

Woolworths CFC - SSD10470
11 & 13 Percy Street, Auburn NSW 2144

LANDSCAPE MANAGEMENT PLAN (INCORPORATING WEED MANAGEMENT PLAN)

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Prepared for



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CONTENTS

1.0 Introduction

- 1.1 Project Background
- 1.2 This Report and Author
- 1.3 The Role of this Landscape Management Plan
- 1.4 Areas to which this Plan Applies
- 1.5 Landscape Maintenance Responsibility
- 1.6 Landscape Management Principles
- 1.7 Report Structure
- 1.8 Intensity of use

2.0 General Site Conditions

- 2.1 Contaminated Soils
- 2.2 Soil
- 2.2 Existing Vegetation

3.0 Proposed Planting Species and Design Compliance

- 3.1 Ground Floor Mass Planted Areas
- 3.2 Tree Works (As per Appendix 3 - Applicant's Management and Mitigation Measures)
- 3.3 Planting Schedule

4.0 Specific Landscape Management Activities

- 4.1 Eastern Landscape Contaminated Area
- 4.2 Buffer Planting around Hard Stand and Car Parking Areas
- 4.3 Soil Management for Buffer Planting Areas
- 4.4 Soil Management for Trees
- 4.5 Fertilising, Composting and Mulching
- 4.6 Pruning
- 4.7 Weeding

5.0 Irrigation and Disease Control

- 5.1 Irrigation
- 5.2 Disease and Insect Control

6.0 Protective Measures

- 6.1 Erosion, Contamination and Sedimentation Control

7.0 Monitoring and Reporting

8.0 Appendices

- 8.1 Appendix A - Approved Landscape Masterplan
- 8.2 Appendix B - Maintenance Schedule
- 8.3 Appendix C - Reference Documents

1.0 INTRODUCTION

1.1 Project Background

This Landscape Management Plan has been prepared to fulfill the minister's condition B38 of the approved WOW CFC development at Percy Street, Auburn. Condition B38 states:

B.38 Prior to the commencement of operation, the Applicant must prepare a Landscape Management Plan to manage the revegetation and landscaping works on-site. The plan must:

- (a) detail the species to be planted on-site, incorporating locally native species;
- (b) describe the monitoring and maintenance measures to manage revegetation and landscaping works;
- (c) be consistent with the Applicant's Management and Mitigation Measures at Appendix 2; and
- (d) be approved by the Planning Secretary prior to the commencement of operation.

1.2 This Report and Author

Geoscapes Pty Ltd, has been commissioned by Vaughan Constructions, to produce a Landscape Management Plan (LMP) for the above mentioned development. This LMP has been written by Ben Gluszkowski, Director of Geoscapes and Registered Landscape Architect.

Geoscapes prepared the original approved SSD 10470 landscape visual impact assessment and landscape design drawings. Subsequently Geoscapes also provided landscape documentation for SSD-10470-Mod-1, (landscape design drawings SSD-01 to SSD-12) and more recently, landscape tender and construction documentation (LCON-000 to LCON-603). These documents detail landscape treatments to the site, and should be read in conjunction with this report.

1.3 The Role of this Landscape Management Plan

The site contains a single warehouse, office building and multi-level car parking. Providing a high quality landscape to the street frontage and alongside Haslams Creek, is an important part of the development. The visual appearance and scale of the built form can be reduced with the introduction of native tree and shrub species. The ongoing management of landscape buffer zones is therefore, fundamental in creating and maintaining visual mitigation of the development at present and into the future. Using endemic native planting will also provide a small habitat for native birds and animals.

1.4 Areas to which this Plan Applies

This plan will apply to all landscape areas within the site boundary, these are predominantly:

Western boundary adjacent to Percy Street
Eastern boundary adjacent to Haslam's Creek
Planting to Level 1

1.5 Landscape Maintenance Responsibility

The Landscape Contractors engaged by Vaughan Constructions will hold the first level of responsibility for the implementation of the Landscape Management Plan. The on-going, day-to-day implementation, monitoring and reviewing of the LMP will be undertaken by Woolworths.

1.6 Landscape Management Principles

The following landscape management principles have been identified as being consistent with the approved SSD Modification Landscape Design Drawings and Construction Drawings:

- Maintain the integrity of the topsoil capping layer (over contaminated soils) to the landscape setback to Haslams Creek following extreme

weather events.

