

Landscape Management and Maintenance Plan

3775-LB-ZZ-ZZ-RP-L-000001

Project: 3775 Former Richmond College

Date: 28 April 2021

Revision: P1 - Planning Issue

1.0 Introduction

1.1 This management plan has been prepared by Levitt Bernstein on behalf of Clarion Housing Group for the former Richmond College site, Twickenham. The plan concerns the establishment and on-going maintenance of the landscape over the first 5 years following completion and after which, should be reviewed for appropriateness.

This report should be read alongside key documents including:

- Tree Survey/Constraints Report by Delta Simons (March 2021)
- Ecological Assessment by Delta Simons (March 2021)
- Landscape design proposals by Levitt Bernstein including drawings 3775-LB-ZZ-ZZ-DR-L-200000 - Landscape GA Plan and 3775-LB-ZZ-ZZ-DR-L-210000 - Landscape Planting Plan
- This report should be reviewed once construction level landscape design proposals have been devised to ensure appropriate updates can be made

2.0 Key Aims

- The keep external spaces clean, tidy and maintained to a high standard
- To undertake maintenance periodically with an emphasis on proactive measures to prevent more onerous maintenance issues development
- To ensure the on-going health of all trees and plants maintaining a prolonged contribution to visual amenity and biodiversity
- To ensure input from suitably trained professionals (maintenance teams to be well-briefed on contents of this report)
- To monitor effectiveness of this plan and adapt it as necessary on basis of feedback received
- To consider a sustainable approach to maintenance activities including any application of herbicides/pesticides

3.0 Site Layout

The site comprises the residential development component of the new masterplan for the Former Richmond College site.

The site consists of a series of pedestrian-focussed streets which provide access around the edge of the site, overlooked by new homes. Streets include areas of raised tables, pedestrian crossing points, tree planting and informal amenity spaces framed by planting and sustainable drainage devices.

Planted spaces form a threshold around the site perimeter – private rear gardens to the south, an accessible ecological buffer to the north, an existing lawned space with mature existing trees to the east, and Marsh Farm

Lane to the west. Marsh Farm Lane will provide a pedestrian route with planting, trees and managed vehicular maintenance access associated with a Thames Water pumping station (off-site).

To the heart of the site a substantial courtyard will be located to provide communal residential amenity with public access. Substantial planting and lawn areas are proposed with a variety of new trees, overlooked by new homes with private, defensive amenity spaces.

Permanent vehicular access to the site is achieved off Langhorn Drive/Marsh Farm Lane to the north-west corner of the site and temporary access for construction will be possible to the south-east corner off Egerton Road. Access for pedestrians and cycles will be possible at these locations and in addition will be supported to north-east and south-west corners.

The proposal includes six types of external landscape spaces:

- New streetscape spaces
- Central residential courtyard
- Ecological buffer to north of site
- Egerton Road greenspace frontage
- Private rear gardens
- Roof-level planting

A total of 110no. parking bays are to be provided with 22no. spaces supported by electric charging points (conduits for future extension of electric charging provision across the car park is also be included). Cycle parking is provided by Sheffield stands for visitors in well-overlooked spaces and by a Brompton Bike hire store. Secure internal cycle storage for residents will be incorporated close to each internal building core.

Private rear gardens to the south of the site will abut existing off-site private gardens with secure timber fencelines. An existing non-secure boundary treatment along Egerton Road will be retained (brickwork plinth with metalwork railing above) and access points for cyclists and pedestrians will be clearly framed for entry. To the north of the site a planted buffer will provide containment to the site, reinforcing a secure timber fenceline and will provide enclosure pending the establishment of planting. Whilst a boundary to Marsh Farm Lane is not proposed to the west, further planting is proposed off-site and will offer a clear delineation to the site threshold.

Access to the central courtyard space is intended for residents and visitors and access points will be clearly framed by new building footprints with some sections of building accommodation over-sailing and providing further enclosure to these routes. Defensive space to ground-level homes is incorporated and whilst gate-lines are not currently proposed to restrict public-access, the new community will have a strong residential character and access thresholds will be clearly signalled to indicate semi-private space.

