Layer.studio

Rodney Street
Ancoats

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LANDSCAPE MANAGEMENT & MAINTENANCE

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SECTION A - Landscape Management Plan

1.0 Introduction

1.1 General

Layer.studio on behalf of the applicant, have prepared this report in relation to the landscaping works relating to the new development at Rodney Street, Ancoats. The landscape management and maintenance proposals contained within this report cover all proposed landscape works as identified within the following drawings:

- RODSTA-LYR-XX-ZZ-DWG-L-1001 General Arrangement
- RODSTA-LYR-XX-ZZ-DWG-L-1002 INTERFACE LOCATION PLAN
- RODSTA-LYR-XX-ZZ-DWG-L-2001 HARDWORKS
- RODSTA-LYR-XX-ZZ-DWG-L-2002 EDGINGS
- RODSTA-LYR-XX-ZZ-DWG-L-3001 SOFTWORKS
- RODSTA-LYR-XX-ZZ-DWG-L-3002 SOFTWORKS TREE PLANTING
- RODSTA-LYR-XX-ZZ-DWG-L-3003 SOFTWORKS PLANTING SCHEDULE
- RODSTA-LYR-XX-ZZ-DWG-L-4001 LEVELS AND DRAINAGE STRATEGY
- RODSTA-LYR-XX-ZZ-DWG-L-8001 FURNITURE AND BOUNDARY TREATMENTS

The above files names indicated above provide further details of the landscape proposals for the proposed scheme.

1.2 Overall Aims & Objectives

- The aim of the landscape management plan is to ensure that all landscape elements establish and mature successfully, and specifically that tree are managed in a way that ensures the safety of maintenance personnel and access to the building façade using a MEWP as required.
- The proposals aim to successfully mitigate against any negative impact of the development, resulting in positive additions to the visual amenity.
- To prescribe all necessary management and maintenance principles and tasks to enable successful establishment, and ensure the continued maturing of the planting elements.
- To maximise the nature conservation value of all planting.
- To ensure that the management and maintenance regime is appropriate to the site.
- To provide a mechanism for the on going monitoring and reviewing of the management plan and the specific maintenance operations contained therein.
- It is envisaged that the applicants chosen contractor will oversee the upkeep of the proposed landscape interventions.

2.0 Vegetation Types and Design Objectives

2.1 General

A number of separate vegetation types are proposed for the site. These are:

- Specimen Tree planting
- Shrubs & Ornamental planting
- Raingarden Planting
- Wildflower meadow/ mown areas

The above will require varying management in order to successfully achieve the design objectives.

2.2 Design Objectives

The overall objective is to successfully integrate the development into the site by providing a series of planted areas that increase the sites bio-diversity and compliment the sites verdant character.

3.0 Management Principles

3.1 Proposed Individual Trees:

The landscape management principles for proposed individual and structure tree planting are as follows:

- To ensure satisfactory establishment and continuing health.
- To maintain trees in a healthy condition and develop the sites tree structure.
- To maintain trees, through pruning to keep size of trees in proximity to building at a manageable size, to ensure safe access for maintenance of the building in accordance with the access and maintenance strategy.
- To maximise conservation and wildlife value.

3.2 Shrubs & Ornamental Planting / Rain Gardens / Lawn

The landscape management principles for proposed ornamental planting are as follows:

- To ensure satisfactory establishment and continuing health
- To maintain plants in a healthy and attractive condition.
- To ensure the successful establishment and continuity of the overall design concept.
- To establish a diverse and varied environment

- To establish a mechanism for the replacement of any failing plant or one which has reached maturity

3.4 Hardworks:

The proposed new surface materials are shown on Hardworks drawing sheet 2001 General Arrangement

The management principles for hardworks areas are as follows:

- Procedures for regular inspections of all hard surfaced areas
- Procedures for non-attributable damage reinstatement
- Specification and sources of materials for repair/reinstatement (Refer to relevant drawings for details)
- Procedures for cleaning

SECTION B: Landscape Maintenance Plan

4.0 The Use of Chemicals

Chemicals generally should not be used, unless specifically instructed to do so, and only after all other avenues for remediation have been attempted. All chemicals, herbicides, pesticides and fertilisers must be approved by The Environment Agency.