- Minimise environmental impacts that may result from landscape management activities and utilise environmentally sustainable practices. Disturb only the minimum area necessary.
- Control dust with best management principles.
- Water sprays and/or covers would be employed for material stockpiles, particularly during adverse weather conditions, to minimise dust generation.
- Stockpiles should be covered overnight.
- Mark clearance boundaries prior to commencement of construction to ensure that there is no unnecessary removal of vegetation.
- Strengthen, enhance and promote local character with the incorporation of native endemic planting.
- A low water use, low maintenance approach with the use of native species.
- Provide clear site lines for trucks and vehicular users.
- Provide a safe environment, minimising potential risks to people, buildings and property.
- Best practice landscape maintenance in landscaped areas.
- Target noxious weeds and feral animals through the use of integrated pest management approaches.
- Appropriately fund, plan and manage landscape maintenance to provide sufficient resource to achieve a long term quality landscape.

1.7 Report Structure

This report is to be read in conjunction with the following documents:

- Landscape Documentation for State Significant Development Modification - SSD 10470 - 2021, prepared by Geoscapes Landscape Architects Dwg No's SSD-00 to SSD-12.
- Landscape Construction Drawings Dwg No's LCON-000 to LCON-603 and LSP01.
- Remediation Action Plan (RAP) prepared by Geo-Logix (Dated 4th Feb 2021)
- Long-Term Environmental Management Plan (LTEMP) prepared by Geo-Logix (Dated 18th April 2024)
- Interim Audit Advice Letter No. 3 - Remediation Action Plan prepared by Ramboll (Dated 10th Feb 2021)
- Contractors Environmental Management Plan (CEMP).
- SSD 10470 Appendix C Applicant's Management and Mitigation Measures.

Section 1.0 provides an introduction to the LMP

Section 2.0 describes the general site conditions

Section 3.0 describes the design compliance

Section 4.0 describes specific landscape types

Section 5.0 describes management activities common to all landscape areas

Section 6.0 describes protective measures for trees and vegetation

Section 7.0 monitoring and reporting

The report is structured into two main maintenance categories:

1. Specific Landscape types – Those maintenance activities that are specific to particular landscape types. The specific landscape types are:

Buffer Zones and Street Frontage - These are planted with native grasses or groundcovers; and mass planting areas -These may be composed of single species plantings or mixes which may include trees shrubs and groundcovers.

2. All areas of the site – Those maintenance activities that apply to all areas of the across the site. These activities include:

- a. Disease and Insect Control
- b. Irrigation

1.8 Intensity of Use

A key factor in the frequency and types of landscape maintenance activities required for particular areas is the intensity of their use.

Buffer Zones

Buffer planting areas are located to the east of the site and also mass planted areas to the west along the street frontage. These areas are generally areas of low activity.

Areas of mass planting are not generally susceptible to compaction from pedestrian usage therefore, heavier textured soils can be used.

2.0 GENERAL SITE CONDITIONS

2.1 Contaminated Soils

Landscaping areas on site contain asbestos. These have been treated as per the RAP report and any landscape contractor must read the RAP and LTEMP report in conjunction with this LMP. This LMP, the RAP & LTEMP reports must be kept in a known location (i.e. site managers office), be easily accessible and be read by all staff/contractors assigned to be working in areas of contaminated soils. A clean imported topsoil capping layer has been applied to the landscape area along the eastern boundary to a depth of 300mm. All maintenance work is to be carried out in accordance with the OH&S manual for the site.

2.2 Soil

Geo-technical testing in 2019 indicated that the western area of the site is underlain by Triassic age Ashfield shale of the Wianamatta Group comprising black to dark grey shale and laminate. On the eastern portion of the site, surficial geology is mapped as Quaternary age alluvium comprised of silty to peaty quartz sand, silt, and clay with occasional ferruginous and humic cementation and common shell layers.

SITE TOPSOIL

None available for reuse, therefore, all topsoil should be imported.

NATURAL SOIL

Subsurface soils generally comprise of soft to stiff clay soil extending to Ashfield shale at depths of between 0m-8m below existing ground

surface levels. All subsoils be tested by a professional tested such as SESL and ameliorated as required or imported. Due to the high presence of clay at the surface and the high water table soils may have poor drainage. Type B – low permeability soils were identified and sub-soil drainage should be installed to all planting areas.