4.0 Ecology

The positive encouragement of biodiversity is a key objective of the landscape design and should influence the ongoing management and maintenance of the site (refer to reports prepared by Delta Simons for ecological habitat baseline prior to redevelopment and for ecological recommendations in addition to LB drawing 3775-LB-ZZ-ZZ-DR-L-210000). It is considered that the introduction of new landscape proposals, including native trees and species-rich hedgerows, clipped hedges, flowering perennials, bulbs and green-roof coverings will benefit the ecology of the site and are to be encouraged. Alongside these planted attributes, proposals include for bird and bat boxes, hedgehog houses, commuting holes in fencelines and log piling and other elements that will foster natural habitat creation. The management and maintenance of these features is therefore key to realise the potential ecological and biodiversity value of the proposed landscape design.

5.0 Soft Landscape

5.01 Generally

The soft planting palette is a key component of the development proposals and requires well-considered maintenance in order to provide continued impact. In general, species are chosen which are not overly onerous in their maintenance requirements; however, there is an emphasis on appropriate maintenance by plant type, which can vary from area to area. As such, maintenance by staff without horticultural training should be avoided (Refer to Royal Horticultural Society (RHS) for further information).

Watering should be undertaken across all areas of planting to ensure plants thrive during the establishment period despite extremes of weather and temperature. Watering points are specified as part of the landscape design proposals and the method of watering is to the maintenance contractor's choice, avoiding washing-away or compaction of soils. Supplementary watering measures for planted areas away from watering points should be considered by the maintenance contractor.

General inspections of the soft landscape areas should be undertaken every 4 – 6 weeks to promptly identify and rectify issues such as litter, fly-tipping, plant disease, invasive species and vandalism.

Planted areas must be kept clear of weeds without disruption to proposed planting; weeding should be undertaken by hand to include hoeing/forking over of ground to ensure root systems are removed. Mechanical removal should be avoided to limit damage/disruption to plants. Chemical herbicides which have capacity to cause damage to wildlife should be avoided with an emphasis on weed management/suppressant by organic methods and bio-controls. Damage to proposed planting is at the maintenance contractor's own risk of failure/replacement. The frequency of weeding should be at least 5 times annually or to ensure that weed species do not take hold to the extent that chemical applications must be relied upon. The maintenance contractor should adhere to COSHH regulations and Control of Pesticides Regulations 1986 (revised 1997).

Whilst arising from maintenance operations including items such as weeds, pruning clippings and fallen leaves should be taken from site for disposal. Cut tree timbers can be retained on site by creating log-piles within areas away from footfall along the ecological buffer to the north of the site.

All pruning work to hedges, shrub planting and any vegetation capable of supporting nesting birds is to be undertaken outside of nesting periods and even then, with careful checks undertaken to confirm nesting birds are not present, out of season. Wildlife & Countryside Act 1981 states that it is an offence in the UK to disturb nesting birds.

5.02 Existing Trees and Vegetation

The quality and condition of existing trees to be retained are identified within the survey report by Delta Simons. The site is not within a conservation area and it is not thought that any Tree Preservation Orders currently exist, but this should be confirmed prior to any tree works being undertaken. Tree works should be undertaken by suitably qualified professionals in accordance with BS3998 *Recommendations for Tree Works* with necessary regard for legal protection offered to nesting birds. The survey assessment of existing trees by Delta Simons (in accordance with BS 5837: 2012) should be reviewed for accuracy/update at least every 3 years and observations should be undertaken of damage following severe weather to ensure the safe condition of existing trees, particularly those in accessible locations.

5.03 Existing Vegetation

The ecological assessment by Delta Simons identified scattered areas of coniferous and broadleaved trees, pockets of introduced shrub planting and species poor hedgerows along with some dense scrub and amenity grassland.

