

EMERALD ESTATE PLAINLAND

39 PAT'S ROAD AND 10 SCHEIWE ROAD, PLAINLAND

Revision: A 11 MAY 2022

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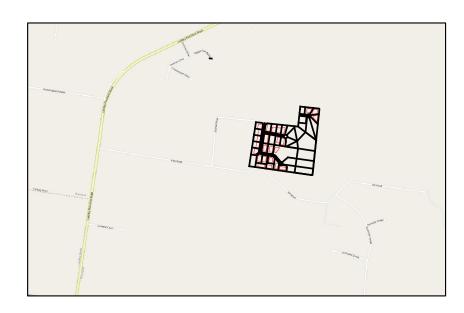
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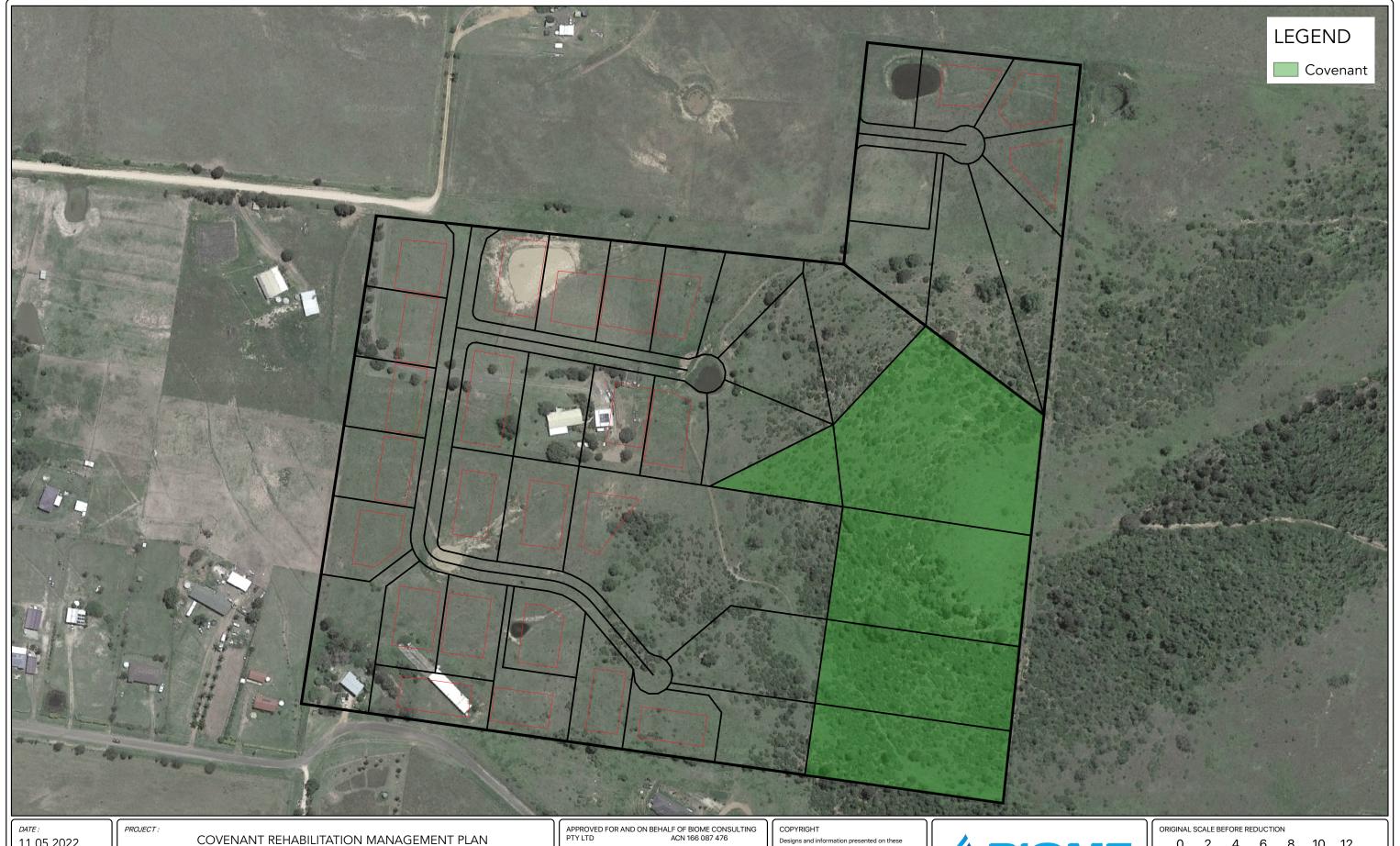