SALINITY

It was assessed that the majority of soils on site were classified as “non saline to moderately saline”.

PH

Of the seven samples tested in the Geotechnical report, pH ranged from 6.1 to 8.3. The PH will likely be required to be altered to support Australian Natives that require a PH of around 5.0 to 5.5. This can be achieved by ameliorating the soils as per recommendations within soil testing reports.

2.2 Existing Vegetation

All existing trees within the area of the construction site should be protected as per the Arborist report and AS 4970 Protection of trees on development sites.

3.0 PROPOSED PLANTING SPECIES AND DESIGN COMPLIANCE

3.1 Ground Floor Mass Planted Areas

All landscape buffer zones will be mass planted with trees, shrubs and groundcovers are predominately endemic to the local area. These are listed in the schedule within section 3.2 and the landscape construction documentation should be read in conjunction with these. Plant species follow recommendations within the ecological report by Ecological and are consistent with condition of consent B.38. They are intended to create layered planting to visually break up the dominance of the build form. The density of planting should ensure that once established, weed infiltration is reduced.

3.2 Tree Works (As per Appendix 3 - Applicant's Management and Mitigation Measures)

Approved removal of trees shall be undertaken by an experienced Certified AQF Level 3 Arborist in accordance with Safe Work Australia Code of Practice 'Guide to Managing Risks of Tree Trimming and Removal Work'.

Prior to the installation of the onsite detention (OSD) tank, a root investigation by Non-Destructive Excavation (NDE) be carried out to map roots of nearby stand of Eucalyptus moluccana.

All new trees to be planted shall:

- Be located in such a way that at maturity the canopies will be clear of the projected mature canopies of existing trees.
- Tree stock will be grown in accordance with AS2373 Tree Stock and Specifications for Landscape Uses and the supplying nursery shall provide certification in relation to compliance.
- Planted by an AQF Level 3 Arborist or AQF Level 3 Horticulturalist
- Maintained and watered as required by an AQF Level 3 Arborist or AQF Level 3 Horticulturalist after planting for 12 months.
- All excavation within the Tree Protection Zone (TPZ) of any tree shall be undertaken as directed by the Project Arborist.

3.3 Planting Schedule

PLANT SCHEDULE - FRONT SETBACK & FIRST FLOOR							
CODE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT	SYDNEY TURPENTINE IRONBARK FOREST SPECIES	SIZE	PLANTING DENSITY	QTY**
Trees							
CUP ANA	<i>Cupaniopsis anacardioides</i>	Tuckeroo	8-15m	✓	100lt	As Shown	9
Shrubs & Hedges							
ACM all	<i>Acmena smithii</i> 'Allyn Magic'	Lilly Pilly	0.5m		200mm	450mm ctrs	16
ACM smi	<i>Acmena smithii</i> 'Sublime'	Lilly Pilly	1.5m*		200mm	750mm ctrs	206
CAL whi	<i>Callistemon citrinus</i> 'White Anzac'	White Bottlebrush	1.5m		200mm	1500mm ctrs	47
COR ref	<i>Correa reflexa</i> 'Bellissimo' TM	Correa	0.5m		200mm	500mm ctrs	154
FIC ela	<i>Ficus elastica</i> 'Burgundy'	Rubber Plant	2-3m		200mm	As Shown	1
RHA exc	<i>Rhapis excelsa</i>	Rhapis Palm	2-3m		200mm	As Shown	9
WES blu	<i>Westringia</i> 'Blue Gem'	Native Rosemary	1-1.5m		200mm	750mm ctrs	77
WES gre	<i>Westringia</i> 'Grey Box'	Native Rosemary	0.45m		200mm	450mm ctrs	152
Grasses & Groundcovers							
ANI gol	<i>Anigozanthos</i> 'Gold Velvet'	Kangaroo Paw	0.5m		140mm	4/m2	140
ANI rub	<i>Anigozanthos</i> 'Ruby Velvet'	Kangaroo Paw	0.4m		140mm	4/m2	233
DIA cae	<i>Dianella caerulea</i>	Blue Flax Lily	0.7m	✓	Tubestock	5/m2	273
DIA rev	<i>Dianella revoluta</i>	Native Flax Lily	0.6m	✓	Tubestock	5/m2	246
ERE gla	<i>Eremophila glabra</i>	Tar Bush	0.3m		140mm	3/m2	54
HAR min	<i>Hardenbergia violacea</i> 'Mini Ha Ha'	False Sarsparilla	0.15-0.3m		140mm	3/m2	416
LUB pan	<i>Libertia paniculata</i>	Grass Flag	0.5m		Tubestock	4/m2	126
LIR mus	<i>Liriope muscari</i> 'Evergreen Giant'	Turf Lily	0.6m		Tubestock	5/m2	152
LOM tan	<i>Lomandra longifolia</i> 'Tanika'	Spiny Mat Rush	0.5-0.6m		Tubestock	5/m2	193
PEN alo	<i>Pennisetum alopecuroides</i> 'PA300'	Nafray Pennisetum	0.6m		Tubestock	5/m2	206
SEN row	<i>Senecio rowleyanus</i>	String of Pearls	0.3m		140mm	7/m2	11
VIO hed	<i>Viola hederacea</i>	Native Violet	0.3m		140mm	3/m2	313
Climbers & Trailing plants							
DIC sil	<i>Dichondra argentata</i> 'Silver Falls'	Silver Falls Dichondra	Trailing		140mm	7/m2	21
TRA jas	<i>Trachelospermum jasminoides</i>	Star Jasmine	Climber		140mm	400mm ctrs	87
* Hedges to be clipped to recommended height							