4.1 Maintenance Operations

Set out in the tables below, are the maintenance operations that should be carried out in order to achieve the design objectives. They have been set out in a format that can be easily followed by all parties, ensuring that the Management Plan exists as a working document and not an archived report. The management prescriptions are flexible such that each section can be changed and updated on an annual basis, allowing targets to be set, progress monitored and accurate reporting:

SOFTWORKS

Group No	Prescription	Year (s)	Season	Frequency (per year)
1	<u>Tree Planting</u> a) Maintenance during defects liability period or 5 years after planting whichever is the greater. Operations to include:			
	Maintain a 1m weed free ring around the base of each newly planted tree by hand weeding operations.	1 – 5	As required	As required
	Application of granular fertiliser (15:15:15).	1 – 5	Spring	1
	Water as necessary to ensure establishment and continuing health	1 – 5	Summer Autumn-Spring	Weekly As required (min 10 visits)
	Ensure trees remain firmly bedded after disturbance and re-firm as necessary	1 – 5	As required	As required
	Remove all dead, dying, damaged and crossed wood	1 – 5		2
	Control all pests and diseases as necessary	1 – 5	Spring/Autumn	As required
	Replace any dead or dying trees planted in year 1.	1 - 5	As required	1
	b) Replace any dead/ under performing trees planted. Where planting continually fails to establish, undertake investigations to ascertain any underlying cause.	6 - 15	Autumn Autumn	1
	c) Carry out an annual inspection of all trees and carry out remedial work to reduce the crown as necessary to ensure safe access for maintenance and cleaning operations of the building.	5 +or as required	Autumn	Ongoing

Group No	Prescription	Year (s)	Season	Frequency (per year)
2	<u>Shrubs & Ornamental Planting</u> a) Maintenance during defects liability period or 5 years after planting whichever is the greater. Operations to include:			
	i) Maintain all areas in a weed free condition through hand weeding operations. Herbicide applications on instruction only.	1 – 5	As required	10
	ii) Application of granular fertiliser (15:15:15).	1 – 5	Spring	1
	iii) Water as necessary to ensure establishment and continuing health	1 – 5	Summer Autumn-Spring	Weekly As required (min 10 visits)
	iv) Ensure plants remain firmly bedded after disturbance and re-firm as necessary	1 – 5	As required	As required

	Control all pests and diseases as necessary	1 – 5	As required	As required
	Replace any dead or dying plants implemented in year 1.	1 - 5	Autumn	1
	Prune early flowering shrubs after flowering	1 - 5	Early summer	1
	Prune late flowering shrubs before new growth	1 - 5	Early spring	1
	Prune evergreen shrubs	1 – 5	Mid spring	1
	Prune herbaceous perennials as required to maintain form and supply supports as needed	1 - 5	Early summer	1
	b) Post 5 years maintain as above.	6 - 15	As required	As required
	c) Replace any dead/ under performing plants. Where planting continually fails to establish, undertake investigations to ascertain any underlying cause.	6 - 15	Autumn	As required
	d) Control all pests and diseases as necessary	6-15	As required	As required

	Maintenance Operations	Year (s)	Season	Frequency (per year)
	<u>Rain Garden Planting</u>			
	a). Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels maintenance is necessary	Ongoing	Quarterly	Quarterly
	b). Check operation of underdrains by inspection of flows after rain	Ongoing	Annually	Annually
	c). Assess plants for disease infection, poor growth, invasive species etc and replace as necessary	Ongoing	Quarterly	Quarterly
	d). Inspect inlets and outlets for blockages	Ongoing	Quarterly	Quarterly
	<u>Regular maintenance</u>			
	a). Remove litter and surface debris and weeds	Ongoing		Quarterly
	b). Replace any plants, to maintain planting density	Ongoing		As required
	c). Remove sediment, litter, and debris build-up from around inlets or from forebays	Ongoing		Quarterly/ Biannually
	d)The beds may benefit from cutting back occasionally depending on how well it establishes. . If required, cutting can be undertaken in late summer or autumn with a scythe or strimmer with particularly tough material cut by hand with secateurs. Remove cut material for composting	Ongoing		
	<u>Occasional maintenance</u>			
	a). Infill any holes or scour in the filter medium, improve erosion protection if required	Ongoing		As required
	b). Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch	Ongoing		As required
	- <u>Remedial actions</u>			

	a). Remove and replace filter medium and vegetation above	Ongoing		Quarterly/ Biannually

