

TP-3.01 General Management and Install Specification

The landscape is to be maintained by the landscape contractor for a period of 4 weeks and is then passed over to permanent gardener. Maintenance works to include, but not be limited to the following: weeding, removal of any dead foliage, re-mulching as required, clipping of plants, fertilising plants, replacement of any dead plant material, ensure irrigation system is working properly and where/if required, the mowing & maintenance of lawns.

1.0 AIMS & OBJECTIVES

This Landscape Maintenance Plan has been prepared to ensure the necessary scope and level of maintenance is achieved to ensure the plants remain healthy and other landscape elements are maintained in a safe, functional, and attractive condition. The Plan applies a coordinated and consistent approach to landscape maintenance, both in terms of the techniques used and the frequency of works.

1.1 SCOPE

This Landscape Maintenance applies to all landscape works shown on the landscape plans and includes:

- Areas planted with trees, shrubs, climbers, and groundcover plants.
- Plants in containers.
- Other landscape works.

The scope of maintenance works, and their timing are detailed in Section 2. They generally include but not necessarily restricted to:

- Maintenance of plants by fertilising, pest control, pruning, weed removal and replacement of dead plants.
- Pruning and trimming that reflects the natural growth habit of individual plant species, with radical pruning avoided.
- Surface mulch is to be replenished as required to maintain a consistent depth in accordance with the landscape detail drawings prepared.
- Drainage pits are to be cleared of mulch and other material regularly so that all pits are cleared when observed at monthly intervals or after significant storm events.
- Weeds are to be removal from all paved area and compacted gravel.
- Removal of plant litter from paths and garden areas where required.
- Keeping a logbook of maintenance works.
- Monthly and yearly maintenance reports.

The following items are excluded from this Maintenance Plan and will be the responsibility of Owners Corporation / Body Corporate Committee.

- Watering of plants.
- Non plant rubbish litter.

All work shall be carried out in accordance with standard horticultural practice. Provide two days' notice to Owners Corporation / Body Corporate Committee for the following operations:

- Each site maintenance visit.
- Application of fertiliser.
- Application of pesticide/fungicide.
- Application of herbicide.

1.2 RECORD KEEPING & REPORTING

The landscape maintenance works that are carried out in accordance with the schedule on Section 2 are to be recorded in a logbook by the Contractor responsible for landscape maintenance. The records shall include details of materials and procedures used as well as time and method of application. A record of inclement weather should also be kept verifying inability to carry out work within the specified time frame. A summary report of landscape maintenance works completed is to be prepared at the end of each month and annually by the Contractor.

1.3 MAINTENANCE OF PLANTING AREAS

1.3.1. Weeding
Prevent reproduction of weeds by removal of seedlings and established weeds before seed set. This work should be carried out regularly so that the planted and mulched areas are weed free when observed at monthly intervals.

1.3.2. Fertilising
Soil testing is to be undertaken at the commencement of the maintenance contract and shall include taking samples from a cross section of planting areas. Slow-release fertiliser selected to take into account the soil testing results and the in-situ plants should be applied at the frequency nominated in the Landscape Maintenance Schedule and in accordance with the manufacturer's recommended rate. Soil pH should be maintained between 5.5 and 7.

1.3.3. Pest and Disease Control
Avoid use of chemical sprays. If chemical control is considered necessary, these should be mixed and applied in strict accordance with manufacturer's directions. Do not spray in windy or extreme weather.

1.3.4. Pruning and Trimming
Pruning should reflect the natural growth, flowering and regrowth habit of the individual species. Generally, prune after flowering. Tip pruning involving the removal of the top 25mm or growing tip of each branch, should be used with shrubs and groundcover to encourage development of new shoots during the active growing season. Be careful not to remove the buds before the flowering season in those plants that have terminal flowers. Notification of requirement for structural tree work including the removal of large branches should be made to the Owners Corporation / Body Corporate Committee

1.3.5. Plant Replacement
All plants that have died or failed (lost more than 50% of their normal foliage cover) shall be replaced with the same species and commercially available size as the plant to be replaced. Generally, plant material shall be uniformly high-quality stock equal to best available for 'retail sale'. The root systems shall be balanced in relation to the size of the plant. Plants shall be healthy well grown, hardened off specimens of good shape and free from pests and diseases.