Project: BC-22008

SUNSTONE HOMES



	SCHEDULE OF DRAWINGS
Drawing No.	Drawing Title
CRMP-01 CRMP-02 CRMP-03 CRMP-04 CRMP-05 CRMP-06 CRMP-07	Covenant Location Covenant Management Rehabilitation Zone Planting Palette and Module Rehabilitation Procedures Weed Control Management and Monitoring



11.05.2022 PROJECT No.: BC-22008 DRAWING No.: CRMP-01 REVISION No.:

COVENANT REHABILITATION MANAGEMENT PLAN DRAWING TITLE: COVENANT LOCATION

CLIENT: SUNSTONE HOMES

ADDRESS: EMERALD ESTATE PLAINLAND

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#### **IINTRODUCTION**

This Covenant Rehabilitation Management Plan (CRMP) has been prepared to guide the rehabilitation and on-going management of the covenant area of Emerald Estate Plainland.

The overarching intent of the covenant is to protect matters of environmental value, specifically, threatened flora and steep slopes.

#### PURPOSE OF THE COVENANT

The purpose of the covenant area is to:

- Provide a setback from habitat of threatened flora and steep slopes to future development;
- Provide habitat for native flora and fauna;
- Provide clear access for the Lockyer Valley Regional Council Officers to ensure the landholder/developer and successors in title, or their agents, do not intentionally or wilfully clear, damage or destroy any area relating to the conservation of the physical feature or natural feature subject of the covenant; and
- Ensure the ongoing management and maintenance of the covenant area is in accordance with an approved Covenant Rehabilitation Management Plan.

#### SCOPE AND AIMS OF THE COVENANT REHABILITATION MANAGEMENT PLAN

This CRMP aims to ensure that the nominated covenant area is rehabilitated and managed to protect its ecological function.

This plan of management specifies initial rehabilitation requirements and identifies permitted and restricted activities within the covenant area. This CRMP details ongoing management, maintenance and monitoring requirements to ensure that environmental values of the covenants are being maintained by current and future landholders.

It is the landowners' responsibility to ensure all rehabilitation works are executed and maintained; to reduce weed occurrences and sustain the ongoing viability and ecological values of the covenant area.

# LANDHOLDER OBLIGATIONS

A Statutory Environmental Covenant is a legally binding written agreement to protect, preserve and enhance environmental features on private property. These agreements are entered into between a Covenantee (property owner) and the Covenantor (Lockyer Valley Regional Council) and are registered against the title and survey plan of a property. They are administered under the Land Titles Act 1994. By registering a covenant on the title of the lot, the Covenantee commits to maintaining, managing and rehabilitating (where required) the covenant areas.

All reasonable measures are to be undertaken to ensure that any person occupying or undertaking any activities within the covenant areas complies with this CRMP.

#### **DEFINITIONS**

Covenant area: As identified in the figure on this page.

Covenantor: Lockyer Valley Regional Council.

Covenatee: Current or any future landholder of the lot over which the covenant is located.

CRMP: Covenant Rehabilitation Management Plan.

# **COVENANTEE RESPONSIBILITIES**

Surveying of the covenant boundary is required as part of the covenant registration process with the Department of Resources. It is recommended that survey pegs installed at appropriate locations to clearly define the covenant extent. Upon any future transfer of ownership of the land to which this CRMP applies, the vendor of the land shall ensure that the buyer is made aware of the covenant and the requirements of this CRMP.

It is the responsibility of the properly owner to:

- a) Retain and protect native vegetation within the covenant;
- b) Ensure no prohibited activities are undertaken within the covenant; and
- c) Undertake rehabilitation, including weed control and monitoring, as identified in this CRMP.

# PROHIBITED ACTIVITIES

To minimise impacts and maintain the integrity of the covenant, the following activities are prohibited:

- Clearing, lopping or removal of any native vegetation, whether existing at the date of this approval or planted pursuant to conditions of this approval:
- Bushfire hazard reduction beyond that specified in any approved Bushfire Management Plan;
- Erection of any fixtures or improvements, including buildings, water tanks or other structures;
- Construction of any new trails or paths;
- Depositing of any fill, soil, rock, rubbish, ashes, garbage, waste or other material foreign to the covenant area;
- Livestock grazing;
- The construction or location of any effluent disposal system; and
- Performance of any other acts which may have detrimental impact on the values of the covenant area.

# PERMITTED ACTIVITIES

The activities described below are permitted within the covenant area. Should any other activities be required to be undertaken within the covenant, the Lockyer Regional Council is to be contacted to ascertain the requirement for any further approvals.