	Maintenance Operations	Year (s)	Season	Frequency (per year)
	Wildflower Planting a) Maintenance during defects liability period or 5 years after planting whichever is the greater. Operations to include: 1. First cut: To 5cm after 6-8 weeks, repeat every 2 months throughout first summer of growth 2. Subsequent cuts: At least once a year. Ideally in late June 3. Debris and litter: Remove. 3.1. Stones and earth clods larger than 25 mm in any dimension: Remove 4. Arisings: removed from meadow and disposed of on site in an appropriate place to be agreed with the client. I.e Compost heap	Ongoing	Summer (late June)	At least once a year (before grasses set seed)
	Remove any non-native, self-seeded material	1 - 5	As required	As required

	Maintenance Operations	Year (s)	Season	Frequency (per year)
	Lawn & Reinforced Lawn a) Maintenance during defects liability period or 5 years after planting whichever is the greater. Operations to include:			
	- Hand weeding of unwanted plants establishing within lawn area	1 – 5	As required	As required
	- Regular watering during establishment period- once established it is fairly drought tolerant but will need watering during extremely dry periods	Ongoing	As required- especially summer/ during dry periods	1 inch water per week when establishing
	- Mowing, fertilizing and edging	Ongoing	Late Spring/ Summer	3-4

HARDWORKS

Group No	Prescription	Year (s)	Season	Frequency (per year)
3	Concrete Block Paving			
	a) Maintenance during defects liability period or 5 years after planting whichever is the greater. Operations to include:			
	- Paths to be swept removing any leaves & detritus	1 – 5	As required	As required
	- Regularly inspect all hard-surfaced areas.	1 – 5	As required	As required
	- If small amounts of weeds become established treat with weed killer annually.	1 – 5	As required	As required
	- Undertake remedial works as necessary as described below.	1 - 5	As required	As required

	Maintenance Operations	Year (s)	Season	Frequency (per year)
	Macadam a) Maintenance during defects liability period or 5 years after completion, whichever is the greater. Operations to include: - Paths to be swept removing any leaves & detritus - Regularly inspect all hard-surfaced areas. - If small amounts of weeds become established treat with weed killer annually.	1 – 5	As required	As required

Group No	Prescription	Year (s)	Season	Frequency (per year)
	Green Gap Paving			
	a) Maintenance during defects liability period or 5 years after completion, whichever is the greater. Operations to include:			
	- Paths to be swept removing any leaves & detritus	1 – 5	As required	As required
	- If small amounts of weeds become established treat with weed killer annually.	1 – 5	As required	As required
	- Strim the grass as required - remove grass cuttings.	1 – 5	Late Spring / Summer	3-4
	- Reseed in spring and autumn months where grass has failed and at other times as required.	1 – 5	Spring – Autumn	As required

	- Apply fertiliser in spring and autumn months to keep the grass healthy and at other times as required.	1 - 5	Spring - Autumn	As required

4.2 Hardworks Maintenance

Hard surfacing needs to be maintained to ensure it is in a good condition providing safe routes for all.

Visual inspection for current problems or problems becoming apparent must be carried out monthly. Any required maintenance of identified problems must be carried out as per below maintenance plan.

It is important that hard surfaces are regularly inspected so that defects can be identified and rectified. Typically, early life maintenance, or aftercare of new works will be the responsibility of the Contractor. Contractors should visit the site at regular intervals to inspect all paved areas regularly during the maintenance period, and to undertake any remedial works. At the end of the maintenance period, the contractor will be required to undertake remedial works to the satisfaction of the Client. Effort is required to ensure surfaces are maintained as they were originally constructed. Details below describe how paved areas should be maintained.

Following Contractor hand-over at Practical Completion the Management Company will undertake all required management and maintenance activities.

- Common defects

Paved areas deteriorate in a variety of ways, depending upon the type of construction and cause of distress. When deterioration presents a safety hazard then maintenance becomes essential. Timely maintenance, in some instances can prevent deterioration progressing to a state where reconstruction is required.

- Broken or damaged elements

Apart from being unsightly, cracking and spalling can become a hazard if it creates a trip. Spalling occurs during transport and laying, but can less commonly be a fault in the material. It can result during manufacture, impact loading, abrasion and weathering. Inappropriate size or depth of element results in fracture under loading.

