense.

- All work shall be carried out by experienced operatives holding relevant horticultural qualifications, training certificates, or under the supervision on site of such a person. All works detailed in the following specifications shall be carried out in accordance with good horticultural practice, using materials, plant and machinery appropriate to the task, undertaken in such a manner that avoids damage and/or nuisance to the site and its surroundings. Any plant material that dies as a result of the contractors operations or omissions shall be replaced by the contractor at his own expense during the next planting season.

General Operations

- The optimum period for planting is between 1st of October and 31st of December when the soil is usually warm and moist as this is most conducive to root development. Planting between 1st of January and 28 February can be undertaken if necessary but should be avoided if possible. All trees will need to be supplied with irrigation system, stakes, ties, strimmer guards, mulch and initial watering.

- Post-planting management and maintenance is important if longevity in the landscape is to be achieved. A full young tree management programme with budgetary provision should be in place for all planting schemes. This management programme should be in accordance with this Maintenance and Management Plan.

- Water during the growing season in the first year of planting and in prolonged dry weather between April and September in the second season. It is envisaged that the watering will take place manually. Note: The frequency of irrigation is more important than the volume of water given at any one time. Increased water volumes cannot compensate for a lack of frequency.

- Watering intervals will be dependent on the weather and ground conditions. As mentioned above additional watering will be required during dry periods for the first 2 years and only during exceptionally dry periods in years 3-5; as a rough guide watering frequency should be 4 times a month and when the ground conditions are predicted to be dry and rainfall low. The quantity of water required will depend on the size of tree, soil type, and water content already present; a guideline for the semi-mature trees in the first year is 50L once a week and then high temperature periods twice a week

- Where possible watering should be carried out during the cooler parts of the day (7-10am and after 6pm) to prevent excessive evaporation. Trees should not be watered when the soil is already saturated or very wet. Over watering can make the tree dependent of the water provided, rather than encouraging root extension to source its own.

- Keep plant material clear, where necessary, of any CCTV vision lines and light fittings.

- Remove dropped, windblown litter from planting and paved areas.

- Remove all laying snow from evergreen shrubs, trees and paved areas.

- Clear autumn leaf fall from paved and planted areas.

Trees

Tree planting will be attended to at least three times during the growing season (April-September) and at least once during the dormant season (October-March inclusive). A formal assessment of young tree health and development should be carried out annually. This assessment should include foliar appearance (i.e. lack of leaf chlorosis and/or necrosis), leaf size and leaf canopy density, extension growth and incremental girth development. Continual assessment on an ad hoc basis should be carried out throughout the year, to inform maintenance requirements. At each visit the following operations are to be carried out:

- All stakes and ties should be checked at least annually to ensure that the root system remains stable and firm in the ground, and that ties are still effective and not causing any damage to the tree. Any stakes and ties that are found to be not fit for purpose should be adjusted, replaced or removed.

- All stakes and ties should be removed as soon as the developing root system is strong enough to support the tree

- Wires or straps used in underground guying systems that could cause damage to the growing stem or structural roots should be cut as soon as the tree is self-supporting.

- The area around the base of the tree should be free from competing vegetation

- Formative pruning should be carried out in accordance with BS 3998 as required throughout the early years of a tree's life. Some of the nursery-prepared branching structure is temporary, and formative pruning should continue until a permanent structurally sound scaffold system of branches typical of the species and appropriate to the site circumstances is produced.

- Remove epicormic shoots and potentially week forks that could fail in adverse weather conditions.

- Mulch areas around the trees applying from the drip line almost up to the base of the stem when soils are moist. (Mulch placed against the stem is likely to retain moisture, which can result in disease.)

- All mulches should be replenished to their original depth, 50 mm to 100 mm, and hand-weeded as necessary and at least once annually. The mulched area should be enlarged, if practicable, as the tree develops to the canopy drip line, taking care to avoid a build-up of mulch around the root flare and the base of the stem.

- The soil around newly planted trees should be regularly inspected for soil capping or compaction. Remedial action should be taken as necessary.

- All trees should be checked on a regular basis for mammal, human and other external damage. Remedial action should be implemented as soon as practicable following discovery.

- All trees should be checked on a regular basis for pests and diseases. Remedial action should be taken promptly on discovery, where necessary.

- Unless specific nutritional deficiencies are identified, no fertilizer should be applied to newly planted trees in the first season

- Any trees which have died as a result of the contractors operations or omissions shall be replaced by the contractor at his own expense during the next planting season.