#### Weed Control

Weed control is to be conducted in the covenant area as required.

### Fence Installation, Maintenance or Repair

Domestic livestock are to be excluded from the covenant area. If livestock is to be kept on adjacent allotments, exclusion fencing of suitable height and dimensions is to be constructed along the covenant boundaries to prevent access.

Fencing is to be "fauna friendly" and consist of a three-strand plain wire fence, with the wire height selected to ensure movement for native fauna. It is recommended that the bottom wire be at least 50 cm above ground level. Barbed wire is not to be used.

# RESPONDING TO A MANAGEMENT BREACH

The covenant area is required to be monitored and any breach rectified (e.g., fence in disrepair, weed incursion, livestock access).

In the event that the Covenantee does not respond to an identified breach, a written directive from the Covenantor may be issued to remedy the non-compliance. The Covenatee must respond to this written directive within 20 calendar days, or the time frame specified in the direction.

If, within this timeframe, the breach has not been corrected, Council officers, or their agent, may enter the covenant area, remedy the breach by undertaking works in accordance with this CRMP and recover the costs of doing so.

#### DURATION OF THE COVENANT REHABILITATION MANAGEMENT PLAN

This CRMP remains in effect indefinitely unless changes are submitted to the Lockyer Regional Council and are approved to the satisfaction of the Chief Executive Officer.

The CRMP is to be reassessed every five years or as necessary. It is to be reviewed in consultation and agreement with the owner of the property and may be amended pursuant to that review.

# AMENDMENT OF THE COVENANT REHABILITATION MANAGEMENT PLAN

This CRMP may be amended (e.g., to update management strategies to accord with future accepted best practice, or to undertake adaptive or reactive management) with the written agreement of the Lockyer Valley Regional Council. All amendments, however, must:

- Be consistent with the purpose of the covenant;
- Not alter the covenant area; and
- Not add or remove a party to the covenant.

Any amendments made to this CRMP as a result of monitoring, must be submitted to the Lockyer Regional Council to be assessed and approved to the satisfaction of the Chief Executive Officer, with the amended copy stamped and returned to the Covenantee.

DATE: 11.05.2022	_
PROJECT No.: BC-22008	
DRAWING No.: CRMP-02	
REVISION No.:	

COVENANT REHABILITATION MANAGEMENT PLAN

DRAWING TITLE:

COVENANT MANAGEMENT

CLIENT:

SUNSTONE HOMES

ADDRESS:

EMERALD ESTATE PLAINLAND

DRAFTED BY:
NL

DESIGNED BY:
NL

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# **REHABILITATION STRATEGY**

This Rehabilitation Management Plan (RMP) has been prepared to set out the rehabilitation approach at Emerald Estate Plainland.

This rehabilitation strategy has been designed to protect matters of environmental value, specifically steep slopes and threatened flora.

#### **REHABILITATION OBJECTIVES**

The fundamental rehabilitation objective is to assist in the recovery of an ecosystem that has been degraded, damaged, or destroyed. The key aspect of ecological restoration is to return the structure and function of an area to a self-sustaining state and reduce human-directed activity over time.

The specific objective of this RMP is to:

• Remove invasive weeds and allow for regeneration of pre-clearing vegetation communities. This will, in turn, enhance habitat values of the site.

#### REHABILITATION APPROACHES

The South East Queensland Restoration Framework Manual identifes four ecological restoration approaches:

- 1. Natural regeneration;
- 2. Assisted natural regeneration;
- 3. Reconstrcution; and
- 4. Fabrication.

The approach employed is dependent upon the level of land degradation.

For this site, one approach is required to achieve the rehabilitation objectives:

• Reconstruction.

# Reconstruction

Reconstruction of vegetation communities is necessary where the site is highly degraded or altered and has poor regeneration capacity (resilience). Suitable species will be planted at a density which, when established, will provide the necessary structure and seed bank to enable successful ongoing rehabilitation.

# **REHABILITATION ZONES**

One rehabilitation zone has been proposed as only one restoration approach is necessary.