5.04 Tree Planting Generally

Proposed specimen tree planting is as an essential part of the landscape design proposals, including the central courtyard, and perimeter streets, ecological buffer and private rear gardens. Proposed trees should be incorporated in accordance with BS 8245: 2014 *Trees from Nursery to Independence in the landscape*. The aftercare of trees should ensure their safe and healthy development whilst maintaining a naturally, attractive form and balance. Tree specimens will be selected from the nursery field to ensure high quality stock with consistent form and symmetry. Limited pruning should be undertaken following planting only where strictly necessary (and by a suitably qualified person) to remedy any issues arising as the canopy matures. At planting, trees will be fitted with an irrigation bag (Treegator Drip Irrigation Bag min. 75lt) which must be refilled with a frequency to ensure that new tree planting thrives. A clear area around each tree trunk of approx. 0.4m radius should be kept clear of lawn and other planting with a mulch ground cover to help suppress weeds. Tree support will be incorporated as per the planting schedule and regular check of above ground stakes/below ground guys should be undertaken twice a year until the trees are successfully established. Tree planting will be inspected twice annually (to include spring to consider leafing out) and summer (to assess stress due to fine weather).

5.05 Fruiting Trees

Within the courtyard and to the ecological buffer, trees will include fruiting apples with heritage varieties local to the site. These trees will be pruned annually to ensure a strong cycle of fruiting wood and to avoid congested older branches forming which bear fruit less readily. The aim will be to create an open branch structure with a goblet shape to aid air flow and make fruit more accessible. Pruning should be undertaken by suitably trained individuals between November and early March with sharp secateurs/loppers/pruning saw and the necessary regard for legal protection offered to nesting birds. Pruning should:

- Remove of crossing, rubbing, weak, dead, diseased or damaged branches
- Shorten the previous year's growth on each main branch (primary) by about one third to a bud facing in the required direction to encourage development of new branches and spurs and maintain good shape
- Remove strong shoots over 15cm long, growing towards the centre of the tree
- Leave young laterals (side-shoots) unpruned so they can develop fruit buds in the second year
- Provide the opportunity to inspect for 'Apple Canker' – if detected, attention should be given to ensure adequate drainage and potential liming to raise soil pH to help limit infection. If required, pruning should remove all brown, infected bark and wood, cutting back to fresh green tissues - cut out all affected smaller branches and spurs and all infected material within larger branches. Following pruning paint exposed wounds immediately with a protective wound paint to prevent reinfection.

5.06 Shrub and Herbaceous Planting, Climbing Plants

The planting palettes combine varying compositions of hard-wearing, robust shrubs with semi-ornamental herbaceous species of medium to low maintenance demand. An emphasis should be placed on retaining the natural form of plant species as far as possible through maintenance operations rather than clipping them back to a boundary, structure or ad-hoc form. Planted areas are to be kept free of litter with any plant failures to be replaced in the next season, to match the size and quality of the original species planted. If such failures persist within the initial 5year maintenance period, intention should be given to those specimens that have established more successfully with substitution of failing plants species as required. Weed control will be a priority action during establishment and ongoing management periods; if signs of plant pests or disease are identified appropriate horticultural steps should be taken to manage/eradicate symptoms.

Climbing plants are specified to be self-clinging and in locations to avoid the need for climber supports, though overly vigorously growing species have been avoided. Climbing plants should be maintained away from windows, doors, light fixtures, vents and/or service inspection hatches/covers. Caution should always be given to avoid disturbance to nesting birds.

5.07 Bulb Planting

Bulb planting is a high-value component of the planting proposals and offers high-impact displays of seasonal colour from windows and communal areas. Bulbs will be specified for repeat-flowering to ensure displays do not diminish and to avoid the need for lifting/storage/replanting. For all bulbs, after flowers have bloomed, only the flower stem is to be cut back, leaving foliage intact until it turns yellow and wilts to the ground (leaves gather and store energy for the following year). Bulbs with display yellow, mottled foliage should be lifted and removed/discarded as this is an indication of virus infection.

5.08 Wildflower Meadow Planting

Areas of perennial wildflower meadow are intended along the ecological buffer. Wildflower areas should be cut in late summer with cuttings left in-situ for 1-2 weeks to allow seeds to disperse into the ground before removal. Any areas of sparse cover should be over-seeded with a matching seed mix in the next available sowing season (preferably autumn). As with all planted areas, wildflowers should be watered adequately to ensure establishment.