- The default irrigation system will be subterranean irrigation pipes such as the 'Root Rain' systems supplied by GreenBlue Urban or suitable equivalents, installed as per manufacturer's instructions. Where larger tree sizes are planted and in areas unlikely to experience vandalism, above ground watering bags such as 'TreeGators' would offer advantages to subterranean options

Irrigation for tree planting must be carried in accordance with BS8545:2014 or subsequent replacement publication. A tabular watering schedule must be provided by the maintenance contractor based on landscape and ecological condition post planting as part of a wider maintenance methodology. Furthermore, the following recommendations should be considered:

- 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.

- Any given volume of soil has the capacity to hold a given volume of water. The water-holding capacity of the soil should be assessed and taken into account when determining irrigation needs.

- In addition to water-holding capacity, the amount of water available to the tree should be assessed. Applying this to all newly planted trees is often impractical, but sample assessments should be made.

- The frequency of irrigation is more important than the volume of water given at any one time. Increased water volumes cannot compensate for a lack of frequency. This should be accounted for in irrigation plans. Irrigation plans should also take into account the findings of the original site assessment and the subsequent species choice made.

- Monitoring is recommended if there are 10 consecutive days during the growing season at ≥25 °C. Water should only be added if soil moisture probe/tensiometer values indicate that it would be appropriate to do so.

- The frequency and extent of irrigation should take into account the prevailing weather conditions (e.g. prolonged dry periods or rainfall patterns).

Native Shrub planting Area

Native shrub planting will be attended to three times during the growing season (April-September) and once during the dormant season (October-March inclusive). At each visit the following operations are to be carried out:

- Before work commences, all areas shall be inspected, and all debris removed.

- All plants shall be checked and firmed up in the ground as necessary.

- Any damaged shoots or branches shall be pruned off plants using secateurs, cutting back to above a live, outward facing bud or shoot.

- Weed growth within planting areas shall be eliminated during the summer with a suitable translocated herbicide such as "Round-up" glyphosate herbicide, in line with the manufacturer's instructions and in compliance with the Pesticides Acts (1998). Tree and/or shrub shelters, if fitted, shall be lifted as necessary to achieve weed control, and re-firmed in the ground after completion of the work. Dead weed material shall be removed during the following visit to site.

- Grass growth within planting area shall be treated during the winter with a suitable residual herbicide such as "Kerb" (pbi), in line with the manufacturer's instructions and in compliance with the Pesticides Acts (1998).

- Planting shelters (if fitted) shall be checked at each visit to the ecological area, stakes firmed up as necessary, and ties adjusted. Any missing or vandalised shelters or ties shall be replaced and lopsided shelters straightened.

- Any dead trees and shrubs shall be removed and the resulting hole to be filled. Replacement planting to be carried out during the winter.

Herbaceous Perennial and Grass Planted Areas

Remove dead flower heads, fallen leaves and debris.

Carry out Chelsea Chop on suitable species in late May, reducing plant height by half.

Apply top-up mulch to all planting areas to ensure adequate weed control.

Dig over to promote aeration and permeability of soils and growing medium.

Replace plants that are dead dying or diseased as soon as practically possible.

Winter prune deciduous grasses late November to 150mm and spring prune the remainder of last season foliage.

Spring prune evergreen grasses to 150mm every second spring before new buds visible.

Hard Surfacing Areas

Remove mud silt and debris from surface gutters, slot drains and channels.

Inspect all hard surface areas for cracks and damage and repair as required.

Keep hard surface areas free of litter and weeds to ensure a tidy appearance.

Wildflower Meadows including Calcareous grassland

Wildflower meadow must be mown four times during the year to a minimum height of 15cm:

Wildflower meadow generally

- Remove dead flower heads, fallen leaves, debris and litter during every maintenance visit.

- Weeds to be removed either by hand or spot treated with a glyphosate based weed killer. No lawn weed killers are to be used.

1st year (seeded areas):

- Most of the meadow species are perennial and will be slow to germinate and grow and will not usually flower in the first growing season. Mow regularly to control grasses, remove arisings, and control any weeds by targeted cutting or hand pulling before they set seed (June / July).

- The main cut will take place in midsummer. It is important to cut back the annuals before they die back, set seed and collapse: this cut will give the developing meadow grassland flora space to grow

2nd-10th year and onwards (wildflower turf from year 1):

- Do a "hay cut" with a brush cutter / strimmer after flowering in early August, and leave "hay" to dry and shed seed before removing from site. Cut again late autumn and/or early spring if required by vigorous growth.

- Cut arising's must be removed but only three to seven days after mowing to promote cultivation without increasing soil fertility.