1.4 IRRIGATION

1. Irrigation system is to be fully automated, connected to 240volt wall mounted irrigation controller.
2. Irrigation system is to be designed by suitably qualified irrigation / sprinkler specialist.
3. Landscape contractor to provide all necessary information to irrigation designer such as: water flow / pressure rate, mains water locations etc.
4. Landscape contractor is to liaise with garden maintenance contractor in programming the irrigation system.
5. No water is to spray onto building.
6. Spray heads to allow clearance of mature plant height, not planting height.
7. All plants to receive even moisture coverage - allow appropriate overlap.
8. Irrigation controller to be located in Services area (consult client prior to installation).
9. All solenoid boxes to be hidden at back of garden beds. All visible sprinkler parts to be grey in colour. Install pressure reduction valve, flush valve & air relief valve.
10. Contractor is to confirm appropriate zone quantity & location based on specific site pressure and planting requirements. Irrigation system is to be fully operational prior to planting.
11. Garden bed / planter irrigation - In-line drippers at 200mm spacings in garden beds and at 100mm spacing between steppers, lines to be set 75mm below finished soil level and set using galvanised steel pegs at 500mm spacings.
12. The irrigation system for all landscape areas to be connected to rainwater tanks which are harvested on site, with mains back-up adsrequired

2.0 SCHEDULE OF MAINTENANCE WORKS

The following schedule summarises the minimum landscape maintenance tasks and timing requirements for the various categories of maintenance activities. Allowance should be made for maintenance according to seasonal conditions.

- 2.1 Weeding - Timeframe monthly
- Weed garden areas manually or with approved herbicide.
 - Prior approval required for Herbicide use. Approved Herbicide use to be in accordance with regulation rates and manufacturer's recommendation. Protect plants from overspray and avoid if rain is likely within 12-hour period
- 2.2 Leaf Litter Removal - Timeframe monthly
- Do not remove leaf litter from planted areas unless depth of litter is impacting on plant growth.
 - Remove leaf litter from pathways
- 2.3 Mulching - Timeframe Spring
- Reapply mulch to maintain to a depth of 75mm
 - Ensure that the specified mulch, especially on the higher levels is suitable and able to withstand environmental conditions such as wind erosion.
- 2.4 Plant Fertiliser - Timeframe Spring
- Fertilise all plants at specified rates based on soil testing results
 - Prior approval required for fertiliser use.
 - Slow release fertiliser N:P:K ratio- 18:3:10 at manufacturer's recommended rate per plant.
 - Initial fertilising at planting based on soil testing results
- 2.5 Pest & Disease Control - Timeframe Monthly / As required
- Check for incidence of fungal and insect attack
 - Avoid use of chemical sprays
 - Apply appropriate treatment for fungal and insect attack if necessary subject to approval
 - Prior approval required of chemical to be applied
- 2.6 Pruning & Trimming - Timeframe Monthly / As required
- Prune overgrown material in the garden annually when the plants are dormant. Remove dead plant material and deadhead flowers. This will encourage dense, new vegetative growth.
 - Climbers - Prune long leaders which cannot be reattached to climbing frame.
 - Shrubs & groundcover - Tip prune to encourage density. Length removed depending on vigour of previous plant growth
 - Trees - Remove deadwood and tip prune fruit trees if required. Notify in writing Management any perceived need for tree structural work
- 2.7 Plant Removal & Replacement - Timeframe Monthly
- Inspect for failed or dying plants requiring replacement and record probable cause
 - Replant after dead or failed plant removal
 - Densities, sizes & species used are to be in accordance with those specified in Landscape Plans
- 2.8 Weed Control in Gravel - Timeframe As required
- Remove weeds from gravel areas manually or with approved herbicide in accordance with manufacturer's recommendation
 - Prior approval required for Herbicide use.

