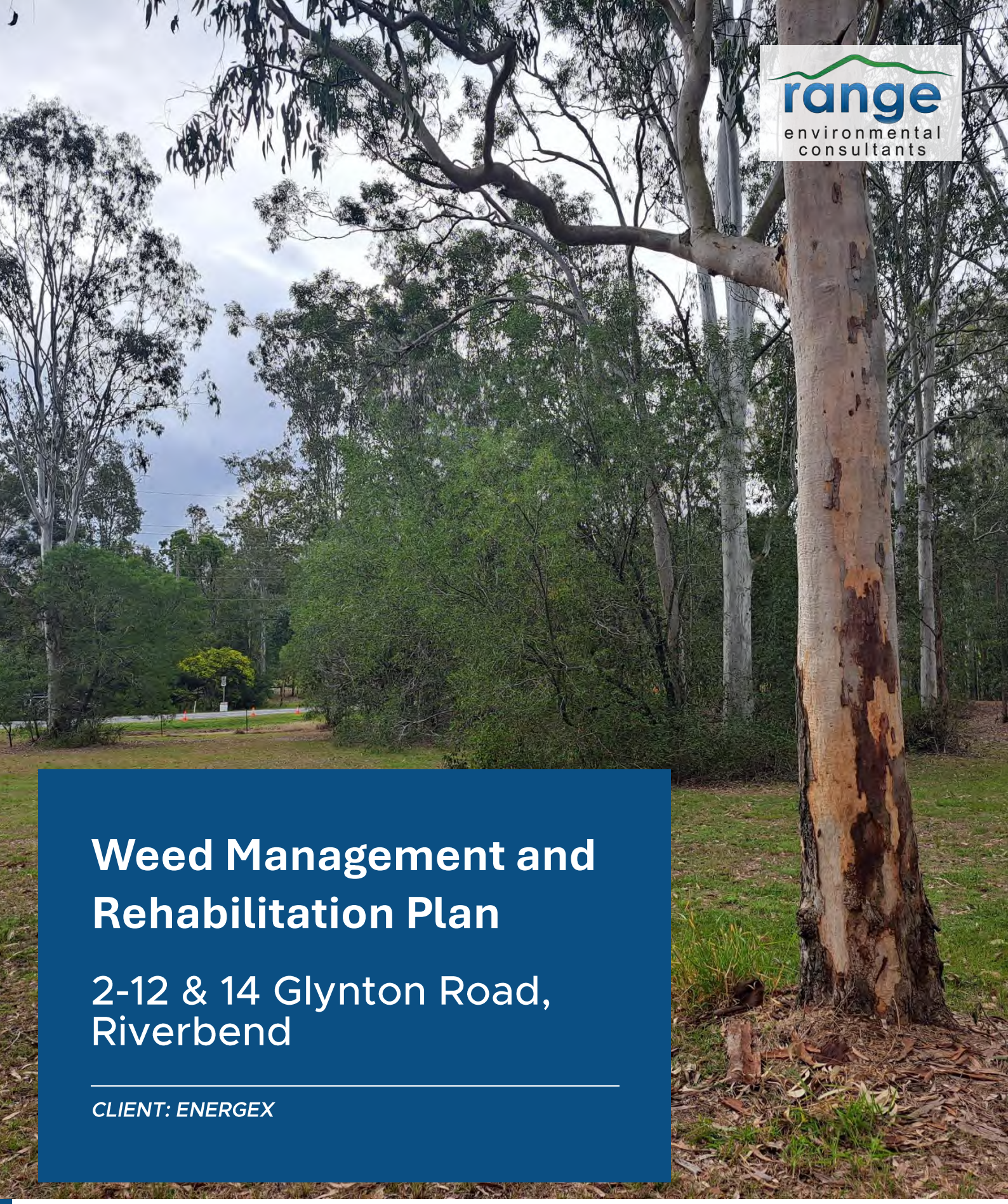
APPENDIX 4 – WEED MANAGEMENT AND REHABILITATION PLAN



Weed Management and Rehabilitation Plan

2-12 & 14 Glynton Road, Riverbend

CLIENT: ENERGEX

PROJECT NO.	**J003002**
STATUS	**FINAL**
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VERSION	**3**

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Document Control

Version	Purpose	Lead Author	Reviewer	Approved by	Date
1.	Draft Report	MJW	WG	LMT	7/08/2026
2.	Final Report	MJW	WG	LMT	17/08/2026
3.	Final Report (IR response)	MJW	WG	WG	7/10/2026

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1 Introduction

1.1 Background

Energex intends to submit a Development Application (DA) to Logan City Council (LCC) for a Material Change of Use (MCU) for an electricity substation at 2-12 & 14 Glynton Road, Riverbend (formally described as Lot 1 SP239500 and Lot 2 SP351565) (hereafter referred to as 'the site').