5.09 Mown Lawn

Lawn areas are proposed to the central courtyard, private rear gardens (to the southern boundary) and towards Egerton Road (where lawn currently exists). Proposed lawns will be laid to turf; after successful establishment the initial cut should be to a height of 50-60mm with cuttings removed, subsequent mowing should achieve a height of 30mm with arisings left in all areas except within the two residential courtyard spaces. Maintaining a relatively short sward will improve ease of access for mobility aids over grassed areas within the residential courtyards.

During the year, frequency of mowing should reflect growth rates and seasonal temperature, feeding intervals etc. Cutting during growing season should take place every 2-3 weeks to ensure a tidy appearance to lawns (including mown-lawn edges to wildflower areas). Clear spaces around tree planting should be maintained with neatly cut edges; any use of strimming machines must avoid damage to trees or other landscape structures/surfaces.

Watering should ensure lawns thrive in summer heat and feeding with a nitrogen (N), phosphorus (P), and potassium (K) fertiliser should be undertaken in line with horticultural best practice in early spring before rainfall is forecast when the soil is moist but the sward is dry. RHS guidance includes further advice on scarification, aeration, weeding, top-dressing and over-seeding should areas of weaker growth require further seeding.

6.0 Hard Landscape and Landscape Features

6.1 Perimeter Streets

These routes feature areas of highways surface treatments which may be adoptable and are likely to include permeable surface finishes. Kerbs will be used with an upstand and in sections of dropped/flush kerbs to promote pedestrian movement and access by all. Column lighting will be incorporated throughout with reduced column heights to further give distinction from the surrounding conventional highway treatments and convey a pedestrian character. The design of the perimeter streets is intended to promote pedestrian and cycle priority and to create a slow-speed environment with single-directional movement encouraged and enforced by narrowing of vehicular routes, tightening of turning radius (whilst ensuring effective service/fire access) and by hard-landscape design details. Sections of streets embody 'shared surface' principles with continuous block-paved surfacing integrated with flush textured pre-cast concrete kerbs and stack bonded courses of paving units. All paved surfaces will offer a high degree of slip resistance and maintenance should ensure safe use of pedestrian surfaces by all drivers and pedestrians.

Streets will be designed to be social, active spaces with tree planting set within low-level planting, seating, lighting, cycle parking and playable features. The intent is to create a practical, animated and friendly arrival space for residents and visitors. Parking includes bays for improved accessibility, electric-charging units for electric cars with movements considers for delivery vans, refuse servicing and emergency vehicles.

Sections of planting within the southern street will feature sustainable drainage interventions to capture surface water run-off and slow discharge into the local sewer infrastructure. The use of permeable paving will also be employed; the permeable characteristics of these surfaces must be retained, ensuring any jointing material is topped-up as required and weed growth/detritus build-up within joints/porous gaps are removed.

6.2 Ecological buffer with footway

This planted perimeter to the site is intended as an extension to the amenity spaces provided for residents whilst having a strongly ecological bias. A simple pathway will be possible along the space as an ambulatory walk through the planted space. This paved surface will offer a high degree of slip resistance and maintenance should ensure safe use of pedestrian surfaces by all residents and visitors.

6.3 Central residential courtyard

This courtyard is characterised by soft landscape finishes with areas of hard-surfacing providing sitting areas on the sunny northern-side of the space. Pedestrian routes give access to residential cores, refuse and cycle stores and to private homes with an emphasis on natural surveillance to the communal areas. Ramped gradients are avoided within the levels design and surfaces will be detailed to achieve compliant approaches to all dwellings. All paved surfaces offer a high degree of slip resistance and maintenance should ensure safe use of pedestrian surfaces by all residents and visitors. This includes the removal of fallen leaves, moss growth and algae which can pose a slip-hazard.