GREEN ROOF/PLANTER INSTALL, MAINTAINENCE & ACCESS

STRUCTURE BY ENGINEER

The building structure and systems have allowed for proper roof garden installation. Design considerations include, not limited to, live and dead load of growing material and plant material, drainage, water proofing, electrical for lighting and irrigation, water supply, and access to enable a long-term maintenance of a highquality landscape installation

INSTALL

Evaluation of the site should review accessibility. Temporary access will be needed for machinery, and delivery and storage of materials during construction. For green roofs balcony planters or multi-storey wall and facade greening, this might involve a crane to lift materials onto the site.

MAINTAINENCE

Inaccessible balconies and rooftops areas will require balustrades and cables for attaching harnesses and ropes (fixed fall protection), ladders, elevated work platforms independent of the building, or swing stages mounted on the top of the building for maintenance personnel. Access for maintenance to walls and facades can also be considered from below, in which case space for a temporary elevated work platform is likely to be required.

All maintenance should be performed by trained and qualified personnel and using horticultural and safety best practices. Working on elevated structures may require safety training and specialized, protective equipment. Please consult applicable safety regulations and building codes. This installation guide outlines the basic tasks associated with ongoing green roof plant care and maintenance.

WORKING AT HEIGHTS

As for all construction work, the construction (and maintenance) of green roofs, walls and facades is subject to the Victorian Occupational Health and Safety Act 2004. This Act governs all Victorian OH&S laws and codes of practice and sets out the key principles, duties and rights in relation to OH&S.The hierarchy of regulation inVictoria is shown in the diagram below.

The design and installation of all green roofs – and many green walls and facades – involves work at heights.The associated risks and responsibilities must be managed through a combinationof training and safety features on the site including the use of barricades, railings, or other fall arrest systems, such as ropes and harnesses.

Consult the WorkSafe Victoria Compliance Code 'Preventing Falls in General Construction' with regard to specific OH&S issues associated with working at heights and management solutions. Wherever possible, the risks and hazards of working at heights should be removed or reduced and the design team must consider these as part of project planning.

PLANT CARE

The proposed green roof(s) have been designed using hardy, drought-resistant plant varieties that can thrive in a harsh roof top environment and will require limited yearly access once established.

For establishment and long term maintainence, the green roof should be visually inspected and spot-weeded every 2-4 weeks during the growing season. It is important to remove weeds before they flower and set seed to minimize future efforts. Like any garden, preventative, regular weeding has the best results with the least total effort. In most climates, for green roofs, weeding will require about 10 to 20 man-hours per year. While weeding, it is a good idea to inspect the roof drains and insure that water not utilized by the green roof can drain freely off the roof.

Green roof plant care has two primary components – fertilizing and trimming where required. Fertilizing should be conducted at least annually in spring for the first 3-5 years after installation, and then on a reduced schedule if soil testing and plant performance suggest it is advisable. Late summer or early fall fertilizing may also be suggested depending on the plant mix and regl.

Avoid feeding during the hottest/driest parts of the year or late in the season when plants should be entering a dormant or less active phase. Nutrients should be added with granular, slow-release fertilizer (minimum 3 months) with a target N-P-K ratio of 18-6-12. Alternatively, a generic 10-10-10 slow-release general landscaping fertilizer can be used and is often available at garden and home centers. Recommend Osmocote®, and Nutricote® products. Where an organic fertilizer is preferred, Plant Tone (Espoma), or Earthworks Replenish are also effective. Apply fertilizers in accordance with the manufacturer's recommendations and instructions on the container. Soil tests are recommended every year or every other year, with target values the same as for general landscaping.