- Treatment options

Maintenance treatment will depend on the type of defect and what has caused the deterioration. For some surfacings, topping up of material may be all that is required, but poor surface profile may require a site investigation to provide information on the condition surface. Suitable strategies can then be formulated based upon informed engineering judgment.

- Lifting and relaying

Relaying elements of flexible construction should be carried out in the same way as new construction. Additional guidance for flags is given in BS 6677. Removing a damaged single element prior to relaying can be difficult, particularly if it is small element, as breaking it out may disturb adjacent modules. It may be necessary to consider relaying all elements, which abut the damaged area, or to relay a full line of elements back to an edge restraint. If the surface has poor profile, elements will need to be lifted over the whole of the affected area. In all cases a complete renewal of the bedding material should always take place. An experienced paver is required to execute a good reinstatement.

CLEANING GENERALLY: (the following notes are for guidance only)

1. Chemical cleaning of concrete surfaces to remove stains including: Graffiti/ grease/ fats/ nicotine/ inks/ dyes/ waxes & carbon to be done with a proprietary cleaning product. 'Mastersolve' by Graffiti Magic Ltd to be used for removal of stains and graffiti. For final removal of graffiti shadows left behind from graffiti removal cleaners a recommended product would be 'Shadow Lifter' by Graffiti Magic Ltd. Alternative products are available but will require client approval. All cleaning work using proprietary products to be carried out to manufacturers recommendations.

SPECIFIC CLEANING TASKS:

- **Power Washing**

The Use of Power Washing Equipment on hard surfaces.
To aid in the removal of surface staining power washing equipment is often considered. Whilst such techniques offer certain benefits, particularly for larger areas, it is important that care is taken in their use to avoid damage to the structural integrity of the paving.

When using any form of Power Washer the following guidelines should be strictly adhered to:

• The power washer should be used on a setting, which is sufficient to remove the dirt without causing any further distress. A low-pressure setting is recommended.

• Do not direct the power lance directly down on to the paving, as this can result in loss of jointing material.

• Ideally a spraying movement should be adopted holding the power lance at a shallow angle, not greater than 300 across the diagonal (i.e. not parallel to joints)

• Certain high-pressure jetting machines have been known to mark / damage the surface of certain types of paving material. It is therefore prudent to carry out a small test area before commencing on a larger area.

• The area should be inspected after cleaning to ensure that joints are full.

- **Dirt and Detritus**

To remove general dirt and detritus regular brushing is recommended. If detritus reduces the intensity of the colour of the material then this can be re-established by scrubbing with a mild detergent e.g. washing up liquid, and hot water. Ensure all the detergent has been thoroughly washed from the surface on completion of the cleaning and the resulting run-off is carefully channelled to either drainage points or containers where it can be safely disposed of.

- **Moss, lichens and algae**

Moss, lichen and algae can be prevalent on hard surfacing where the area is heavily shaded, under trees or is not laid to an adequate fall. If such growths do occur and are considered undesirable then the area should be treated with a proprietary weed or moss killer used in accordance with the manufacturers' instructions. Such products take some days to be effective and are most effective when applied during a spell of dry weather. The washes work best if any thick growths are scraped off first and the wash is well brushed in. Some treatments leave a residue to discourage the re-growth of the moss and algae but this will only be of limited value if the surrounding conditions leave the paving damp and in shade.

- **Weeds & Plant growth**

Weed growth found within any hardworks should first be removed by hand as soon as possible, to avoid allowing full establishment. Use of herbicides should be avoided as stated in chapter 4, and only used if no practical alternatives are possible. Utmost care should be taken to avoid over spraying/ contact with wider landscape. All arisings are to be removed from site and disposed of accordingly in the correct manner. Where herbicides are used, they must be approved by the Environment Agency.

- **Rust Stains**

Initially action must be taken to eliminate the sources of staining.
To remove the rust stain, the surface should first be wetted with clean water and then the affected area treated with a 7 to 10% dilution of Hydrochloric acid solution.

*Guidance on the safe use of chemical treatments is given below (Acid Washing) of this document.

- **Oil Stains**

Oil can penetrate readily into hard surfacing materials, but it should not stain if any spillages are removed promptly with an absorbent material e.g. paper towels, cloth or absorbing granules. Do not attempt to wipe the stain as this will drive the oil into the surface and spread it over a wider area.