This weed management and rehabilitation plan (WMRP) has been prepared to detail and address mitigation action requirements under the Logan Planning Scheme (LPS) (2015, Version 9.2) and has been informed by the South East Queensland Ecological Restoration Framework.

1.2 Scope and Objectives

The objectives of this WMRP are to:

- Outline the utility of proposed weed management and vegetation replacement activities at the site.
- Identify the areas of vegetation that will be subject to weed management activities and vegetation replacement activities.
- Outline methods for weed management and vegetation replacement, including the composition and number of plants to be established at the site.
- Identify weed management methods for restricted and invasive weeds present onsite.
- Describe vegetation replacement/rehabilitation measures (species, density, planting methods and timing, maintenance, etc.).

1.3 Response to Information Request

An Information Request was received in relation to the submitted Rehabilitation Plan (V2). An amended Rehabilitation Plan (V3) and response to this information request is provided as below:

Item	Biodiversity Corridor
3.1	3.1 Provide an amended Rehabilitation Plan that: 3.1.1. Assesses the ecological resilience of Management Unit 1 and demonstrates whether assisted natural regeneration is sufficient to establish and maintain the north-south fauna connectivity corridor identified in Figure 14 of the Ecological Assessment Report. Where assisted natural regeneration alone is not demonstrated to achieve the intended connectivity outcome, provide details of supplementary infill planting; 3.1.2 Provides additional planting within Management Unit 2 to demonstrate an enhancement of fauna connectivity within the south-west linkage identified in Figure 14 of the Ecological Assessment Report; and <u>*Further advice:*</u> *The proposed planting within Management Unit 2 is considered sufficient to satisfy the offset planting requirements associated with demonstrating compliance with Performance Outcome 3 of the Biodiversity areas Overlay Code; however, the proposed planting density of approximately one tree per 35m^2 is not considered sufficient to provide a meaningful enhancement of fauna connectivity within the south-west linkage identified in Figure 14 of the Ecological Assessment Report. Accordingly, additional planting should be provided to strengthen this connectivity outcome.*

	3.1.3 Includes performance criteria that achieves a minimum planting survival rate of 90% and an environmental weed cover that does not exceed a maximum of 10%.
Response to information Request	
3.1.1	Management Unit 1 has been further broken down into sub management units to provide for greater stratification of sought ecological outcomes and targeted bush regeneration works. Management Unit 1A contains a dense cover of existing native shrubs and trees, and further provision of planting within this site is likely to provide little ecological benefit, with greater outcomes achieved through the management and control of existing environmental weed cover. Through the management of existing weed cover through this portion of the site a natural regeneration outcome is to be promoted and achieved. Management Unit 1B contains an existing sparse cover of existing canopy trees and would be benefitted by additional infill planting. This area contributes to north south connectivity values. Planting within this area is to achieve a net canopy tree density of 1 per 20m2, and a planting density of 1 per 20m2 for native understory shrubs (aligning with the approach proposed for MU2). Management Unit 1C is located within the north-western extent of the site and contains an existing sparse canopy tree values. Due to its siting in proximity to the adjacent intersection (and cleared areas), and interaction with the substation feed lines, which bisect this area, no further planting at this location is identified to provide any tangible connectivity outcome. Additional planting has been identified to address the above requirements, including the planting of 46 additional native canopy trees, and 176 native understory shrubs within MU1B.
3.1.2	The submitted Rehabilitation Planting proposed infill planting of 84 canopy trees, and 68 native shrubs within management area 2. The planting approach within Management Unit 2 has been modified to provide the following outcomes: • A planting density to achieve a net density of 1 canopy tree per 20m^2, equating to 138 native trees to be planted within this management unit (noting that 86 are already present) • A net density of 1 shrub per 20m^2, equating to 268 native shrubs to be planted within this management unit The adopted planting approach is considered to provide substantial additional densification of the management area to provide greater vegetation density and complexity to support the proposed connectivity outcome.
3.1.3	The Rehabilitation performance criteria have been amended to reflect these desired outcomes (minimum planting survival rate of 90% and an environmental weed cover that does not exceed a maximum of 10%).