#### ZONE A

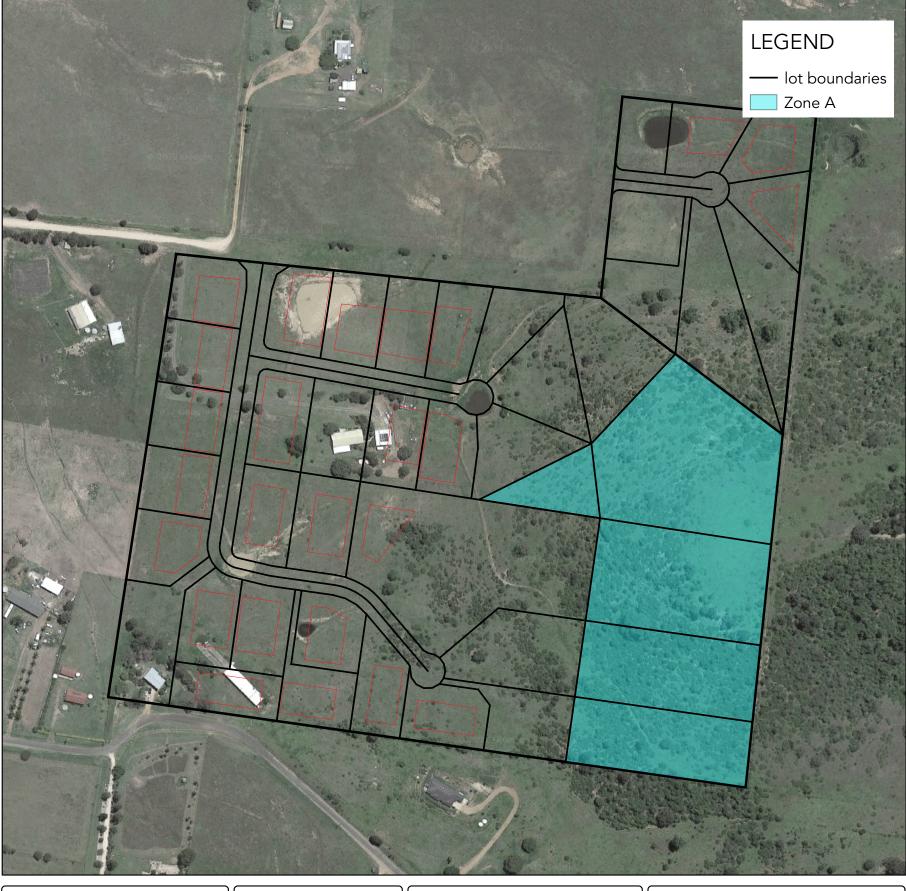
This area has been historically cleared of vegetation, with copses of canopy trees retained. It is characterised by steep slopes which are dominated by pasture grasses. Although there is some evidence of sapling recruitment, without intervention, especially the control of grasses, native vegetation community establishment is unlikely.

To minimise the risk of erosion, it is recommended that plants are planted into spray rings which are maintained until establishment, rather than controlling weeds/grasses through broad herbicide application over the steeper areas.

Regular slashing within the rehabilitation areas will be necessary to reduce the height of the pasture grasses and maximise the chane of successful plant establishment.

It may be necessary to gradually establish native vegetation through succession planting - trees are established first and then the understorey planted (shrubs and ground layer).

No planting is to occur under the drip line of existing trees.



DATE:
11.05.2022

PROJECT No.:
BC-22008

DRAWING No.:
CRMP-03

REVISION No.:
A

COVENANT REHABILITATION MANAGEMENT PLAN

DRAWING TITLE:
REHABILITATION ZONE

CLIENT:
SUNSTONE HOMES

ADDRESS:
EMERALD ESTATE PLAINLAND

DRAFTED BY:
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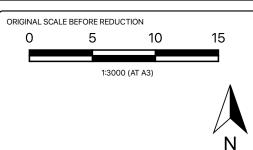
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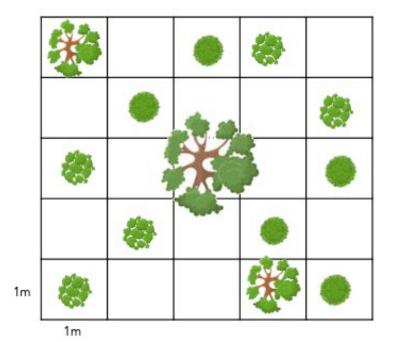