PLANT SCHEDULE - REAR 10M WIDE SETBACK (MATRIX M1 PLANTING)							
CODE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT	SYDNEY TURPENTINE IRONBARK FOREST SPECIES	SIZE	PLANTING DENSITY	QTY**
Trees							
EUC PAN	<i>Eucalyptus paniculata</i>	Grey Ironbark	30m	✓	Tubestock	As Shown	9
MEL STY	<i>Melaleuca styphelioides</i>	Prickly Paperbark	20m		Tubestock	As Shown	6
SYN GLO	<i>Syncarpia glomulifera</i>	Turpentine Tree	30m	✓	Tubestock	As Shown	9
Shrubs & Hedges							
DOD tri	<i>Dodonaea triquetra</i>	Hop Bush	2-3m	✓	Tubestock	As Shown	28
IND aus	<i>Indigofera australis</i>	Native Indigo	2m	✓	Tubestock	As Shown	28
KUN amb	<i>Kunzea ambigua</i>	Tick Bush	2-3m	✓	Tubestock	As Shown	28
MEL nod	<i>Melaleuca nodosa</i>	Prickly Leaved Paperbark	3m	✓	Tubestock	As Shown	28
OZO dio	<i>Ozothamnus diosmitifolius</i>	Rice Flower	2.5m	✓	Tubestock	As Shown	28
PUL vil	<i>Pultenea villosa</i>	Hairy Bush Pea	1.5-2m	✓	Tubestock	As Shown	28
Grasses & Groundcovers							
DIA cae	<i>Dianella caerulea</i>	Blue Flax Lily	1m	✓	Tubestock	6/m2	1479
HAR vio	<i>Hardenbergia violacea</i>	False Sarsparilla	0.3m	✓	Tubestock	3/m2	348
LOM lon	<i>Lomandra longifolia</i>	Spiny Mat Rush	0.5-0.6m	✓	Tubestock	6/m2	1009
MIC sti	<i>Microlaena stipoides</i>	Weeping Grass	0.7m	✓	Tubestock	6/m2	1479
THE aus	<i>Themeda australis</i>	Kangaroo Grass	0.8m	✓	Tubestock	6/m2	1009

4.0 SPECIFIC LANDSCAPE MANAGEMENT ACTIVITIES

4.1 Eastern Landscape Contaminated Area

A topsoil capping of 300mm depth has been placed over contaminated soils to the landscape area between the hardstand and the eastern site boundary. As per the RAP & LTEMP the capping layer depth must be maintained at all times, with the intention that following the establishment of landscape planting the soil will bind and erosion of the capping layer will be prevented. In order to achieve this outcome it is crucial that the area is regularly inspected and the following tasks are carried out:

- The area **MUST** be inspected following heavy rain events for erosion of the soil profile. This is particularly important during the establishment phase of plant stock.
- Replace any topsoil lost back to 300mm depth.
- Reinstate any planting, moved / lost and reinstate mulch layer.