Lawn and lawn edges to banks

- Inspect lawn for bare patches and replace as necessary.

- Top up mulch to base of trees and remove any loose mulch from lawn.

- Maximum height of growth at any time is 35mm, lawn to be regularly cut to 15mm.

- De-compaction by mechanical core aeration to be undertaken from end of spring to early autumn – fill holes compost dressing for turf.

- Trim lawn at base of tree surrounds with manual tools.

- Fertilize March and September.

Review of Maintenance and Management Report

It is proposed that the management plan be review annually allowing for minor variations in maintenance requirements or timing of works. The management plan will be revised every 10 years to take on more major changes such as the exclusion of operations.

All operations, future management and maintenance planning, and post planting Management and Maintenance Report revisions must be in accordance with BS8545:2014 or subsequent revisions.

SCHEDULED MAINTENANCE FOR LATCHMERE HOUSE

Trees

Period	*Operation*	*Timing*	*Frequency*
Years 1 - 3	▪ Check tree ties, stakes and guys and adjust as required. ▪ Replace loose, broken or decayed stakes to original specification. If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie. ▪ Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing. Where chafing has occurred, reposition or replace ties to prevent further chafing. ▪ Lift tree grilles, remove weeds, adjust levels as necessary and lightly compact. Refit grilles, refill interstices and lightly compact to correct level.	March and August	3x per year
	▪ Cut back broken and diseased branches		
	▪ Check general health		
	▪ Spray 1sqm to the base of all trees with approved translocated herbicide	April to May	1x per year
	▪ Replace dead and diseased trees	November to December	1x per year
	▪ Top up mulch as required (minimum depth of 75mm and a maximum of 100mm over the entire planting pit).	March	1x per year
Year 4	▪ Remove tree ties, stakes and guys ▪ Fill stake holes with lightly compacted soil.	August	1x per year
	▪ Cut back broken and diseased branches		
	▪ Check general health		
Year 5+	▪ Commission an Arboricultural Report on all site trees	August	1x every 5 years
	▪ Check general health		1x every 2 years
	▪ Cut back broken and diseased branches		

Native Shrub Planting Area

Period	*Operation*	*Timing*	*Frequency*
Years 1 - 4	▪ Check general health	March and August	3x per year
	▪ Check all ties, stakes, shelter and adjust as required		
	▪ Keep 1sqm weed free circle using approved translocated herbicide	April - May	1x per year
	▪ Prune back to viable bud or growth ▪ Remove broken and diseased branches	August	1x per year

	▪ Replace dead and diseased plants	November to December	1x per year
Year 5+	▪ Check general health	March	1x per year
	▪ Cut back broken and diseased branches	August	1x per year

Herbaceous Perennial and Grass Planted Areas

Period	***Operation***	***Timing***	***Frequency***
Years 1 - 4	▪ Weed areas by hand and remove litter	March to October	1x month
	▪ Top up mulch as required	March	1x per year
	▪ Apply approved fertiliser	March	1x per year
	▪ Formative pruning of planting	March, September and October	1x month
	▪ Bulbs fertilised after flowering and cut back dead growth	May/June	1x per year
	▪ Replace dead and diseased plants	November to February	As necessary
Year 5+	▪ Check general health	March	1x per year
	▪ Cut back broken and diseased plants	August	1x per year

Wildflower

Period	***Operation***	***Timing***	***Frequency***
Years 1 – 10	▪ Weed areas by hand and remove litter	January - December	1x month
	▪ Mow and remove arisings (3-7 days later)	August to Feb	4x per year
	▪ Sow Yellow Rattle if grasses become prevalent	August	1x per year
	▪ Formative pruning of planting	March, September and October	1x month
	▪ Bulbs fertilised after flowering and cut back dead growth	July/August	1x per year
	▪ Replace dead and diseased plants	November to February	As necessary

Hard Surfacing Areas

Period	***Operation***	***Timing***	***Frequency***
Years 1 - 10	▪ Hard surface areas areas; sweep & suction clean	April and November	2x year
	▪ Furniture inspection and clean	May	1x per year

	▪ Inspect paths and edgings	January - December	1x month
	▪ Litter pick	January - December	1x month
	▪ Leaf removal and weed control as required	March/April and November - December	As required

Hard Surfacing Areas

Period	***Operation***	***Timing***	***Frequency***
Years 1 - 10	▪ Inspect the lawn for patches	March-October	1x month
	▪ Mow lawn	April-October	As required
	▪ De-compaction and core aeration	April-October	Every second month
	▪ Litter pick	April-October	Every second month
	▪ Fertilise	March and September	2x year