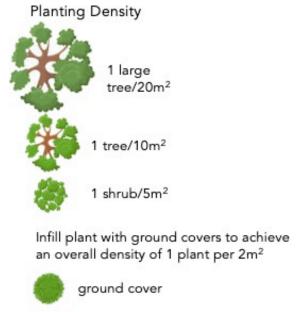


# **PLANTING PALETTE** PP-1

Species	Common Name
LARGE TREES	
Corymbia citriodora	Spotted Gum
Eucalyptus crebra	Narrow-leaved Ironbark
Brachychiton populneus	Kurrajong
Brachychiton rupestris	Narrow-leaved Bottle Tree
Flindersia australis	Teak
Flindersia collina	Leopard Ash
Lophostemon confertus	Brushbox
Callitris glaucophylla	White Cypress Pine
TREES	
Acacia harpophylla	Brigalow
Casuarina cristata	Belah
SHRUBS	
Alectryon diversifolius	Scrub Boonaree
Alstonia constricta	Quinine Bush
Backhousia angustifolia	Narrow Leaf Myrtle
Backhousia kingii	Scaly Bark Ironwood
Cadellia pentastylis	Ooline
Carissa ovata	Currant Bush
Croton insularis	Silver Croton
Croton phebalioides	Narrow-leaved Croton
Dodonaea viscosa	Sticky Hop-bush
Ehretia membranifolia	Peach Bush
Elaeodendron australe	Red Olive Plum
Euroschinus falcata	Ribbonwood
Everistia vacciniifolia	
Exocarpos latifolius	Scrub Cherry
Geijera parviflora	Wilga
Lysiphyllum hookeri	Hooker's Bauhinia
Notelaea microcarpa	Small-fruited Mock Olive
Pittosporum spinescens	Large-fruited Orange Thorn
Psydrax oleifolium	Wild Lemon
GROUND LAYER	
Themeda triandra	Kangaroo Grass
Imperata cylindrica	Blady Grass
Cyperus gracilis	Graceful Grass
Lobelia purpurascens	White-root

# PLANTING MODULE PM-1





# **REHBILITATION SUMMARY**

Zone	Area	Planting palette	Planting module	Planting Density	Notes
Zone A	45,831	PP-1	PM-1	I UNAFAII NIANTINA AANSITY TA NA I NIANT NAF Z SA M	Plant into spray rings. Maintain grass. Establish trees before planting shrubs and gorund covers

DATE: 11.05.2022 PROJECT No.: BC-22008 DRAWING No.: CRMP-04 REVISION No.:

PROJECT: COVENANT REHABILITATION MANAGEMENT PLAN DRAWING TITLE: PLANTING PALETTE AND MODULE CLIENT: SUNSTONE HOMES ADDRESS: EMERALD ESTATE PLAINLAND CHECKED BY : BC PAPER SIZE : A3 *DESIGNED BY :* NL DRAFTED BY . SCALE: APPROVED FOR AND ON BEHALF OF BIOME CONSULTING PTY LTD ACN 166 087 476

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# **REHABILITATION PROCEDURES**

#### SITE PREPARATION

Compacted soils should be mechanically aerated and de-compacted prior to planting. Soil compaction not only limits aeration but it also water infiltration and drainage and creates a physical barrier to root growth. Where topsoils have been stockpiled, they should be reinstated over the prepared area. Soil disturbance should be immediately followed by the application of mulch to prevent the formation of hard-setting crusts.

Plants should be installed as soon as possible after soils have been prepared.

Spray rings should be created on steeper slopes. Plant into spray rings. Long grass should be slashed and spray rings maintained until plant establishment.

#### PLANT PROCLIREMENT

Local provenance tube stock is to be utilised for all restoration works involving planting. Where this is not possible due to circumstances out of the control of the applicant, Council approval must be sought.

#### PLANT INSTALLATION

- Plants are to be vigorous, well established, hardened off, consistent with species or variety, free from disease and insect pests, with large root systems and no evidence of having been restricted or damaged;
- Planting is to take place immediately after delivery. If not possible, plants are to be stored in the shade and watered sufficiently during the day;
- Excavate planting medium to a depth suitable for the installation of tube or pot specimens. In areas where the planting substrate is deemed to be very poor (compacted, nutrient depauperate, hydrophobic etc.) and above areas of potential frequent inundation and water flow, soil shall be suitably prepared (e.g., through use of fertilizer, and mechanical ripping where required) and enough topsoil to sustain long term plant growth shall be used;
- Excavate to a hole to the depth of the root ball and twice the width of the pot. The sides of the hole should be rough, not glazed (this will commonly occur if an auger has been used).
- Pre-water plant hole if soil is dry to decrease root stress upon planting and assess the infiltration of water through the soil;
- Incorporate into the planting substrate the appropriate quantity of prepared water crystals or other suitable hydrating product;
- Place plant into hole and backfill ensuring that the plant is upright, and the stem is not covered in any less than 10 mm or any more than 20 mm of planting medium:
- Plants are to be watered thoroughly immediately after planting (ensure deep irrigation) and thereafter as required during the construction phase of the development depending on climatic conditions. Creation of a concave hollow around the base of each plant will aid water infiltration to the plant roots;
- A complete, slow-release fertiliser is recommended, and is to be administered appropriately during planting. Top dressing with slow-release fertiliser is preferred to avoid toxic levels of fertiliser accumulating in the plant hole around the plant roots;
- A long-term slow-release fertiliser will be used for all plantings after initial plant establishment;
- Seedling and saplings are to be encouraged and maintained throughout the Establishment period;
- Monitoring and evaluation for site maintenance (watering, weed control, stock replacement, fertilising, managing inappropriate site access etc.) is to occur monthly:
- Where specimens show signs of very poor health, do not replace unless the plant is determined to be dead below ground. Many species are capable of strongly recovering from transplant stress or adjustment to site conditions. If a particular species is consistently doing poorly in certain site conditions, it is recommended to replace with an alternate species;
- If tree protection measures, such as tree guards or marker stakes are required, they must be installed without damage to the plant;
- No planting is to occur within 2 m of the drip line of existing mature vegetation; and
- A minimum 90% survival rate must be achieved.