Following establishment (12-24 months), the area should continue to be regularly inspected to ensure landscape planting is continuing to bind the soil and prevent erosion. Any issues should be reported immediately to the site manager and rectified within 7 working days.

4.2 Buffer Planting around Hard Stand and Car Parking Areas

Mass planting areas vary in appearance from mass plantings of single species (eg. *Lomandra* sp., *Dianella* sp.) to more complex beds containing advanced trees, low and tall shrubs and ground covers. Planting sizes can include tubestock up to super advanced or semi-mature container sizes. All mass planted beds are planted with native species.

The key differences in the management of native plants are their requirement for low-phosphorous fertilisers and a lower fertiliser rate than exotic species generally. Plants of the Pea group (including *Acacias*, *Daviesia* and *Pultenaeas*) and *Casuarinas* are also able to fix their own Nitrogen. Natives also have lower water requirements in comparison to exotics and are adapted to the harsher Australian conditions.

Endemic native plants will tolerate site soils without amendment better than exotics, and if fertilisers are added there may be a lesser invasion by exotic weeds.

For the above reasons native plantings make a more sustainable option in respect of the long term landscape management and should their be failures the original species specified on the landscape plans should always be reused before exotic species.

The edges of the beds will be usually defined by a concrete path or concrete kerb. Beds shall be weed free and mulched annually to suppress weed growth and retain moisture content within the soil.

Pruning will be carried out on shrubs and trees that require it according to species to remove the dead and damaged branches and to retain natural shape and to improve health and vigour. Where die-back of plant material has been identified new plants will be planted as soon as possible, using species originally specified or that maintain the character and continuity of the planting.

4.3 Soil Management for Buffer Planting Areas

Areas of native mass planting require a sandy loam to clay loam topsoil mix which is suitable for the planting of grasses, woody and herbaceous perennials and trees. The following mix is suitable for plants that do not have high nutrient requirements and are not susceptible to compaction. Note that if phosphorous sensitive natives are used, the phosphorous levels of all components must be checked for suitability. Additional drainage may be required depending on the situation.

The following table outlines suggested components, that may likely meet the physical requirements of the soil for the buffer planting areas:

Sandy loam soil or site won topsoil Composted soil conditioner conforming with AS 4454	70-100% by volume 0-30% by volume	e.g. 8 parts washed sand/2 parts sandy loam/1 part AS 4454 compost
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(Leake and Haeger 2014, p.87)

4.4 Soil Management for Trees

Wherever trees are to be planted it is important to understand whether the existing in situ topsoil can be used as backfill, whether new topsoil, soil mix, soil conditioner or amendments needs to be imported, or if a mix of the above is best.

In general, the greater the soil/subsoil depth (the effective root depth) - the larger the tree that can be supported with minimal maintenance. The ideal soil profile for trees will have at least 3 horizons where the "A" horizon is the topsoil, the "B" horizon is Subsoil and the "C" horizon is the Subgrade. The minimum recommended topsoil depth for trees is 300mm with a minimum subsoil depth of 200mm. This will provide the tree with the minimum moisture/nutrient reserve and anchorage capacity.

In addition to a physical inspection of the soil to be used to assess field texture and structure and drainage capability, soils should also be analysed by a soil laboratory for the following properties at a minimum:

- pH
- Salinity (electrical conductivity)
- Cation exchange properties and exchangeable cations
- Major and minor nutrients
- Organic matter (%)

Where tree specimens in container sizes 25 litres or larger are to be planted, the subsoil should also be tested for:

- pH
- Salinity (electrical conductivity)
- Cation exchange properties and exchangeable cations
- Aggregate stability.

The most common amendments used to bring soils up to a standard suitable for plant growth are:

- Lime or dolomite to make acid pH soils more alkaline.
- Lime or Gypsum to enhance exchangeable calcium and eliminate sodicity
- Gypsum to make clay soils more friable
- Composts and/or manures to improve organic matter and nutrients levels
- Single or complete fertilisers often with trace elements to correct a particular deficiency or multiple deficiencies.