The courtyard provides generous amenity space for residents with features such as flexible furniture, play for young children and informal growing beds planted with edible species. Timber pergolas will have stainless steel connection fixings to avoid recessing timber into the ground and aid lifespan. Visual checks should be undertaken to the pergola features on a monthly basis to ensure the structures remain sound.

All paved surfaces offer a high degree of slip resistance and maintenance should ensure safe use of pedestrian surfaces by all residents, visitors and staff.

6.5 Egerton Road frontage

Existing trees are retained along this frontage with lawn areas and an existing boundary treatment. New pedestrian/cycle path from Egerton Road will be incorporated with a raised table crossing to the new adjacent residential core to the eastern-most building. A new pedestrian entrance and footpath will also be created

from Egerton Road to the north of the site to provide a greater degree of permeability for residents and visitors.

6.6 Biodiversity features generally

A series of biodiversity features are integrated within the landscape design to augment and support habitat creation. These low cost, low maintenance features are generally intended to mimic natural habitats with slowly rotting timbers offering excellent potential for priority species such as Stag Beetles. Log piles within the ecological buffer to the north perimeter of the site are located away from footfall and can be supplemented to 'new' felled timber every 5-7years. Bird feeders within the residential courtyard should be emptied and cleaned in hot, soapy water before re-filling three times a year. Bird, bat and hedgehog boxes should be maintained in accordance with advice from suppliers.

7.0 Health and Safety Issues

- Refer to Health and Safety File for full list of potential risks.
- Underground services – underground services present within or in vicinity of planting beds. Consult as-built plans and use caution when excavating by hand or other means.
- Removal of sharps. Care should be taken when maintaining areas in case sharp objects are encountered. Ensure all staff are equipped and trained for handling such waste. A sharps disposal box should be provided for maintenance visits and protective gloves provided. Those collecting, carrying, storing, transferring and disposing of used needles and syringes should be aware of the regulations that govern waste of this type. The Hazardous Waste Regulations from 16th July 2005, together with further changes to waste management, have imposed new requirements on many people who deal with waste associated with drug use. Monitor and report to relevant authorities.

8.0 Play provision

The provision for play for the new residential masterplan is located the central courtyard integrated with planted areas and with landscape features to combine more conventional play pieces with 'playable landscape'. Surface materials will include limited areas of rubber impact absorbing play surface (where free-fall heights require), areas of amenity lawn, resin bound gravel and unit paving.

The play provision should be inspected twice weekly to ensure general defects, litter and vandalism can be identified promptly and rectified immediately or by arrangement. Play equipment maintenance will be subject to the advice of the play provider yet inspection should take place on a monthly basis to identify defects with equipment isolated from use if defects are detected. A full inspection by RoSPA (Royal Society for the Protection of Accidents) should be undertaken annually and recommendations addressed.

9.0 Maintenance Schedule

Continues on following page.

Items and actions	Frequency	Month	Year	Notes	Routine (every visit)	As required
Stakes, ties, guards-checking, adjustment, replacement as necessary	Quarterly	1-12	1-5	Remove stakes and ties following 5 year period		√

Shrub/herbaceous/allotment planting beds – generally (Refer to RHS guidelines: http://www.rhs.org.uk/advice)						
Irrigation	Weekly	1 st 2 months following planting	1	PLANTS TO BE WATERED TO ENSURE THEY THRIVE DURING ESTABLISHMENT Requirement and method to be kept under review in order to maintain healthy growth, especially when under drought conditions	√	
	Monthly	5-10	2-5		√	
Pruning, remove cuttings	Yearly	As recommended by RHS for each species.	2-5	By suitably qualified person <ul style="list-style-type: none"> - Maintain natural shape - Keep from encroaching paths - Keep from obscuring windows, signs, lighting (as far as is reasonably possible) 		√
Topsoil top up	Yearly	10	1-5	Only if deemed to be required		√
Mulch top up	Yearly	10	1-5	To between 50-75mm depth	√	
Hand weeding	3 times	4-9	1-5			√
Replacement of dead/dying plants	2 monthly	8-12	1			√
	Yearly	10	2-5			
Apply fertiliser	Yearly	10	1-5	Following pruning, Only if deemed to be required. Ensure that fertiliser does not enter the meadow / swale areas.		√
Apply winter herbicide	Yearly	12	1-5	For persistent weeds only circumstances and by trained qualified person. Glyphosates as approved by Natural England. Ensure that herbicides do not enter the meadow / swale areas.		√
Remove leaf litter	Fortnightly	10-12	1-5		√	