### SUPPLEMENTARY PLANTING

- Supplementary planting should be undertaken where plants have died and where weed removal activities have resulted in site disturbance.
- Where specimens show signs of very poor health, do not replace unless the plant is determined to be dead below ground. Many species are capable of strongly recovering from transplant stress or adjustment to site conditions. If a particular species is consistently doing poorly in certain site conditions, it is recommended to replace with an alternate species.

# MULCHING

Mulch suppresses weeds, decreases evaporation of soil moisture and promotes soil organism activity.

- A 10 cm layer of high quality, debris and weed-free composted chip mulch (Note: to avoid possible stem rot, ensure mulch is 'dished' and not covering plant stem);
- Mulched material is to be sourced from cleared vegetation if suitably seasoned;
- Mulch is to be applied to a radius of 500 mm from the trunk;
- Ensure the mulch is not in contact with the trunk;
- Mulch levels should be maintained for at least one growing season after planting, which is the critical period in tree establishment;
- $\bullet$  Do not apply mulch within the drip line of existing mature trees; and
- If rehabilitation is occurring within an area of high velocity water flows, natural fibre weed mat should be used rather than organic mulch.

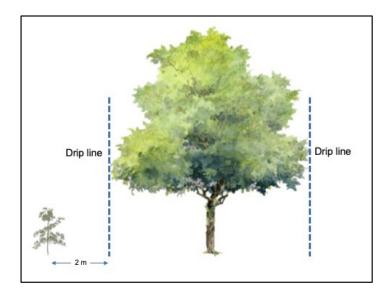
#### BANK STABILISATION

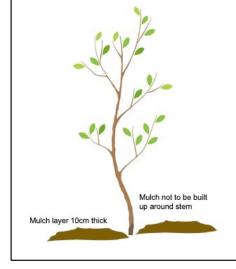
The stabilisation of steep banks is one of the highest priorities for restoration.

- Spot weed the bank with a matrix of smaller work areas and progressively replace weeds with natives in areas that are steep and susceptible to erosion.
- Large weed trees (e.g., Camphor Laurel and Chinese Celtis) should be assessed to determine if they provide bank support, shade and structure that is otherwise absent or fauna habitat.
- Large trees should be stem injected when surrounding revegetation has been established for 12 months. Standing dead should be left to provide perching habitat.

# **REHABILITATION SCHEDULE**

Rehabilitation Stage Initial site works	Actions Required Primary weed control Revegetation in accordance with plans. This will include: soil preparation; planting, fertilising, mulching and installation of stakes and seedlings where deemed appropriate	Timing At the commencement of rehabilitation works After primary weed control
	Installation of stakes and seedling protection covers where deemed appropriate.	After primary weed control
Establishment period (12 months)	Irrigation	Irrigation will be undertaken at a minimum every three to five days for the first eight weeks depending on weather
	Routine weed control  Routine management: Reinstate mulch, apply fertiliser, replace stakes and tree guards, replace dead plants and remove rubbish  Monitoring	Monthly Following inspection as required  Monthly
On maintenance period (12 months)	Routine weed control  Routine management  Monitoring	Monthly  Following inspection as required  Monthly





DRIP LINE OF EXISTING TREES

MULCH APPLICATION

DATE: 11.05.2022 PROJECT No.: BC-22008	
DRAWING No.: CRMP-05	
REVISION No.:	

PROJECT:

COVENANT REHABILITATION MANAGEMENT PLAN

REHABILITATION PROCEDURES & SCHEDULE

CLIENT:

SUNSTONE HOMES

ADDRESS:

EMERAL ESTATE PLAINLAND

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# **GENERAL WEED CONTROL NOTES**

The control of weeds is essential to the restoration process. The removal of invasive species reduces competition and therefore assists the germination and establishment of native species.