It is important that the backfill soil is returned in the layers in which it was excavated so that topsoil with organic content is placed back near the top 300mm of the backfill. If this is not carried out correct anaerobic conditions can occur. Where the existing site topsoil backfill is unsuitable or insufficient it can be made up with:

Sandy loam soil or site won topsoil Composted soil conditioner conforming with AS 4454	70-100% by volume 0-30% by volume	e.g. 8 parts washed sand/2 parts sandy loam/1 part AS 4454 compost
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(Leake and Haege 2014, p.87)

Where the tree pit is deeper than 300mm (usually for trees in containers over 45 litres) and the existing site subsoil is unsuitable or insufficient a topsoil medium low in organic matter is required so that the organic matter does not "sour" at depths where there is less oxygen, it can be made up with a sandy, well-drained medium which contains low organic matter. An example of the components may be:

Sandy loam On-site clay loam or clay topsoil or subsoil Composted soil conditioner conforming with AS 4454	60-80% by volume 20-30% by volume <10% by volume
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(Leake and Haege 2014, p.96)

4.5 Fertilising, Composting and Mulching

To ensure the health and vigour of mass plantings are maintained. All mass planted areas whether native or exotic will perform better when the soil conditions are healthy. Building healthy soils is the key to achieving the long term maintenance goals of mass planted landscape areas. Soil health is primarily achieved with regular applications of organic soil conditioners such as animal manures, decomposed green waste or proprietary blends of compost.

Fertilising and composting are not critical maintenance activities except where there are obvious deficiencies, but should be assessed on an annual basis by observation and leaf analysis.

4.6 Pruning

Ground cover and shrubs should be maintained at a maximum height of 0.5 m along path edges for personal security. Remove dead or dying plant material from mass planted areas on the site as required. This may become necessary as plantings mature, after damage or adverse environmental conditions.

4.7 Weeding

Weeding is often a concern in new areas of landscape planting. As of 1 July 2017 the NSW Noxious Weeds Act 1994 was repealed and replaced with the NSW Biosecurity Act 2015 and its accompanying Biosecurity Regulations. Under the act, plants are no longer termed "noxious weeds" nor do they have "classes" of weeds. The new legislation provides greater flexibility to respond to, manage and control all weed species. All plants are assessed for their biosecurity risk. This is the risk that the introduction, presence, spread or increase of a plant will have, or may potentially have, an adverse effect on the economy, the environment or the community.

Environmental weeds are non-local plants that can invade and change natural areas and threaten the survival of native plants and animals. After land clearing, environmental weeds are considered to be the next greatest threat to our indigenous biological diversity. Environmental weeds have the potential to readily invade planting bed areas and potentially impact on the adjacent lands.

In addition to the environmental hazard posed by weeds, weeds occurring in mass planted beds, growing from the base of trees and from pavements can be unsightly and presents an untidy appearance.

Appendix 1 of the Greater Sydney Regional Strategic Weed Management Plan 2017-2022 lists all priority weeds for the Greater Sydney region that have prescribed requirements under the NSW Biosecurity Act 2015. It also lists other regional priority weeds and the minimum outcomes that demonstrate compliance with the general biosecurity duty.

NSW WeedWise is a NSW Department of Primary Industry website which profiles over 300 high priority weeds across the State and Greater Sydney Region. It describes the Biosecurity duty required under the Biosecurity Act 2015 for each plant and outlines their methods of control (including registered herbicide options).

Another guide for the control of weeds on the site is the New South Wales Weed Control Handbook a guide to weed control in non-crop, aquatic and bushland situations NSW DPI management guide, seventh edition.

A copy of the handbook can be downloaded at the link:

https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0017/123317/weed-control-handbook.pdf

To ensure that environmental weeds do not reproduce within or spread into mass planted areas, compete with plantings and spread to other areas such as Haslams Creek, weeding and weed control is considered to be a critical maintenance action.