If the stain persists then an emulsifying degreaser should be employed. Brush the cleaner onto the affected area, leave for a period of time according to the manufacturers instructions and then wash the emulsified oil away with plenty of clean water.

Alternatively the surface can be scrubbed with a detergent and hot water taking care to ensure that the strength of the detergent is not detrimental to the appearance of the paving. However, for persistent oil staining, steam cleaning may have to be considered.

- **Bitumen Stains**

Fresh bitumen should be allowed to cool down before removing it with a paint scraper or similar. If it is particularly resistant, the use of ice to make the bitumen brittle may be required prior to scraping it from the paving. Any residue should be removed with an abrasive powder and finally the whole area rinsed with clean water. Certain proprietary cleaning agents are available to remove bitumen but these should be tested on an inconspicuous area of paving first.

- **Paint Stains**

Both paint and graffiti are difficult to remove from most hard surfacing materials. Fresh wet paint should be soaked up with an absorbent material without wiping the paint, as this will spread the stain. It should then be treated with a suitable solvent such as white spirit and then the area washed with a de-greasing agent taking care in the disposal of the run-off material.

Dried paint should be scraped off as far as possible and then an appropriate paint remover applied. Paint manufacturers may often be able to give more detailed advice on the removal of paint and graffiti. Therefore they should be consulted directly for specific recommendations.

- **Epoxy & Polyester Stains**

Areas of solidified epoxy or polyester resin can be removed by carefully burning off the area with a blowtorch. Care must be taken not to inhale any fumes given off. If, after burning, a black stain remains, this can be removed by scrubbing with detergent and hot water. For larger areas grit blasting may have to be considered, however the effect of such treatment on the micro texture of the surface should be carefully considered. Again it is advised that a small area be tested before any large-scale operations are undertaken.

- **Smoke, Fire and Tobacco Stains**

Normally such stains can be removed by scrubbing with detergent and hot water. Where the stains persist, a mixture of scouring powder and household bleach can be used. It is important the bleach is washed from the area with clean water once cleaning is completed and the run-off carefully disposed of.

- **Beverage Stains**

These can normally be removed by scrubbing the stain with detergent and hot water. If the stain is persistent, apply a household bleach solution and then rinse the area with clean water taking care to dispose of the run-off safely.

- **Chewing Gum**

Chewing gum is a particularly difficult substance to remove from hard surfaces.
Newly discarded gum can be scraped off by using a mechanical scraper but hardened gum can only be removed by both freezing the gum and chiselling it from the surface of the

paving or utilising a hot water/steam cleaner. For specific advice on chewing gum removal it is recommended that specialist contract cleaning companies be contacted directly for further details.

- **Scuff Marks from Vehicle Tyres**

These can normally be removed by steam cleaning, or by scrubbing the area with detergent and hot water.

- **Cement and Lime staining**

Both types of staining can occur on paved surfaces, usually as a result of contamination from other sources, such as concrete street furniture or the use of onsite mortars and concrete. Cement and lime deposits are generally insoluble and therefore require treatment by a suitable acid cleaner to fully remove them.

- **Acid Washing**

Stubborn and persistent stains that will not generally weather away naturally will require the application of a specific acid cleaning treatment to remove them.

Prior to any acid cleaner being applied, the surface must be thoroughly wetted with clean water to prevent the acid being absorbed directly into the paving. A dilution of 7 to 10% of hydrochloric acid should then be prepared and applied to the affected area.

As the staining begins to dissolve, some frothing may be apparent, which should be followed by agitation of the surface using a stiff bristle brush to completely remove all trace of the stain.

Once this process is complete the whole surface should be rinsed thoroughly with clean water, taking care to dispose of the run off safely. In the vast majority of cases, one treatment will be sufficient; however, in some cases re-treatment may be required. When using any form of chemical treatment the following guidelines should be strictly adhered to:

• With deeper stains, the degree of acid treatment may result in an acid etched appearance.

• Protective clothing (gloves, boots, goggles etc.) should be worn at all times when using chemicals and the appropriate first aid measures must be available on-site.

• Take care to ensure that surrounding materials and landscaping are protected. Soft landscaping and exposed metals can be severely affected by chemical treatments.

• It is better to treat several times with the correct dilution than to use concentrated acid, which may damage the surface of the unit.

• When diluting acids, always add acid to water and not water to acid.