Weed control is designed to reduce impacts to existing native vegetation, maintain juvenile native species and retain the in-situ seed stock within the soil profile.

The aim of weed control is to reduce the current extent of weed species to achieve a 95% weed-free status.

The control of weeds is to be undertaken generally in accordance with the following phases:

#### PRIMARY WEED CONTROL

Involves selective and strategic removal of weeds rather than the removal of all weed species at once to reduce erosion risks.

#### SECONDARY WEED CONTROL

Follows the completion of primary work. This is necessary to manage the growth of weeds and regenerating natives.

#### MAINTENANCE AND FOLLOW-UP WEED CONTROL

On-going maintenance and follow-up weed control is essential for successful restoration works. The frequency and duration of this process shall vary according to the resilience of native vegetation, viability of weed seed in the seed bank, the proximity of weed sources, and the skill level of workers.

All weed control works are to be either actively supervised or undertaken by personnel suitably qualified and experienced in bush regeneration disciplines. Weed removal should be undertaken in accordance with the methodologies outlined within the South East Queensland Ecological Restoration Framework: Manual (Chenoweth EPLA and Bushland Restoration Services, 2012). Methods for removing weeds include hand removal, chemical or mechanical control, or a combination of these.

When undertaking herbicide application for weed control, care should be taken to ensure that no off-target damage occurs to native vegetation. To prevent unnecessary and excessive use of herbicides, a vegetable-based dye should be mixed with the herbicides used for spray applications.

General weed control techniques are presented in this document. While chemical control is described, it is recommended that alternatives to glyphosate are used. Glyphosate has been banned in several countries and has been linked to cancer. If it is to be used, strict adherence to the recommended mixing rate and the use of personal protective equipment is necessary.

Any herbicide is to be mixed at the rates prescribed by the manufacturer for the particular weed species requiring control.

# HERBICIDE USE NEAR WATER

Where possible, weed control near water bodies should be carried out using non-chemical methods. These include slashing, mulching and hand removal.

If you plan to use herbicides, ensure they are safe for use around waterbodies. Herbicides applied to the edge of a waterbody must be registered for use in aquatic environments.

The following points are critical in using herbicide near a waterbody:

- Never spray herbicide over the water
- Direct the spray away from the water
- Spray when the weather is calm to prevent chemical drift
- Do not spray when rain is forecast within six hours as herbicide can be washed off the pest plant and into the waterbody.

# WEED CONTROL TECHNIQUES

The following describes the current best practice methods for weed control.

#### **CUT-SCRAPE-PAINT**

This weed control method applies to all woody shrubs, trees and some vines.

- Cut plant low to the ground at an angle.
- Apply herbicide with a paintbrush to the cut area.
- Scrape sides lightly to reveal green tissue and apply the herbicide to the scraped area.
- Take care that the brush is not contaminated with soil.

Note - all seed that has high viability and longevity, or plants with a high invasive potential must be removed from the parent plant and either composted or removed from the site.

#### STEM INJECTION

This weed control method applies to all woody trees and shrubs with a diameter of about six to 10 centimetres or greater.

- With a tomahawk, make a cut the width of the blade, at a slight angle, into the trunk. Note it is important not to make cuts too deep.
- Apply herbicide immediately into the cut using a tree-injecting device.
- Repeat this procedure in a brickwork pattern around the circumference of the tree, as close to the ground as possible. Where the presence of a crotch angle makes this difficult, make a cut above it. Note two rows of cuts will be enough for trees with trunks of six to ten centimetres; larger trunk diameters will need correspondingly more.
- Treat all visible lateral roots.

#### **SPRAYING**

This weed control method is carried out using a backpack spray unit with a modified nozzle that gives a solid spray pattern. Herbicide is to be mixed with a marker dye. For plants that show some resistance or where growing conditions are not optimal, an acidifying agent is to be added.

Dilution rates for herbicides are to be in accordance with the manufacturer's recommendations and any variation requires a permit from the National Registration Authority.

# OVERSPRAY

This weed control method is applicable to large, dense infestations and where it is desirable to leave the dead plants intact to prevent erosion and over-exposure of large areas, protect native seedlings from foragers such as wallabies, and avoid trampling by humans.