Weed Maintenance Action Required	Frequency
Prevent reproduction of weeds by destroying seedlings and established weeds before seed set or other propagules form. Remove by hand in the first instance (where infestations are low). Ensure that the entire weed including all roots is removed. Dispose of the weeds off site.	2 Weeks or Monthly
Remove by Herbicide application any weeds which cannot be controlled by hand removal. Herbicide application must occur before weed seed set. Non-target species and areas must be reinstated if damaged by herbicide application.	
Herbicide use to be in accordance with regulation rates and manufacturers recommendations. Herbicide use must comply with the requirements of the Noxious and environmental weed control handbook. a guide to weed control in non-crop, aquatic and bushland situations. NSW Department of Primary Industry Management Guide, Seventh Edition.	
After spraying, lop any dead weeds flush with the ground surface and dispose of the cuttings.	2 Weeks or Monthly
Use of bio-degradable herbicide is mandatory	

5.0 IRRIGATION, DISEASE AND INSECT CONTROL

5.1 Irrigation

It is recommended that the eastern planting area adjacent to Haslams Creek has a temporary irrigation system installed to help establish vegetation within the first 6 months after planting.

All other landscape areas are to have a permanent subsurface irrigation system to minimise water use and evaporation. The irrigation system

to be designed, supplied and installed by an experienced specialist irrigation sub-landscape contractor, nominated by the Landscape Contractor and approved by the Head Contractor or their landscape consultant. After selection they will be required to prepare detailed irrigation plans and specification for approval prior to commencing work. The Landscape Contractor will co-ordinate the irrigation installation to the client / landscape architects approval. Ensure completion of the irrigation system before the commencement of any other landscape works, so as to provide a readily available supply of water to planting areas.

Upon completion of the installation of irrigation works, the Landscape Contractor is to run through the system to ensure that it is operating correctly and instruct the client's representative in the correct operation and maintenance of the system. Manuals, warranties, and a minimum of two programs, summer and winter are to be provided to the client's representative at the time of completion.

At the completion of the installation the landscape contractor must provide complete dimension drawings, based on the approved design plan of the entire irrigation system as executed, clearly indicating the type and location of all sprinkler lines, heads, etc. This is essential to ensure that the irrigation lines and valve boxes can be located for repair and replacement. Works-as-Executed irrigation drawings should be given to the client.

The following principles are to apply:

Maintain adequate soil moisture – match supplemental irrigation water needs to climate conditions and available soil water
Water effectively – apply water so that it reaches the root systems with minimal losses
Encourage extension of the root system – apply water to extremity of root system and beyond
Remove competition for water – maintain mulch around the plants

5.2 Disease and Insect Control

Always consider biological and non-chemical controls in favour of chemical controls in the first instance because the margin for error is far greater with chemicals. For example most insecticide will also harm beneficial insects as well as the target species.
For a comprehensive reference to the identification, diagnosis and control of pests and diseases refer to "What Garden Pest or Disease Is That? Organic and Chemical Solutions for Every Garden Problem" by Judy McMaugh 2000 New Holland.

6.0 PROTECTIVE MEASURES

6.1 Erosion, Contamination and Sedimentation Control

NOTE: The site contains areas of existing asbestos contamination which have been capped using topsoil, the contractor should refer to the RAP & LTEMP reports for further details. ALL MAINTENANCE WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE RAP AND THE OH&S MANUAL FOR THE SITE WITH SPECIAL MEASURES ADOPTED FOR WORKING IN CONTAMINATED AREAS.

During construction, all precautions necessary should be undertaken to prevent erosion, contamination, and sedimentation of the site, surrounding areas and drainage systems, including but not limited to the following:

- Construction of temporary drains and catch drains
- Diversion and dispersal of concentrated flows to points where the water can pass through the site without detrimental impacts
- Construction and maintenance of silt traps to prevent discharge of scoured material to downstream areas

- Stabilisation of exposed soil surfaces
- Use of erosion and sediment control measures to collect sediment and to reduce flow velocities
- Construction of temporary fencing
- Regular monitoring and maintenance of all erosion and sediment control structures throughout the construction and operational phases of the development to ensure their effective function.
- Regular inspections of the eastern landscaping area adjacent to eastern boundary. Soil capping depth is to be maintained as per documented in the RAP and LTEMP.

7.0 MONITORING AND REPORTING

General maintenance tasks are described in the Landscape Technical Specification document 220204_LCON_SPC_LSP01. A Maintenance Schedule for the maintenance period is also included in Appendix B of this report. A log book should be used to record daily/weekly/monthly visits. All maintenance actions should be recorded in the log book and this should be made available upon request.