Items and actions	Frequency	Month	Year	Notes	Routine (every visit)	As required
Aeration, breaking up of compacted topsoil	Yearly	3,10	1-5	Ensure no damage to plants/roots		√
Edging – to be kept tidy	Yearly	9	1-5			√
Bulb planting generally						
Cut back flower stems	Yearly	6-7	1	Cut back flower stem after blooming to leave foliage intact until it turns yellow and wilts to the ground		√
Removed died-back leaves		8	1	Removed dead foliage leaves once died right down		√
Wildflower meadow generally						
Cutting	Once Yearly	09-10	1-5	After last plants have finished flowering, cut to no shorter than 20cm Arisings to be left in-situ for 1 week to allow seed bank to disperse, then removed	√	
Mown lawn areas						
Cutting	To reflect growth rates – every 2-3 weeks during growing season.			After successful establishment the initial cut should be to a height of 50-60mm with cuttings removed, subsequent mowing should achieve a height of 30mm with arisings left in all areas except within courtyard spaces.	√	
Irrigation	Weekly	1 st 2 months following planting	1	PLANTS TO BE WATERED TO ENSURE THEY THRIVE DURING ESTABLISHMENT Requirement and method to be kept under review in order to maintain healthy growth, especially when under drought conditions	√	
	Monthly	5-10	2-5			√
Edging – to be kept tidy	Yearly	9	1-5			√

Items and actions	Frequency	Month	Year	Notes	Routine (every visit)	As required
Litter Picking – generally						
Note, litter picking and other cleaning activities to happen daily within play areas.	Twice weekly (play areas)	1-12	1-5	Includes removal of dog/cat faeces.	√	
	Weekly (other areas)	1-12	1-5	Segregation & recycling as far as possible in accordance local provision		
Hard landscape generally and landscape features						
Inspect paved surfaces generally	Every 6 months	1 - 6	1-5	Identify and repair/reinstate any damaged areas		√
Seasonal maintenance – leaf/snow clearance, de-icing	Monthly in autumn/winter	11, 12, 1, 2	1-5	To be proactively managed with the contractor checking weather reports.		√
General cleaning	Every 6 months	4 - 10	1-5	Clean slab/block paving every 5 years with product approved cleaning agent or solution. Brush-in silica block jointing sand as and when required to all sand bedded paving and repair any damaged paving units, pointing, haunching and edgings. Top-up jointing material to permeable paving. Drainage systems associated with hard surfaces to be inspected and maintenance work undertaken as necessary.	√	
Edging generally	Every 6 months			Inspect and repair all edging, making good damage/wear promptly		√
Lighting columns	Quarterly	1, 4, 7, 10	1-5	Inspect and maintain lighting columns and replace light fittings when necessary		√
Items and actions	Frequency	Month	Year	Notes	Routine (every visit)	As required

Biodiversity features						
Bird feeders	Three times annually	3, 7, 10	1-5	Feeders to be emptied and cleaned in hot, soapy water before re-filling three times a year	√	
Bat, bird and hedgehog boxes				In line with supplier recommendations	√	
Log piling/stumpery features	Yearly	5	1-5	Timbers rotted away to be replaced with new sectioned tree timbers		√
Green roof cover	As per supplier's recommendation	1-12	1-5		√	
Play provision for young children (0-4yrs, 5-11yrs)						
General inspection	Twice weekly	1-12	1-5	Identify and remedy general defects, litter or vandalism		√
Equipment inspection	Monthly	1-12	1-5	Inspection in line with supplier recommendation	√	
Full safety inspection	Yearly	5	1-5	Full inspection by RoSPA	√	