- Spray over the top of the infestation, using a weak solution of herbicide.
- Any native plants that may be under the weed will be protected by the foliage cover of the weed.
- Leave the sprayed plants intact so that native seedlings can establish under the shelter provided.

Alternatively, weeds can be cut and flattened with bush-hooks or loppers and the subsequent regrowth sprayed with herbicide. In many cases it is preferable to overspray wherever practicable as this will cause less erosion and trampling of suppressed native plants, such as ferns and seedlings. However, it will be necessary to cut-scrape-paint or hand pull any unsprayed weeds that surround native plants.

#### CROWNING

This weed control method is applicable to weeds which have their growing points below the surface of the ground (corms, bulbs, rhizomes, clumped, or fibrous root systems, etc.).

- Grasp the leaves or stems and hold them tightly so that the base of the plant is visible. Plants with sharp leaves or stems should be cut back first.
- Insert the knife close to the base of the plant at a slight angle, with the tip well under the root system.
- Cut through the roots close to the base. Depending on the size of the plant, two or more cuts may be needed to sever all the roots.
- Remove the plant. Make sure that the base of the plant where the roots begin is completely removed.

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# REHABILITATION AREA MANAGEMENT

# **ESTABLISHMENT PERIOD**

Following primary weed control and plant installation, a 12-month establishment period will be undertaken. During this period, the developer is responsible for the following:

- Control of weeds
- Monthly inspections;
- Supplementary or replacement plantings as required to achieve prescribed densities;
- Monthly litter collection; and
- Irrigation as needed.

### ON-MAINTENANCE

Upon completion of the establishment period, works shall then undergo a further 12 month on-maintenance period. During this period, the developer is responsible for the following:

- Monthly progress inspections;
- Management of weeds to achieve prescribed outcomes;
- Replacement planting as required to achieve required densities; and
- Irrigation as needed.

#### PERFORMANCE CRITERIA

The following key performance criteria shall be met:

- No invasive plant species as identified under the Biosecurity Act 2014;
- Removal of a minimum of 95% of weeds;
- Achieve a minimum success rate of 90% survival rate of all installed plants
- Achieve a minimum cover of 95%; and
- Removal of all temporary construction structures (if installed).

#### MONITORING

Routine monitoring must be undertaken monthly. During monitoring, the rehabilitation areas are assessed for:

- New weed infestations;
- Poor health or mortality of plantings;
- Adequate mulch coverage; and
- Presence of rubbish.

# COMPLIANCE

The developer is responsible for undertaking the rehabilitation works. The developer must provide to Council certification from a qualified professional that all works have been implemented on site and plants are established following a minimum establishment period of 12 months and on-maintenance period of 12 months. Certification is to demonstrate that all site works have been completed in accordance with applicable conditions of approval and relevant management plans.

# PHOTO POINT MONITORING

Photo point monitoring is a relatively simple and efficient method of monitoring rehabilitation areas. It involves taking photographs at fixed locations at regular time intervals. The photos can then be compared to show physical changes.

Consistency is critical to the success of photo point monitoring. Photos must be taken at the same location, with the same camera direction angle and focus points on each occasion.

It is recommended that at least one photo monitoring points be established in each of the rehabilitation zones. Photographs should be taken from the same location and in the same direction (i.e., along the same bearing) on each occasion. Where possible, a feature (e.g., large tree, sign or building) is to be included in the image to provide a point of reference. It is recommended that a star picket or post be installed at the point from which photos are taken to ensure that the same location is selected on each occasion. Alternatively, there are several theodolite and land survey apps for smart phones that have the capability of overlaying a latitude and longitude as well as a bearing on a photograph.

Baseline photos should be taken prior to any works being undertaken. Monitoring should be undertaken at least every three months to capture management actions and condition improvement.

At the time of taking the photo it is important to collect data to support the interpretation of the image and enhance the value of the monitoring effort. For example, the date, time and monitoring location. Records should also be kept of prevailing weather conditions prior to the photo point monitoring as drought or prolonged rainfall can influence the progress of rehabilitation.





EXAMPLE OF PHOTO MONITORING OF RESTORATION WORKS
Photos: CALM, WA



EXAMPLE OF THEODOLITE PHOTO SHOWING BEARING AND LOCATION

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DRAWING No.: CRMP-07	
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PROJECT:

COVENANT REHABILITATION MANAGEMENT PLAN

DRAWING TITLE:

MANAGEMENT AND MONITORING

CLIENT:

SUNSTONE HOMES

ADDRESS:

EMERALD ESTATE PLAINLAND

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