Regular inspections of all landscape areas should be undertaken initially by the appointed contractor and then estate maintenance teams following handover. This is to ensure that maintenance is carried out according to the plan. Inspections should include the ongoing protection of revegetation works during its establishment period.

Monitoring and reporting that is essential and **MUST** be carried out with relation to contaminated areas:

- The condition of eastern landscape area is to be reported following storm events and details of subsequent rectification works.
- Regular inspections and reporting on the effectiveness of landscape planting to bind the surface of the eastern landscape area and prevent erosion of the surface. Recommend rectification if required.

8.2 Appendix B - Maintenance Schedule

CATEGORY	TIMEFRAMES / FREQUENCY				Tasks and Specification
	Daily/Weekly	2 Weekly/Monthly	3 to 6 Months	As Required	
1. Eastern Landscape Area	✓			✓	Complete inspections after heavy storm events. Replace topsoil to required depth if required to ensure correct capping depth over contaminated areas are maintained. Replace failed/lost plant stock. To be actioned within 7 days
2. Weeding and Rubbish Removal		✓			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. Dispose of any waste material using appropriate methods and at designated disposal sites. Maintain weeds for a period of 12 months,
3. Leaf Litter Removal		✓	✓		Remove leaf litter as per Bushfire recommendations. Remove leaf litter from pathways
4. Mulching		✓	✓		Reapply mulch to maintain to a depth of 75mm in areas that are deficient. Soil should be aerated before placing mulch. After 12 months, mulching will have broken down and should be topped up to ensure a depth of 75mm. A slow release, low phosphorous fertiliser should also
5. Plant Fertiliser			✓		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
6. Pest & Disease Control		✓		✓	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
7. Pruning, Trimming, Stakes and Ties		✓			Remove deadwood, remove suckering roots from rootball, check ties. Improve plant shape and promote new growth. Adjust ties and stakes as necessary. Stakes can be removed once plants are self-supporting. Notify in writing to Management any perceived need for tree structural work. Adjust ties and stakes as necessary
8. Plant Removal & Replacements		✓			Inspect for failed or dying plants requiring replacement and record probable cause. Replant after dead or failed plant removal. Densities, sizes and species to be in accordance with Landscape Plans LCON-000 and relevant drawing sheet no. Water replacement plantings for a minimum of 12 weeks after planting
9. Urgent Works	✓				To be actioned within 7 days.
10. Watering	✓	✓			Water as necessary every day especially during periods of hot weather. 2 week interval watering should be maintained until planting is fully established. Best practice watering is early morning or late afternoon to reduce evaporation

8.3 Appendix C - Reference Documents

The following Australian Standards are referred to in this report:

- AS 1319 Safety signs for the occupational environment
- AS 4373 Pruning of amenity trees
- AS 4454 Composts, soil conditioners and mulches
- AS 4687 Temporary fencing and hoardings
- AS 4970 Protection of trees on development sites

The following documents are referred to in this report:

- Landscape Documentation for State Significant Development Modification - SSD MOD 3, 2021, prepared by Geoscapes Landscape Architects Dwg No's SSD-00 to SSD-12.
- Landscape Construction Drawings Dwg No's LCON-000 to LCON-603 and LSP01, prepared by Geoscapes Landscape Architects.
- Remediation Action Plan (RAP) prepared by Geo-Logix (Dated 4th Feb 2021)
- Long-Term Environmental Management Plan (LTEMP) prepared by Geo-Logix (Dated 18th April 2024)
- Interim Audit Advice Letter No. 3 - Remediation Action Plan prepared by Ramboll (Dated 10th Feb 2021)
- Contractors Environmental Management Plan (CEMP).
- SSD-10470 Appendix 3 Applicant's Management and Mitigation Measures.
- Noxious and environmental weed control handbook a guide to weed control in non-crop, aquatic and bushland situations. NSW Department of Primary Industry Management Guide, Seventh Edition.
- Soils for Landscape Development. Selection, Specification and Validation. Simon Leake and ELke Haege. CSIRO Publishing 2014.
- What Garden Pest or Disease Is That? Organic and Chemical Solutions for Every Garden Problem. Judy McMaugh 2000 New Holland.