Figure 1 Proposed Development

Project: 2-12 & 14 Glynton Road, Riverbend

Client: Energex

Project No.: J003002

Compiled by: MJW Date: 5/08/2026
Approved by: SLM Date: 5/08/2026

0 14 28 Metres

Legend

- Roads
- Site boundary
- Substation
- 11kV feeder
- 33kV feeder
- Turnaround area
- Landscaping
- Design earthworks extent

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Source: Cadastral data sourced from DNRME (2026). Aerial imagery sourced from NearMap (2026).

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2 Existing Environment

The majority of the site is managed as mown grass with scattered trees but includes an unmanaged area with denser canopy cover along the north-eastern boundary of the site. The field survey identified two (2) dominant Vegetation Communities (VCs) at the site which included:

- VC1 – Remnant RE 12.9-10.7 comprising native canopy species and a *Lantana camara* dominated understorey.
- VC2 – Non-remnant vegetation and maintained grassy groundcover.

2.1 Vegetation Community 1: Remnant RE 12.9-10.7 comprising native canopy species and a *Lantana camara* dominated understorey.

The eastern portion of the site was contained within this vegetation community which consisted of predominately non-native groundcover species, remnant canopy trees, and a limited native understorey due to infestation of the introduced Lantana (*Lantana camara*) which dominates the understorey layer.

The canopy layer included: Forest red gum (*Eucalyptus tereticornis*), Pink bloodwood (*Corymbia intermedia*), Swamp box (*Lophostemon suaveolens*), Lemon-scented gum (*Blakella citriodora*), Rough-barked apple (*Angophora floribunda*), Rusty gum (*A. leiocarpa*), Moreton Bay Ash (*B. tessellaris*), and Gum-topped box (*E. moluccana*).

The understorey consisted of Brush ironbark wattle (*Acacia disparrima*) (including regrowth), Soap tree (*Alphitonia excelsa*), Lantana, Easter Cassia (*Senna pendula*), and regrowth Flame tree (*Brachychiton acerifolius*).

Other species present within vegetation community 1 were: Praxelis (*Praxelis clematidea*), Liverseed grass (*Urochloa panicoides*), Flannel weed (*Sida cordifolia*), Creeping inch plant (*Callisia repens*), Scurvy plant (*Commelina cyanea*), Ornamental asparagus (*Asparagus africanus*), Southern cinnabar polypore (*Pycnoporus coccineus*), Monkey rope (*Parsonsia straminea*), and Mother-of-millions (*Bryophyllum daigremontianum*).



Photograph 1 VC1 – native canopy trees with a lantana infested understorey layer (view to the south)

2.2 Vegetation Community 2 – Non-remnant vegetation and maintained grassy groundcover.

VC2 was recorded as containing scattered canopy trees with a range of native and non-native species comprising the groundcover layer.

Forest red gum, Pink bloodwood, Lemon-scented gum, Swamp box, Moreton Bay Ash, and Rough-barked apple comprised the canopy layer.

Brush ironbark wattle, Soap tree, Black wattle (*A. leiocalyx*), Easter Cassia, and lantana which was concentrated around canopy trees only (i.e., areas unable to be maintained by mowing) comprised the understorey.

Little ironweed (*Cyanthillium cinereum*), Red natal grass (*Melinis repens*), Brown's lovegrass (*Eragrostis brownii*), Yellow buttons (*Chrysocephalum apiculatum*), Creeping indigo (*Indigofera spicata*), Wild pansy (*Viola tricolor*), Liverseed grass, Rhodes grass (*Chloris gayana*), White eye (*Richardia brasiliensis*), Flannel weed, and Straggy lantern-bush (*Abutilon oxycarpum*) were also identified in VC2.



Photograph 2 VC2 – scattered canopy trees and maintained groundcover (view to the east)

2.3 Pest Flora

Two (2) pest flora species listed as a Weed of National Significance (WoNS) and/or restricted matter under the *Biosecurity Act 2014* were recorded within the site (Table 1).

Table 1 Listed weed species recorded within the site

Species	Common name	WoNS	*Biosecurity Act 2014* status	LCC management priority category
Asparagus africanus	Ornamental asparagus	No	Category 3	High
Lantana camara	Lantana	Yes	Category 3	High

3 Rehabilitation Strategy

3.1 Objectives

Rehabilitation efforts within the rehabilitation area will aim to assist the natural regeneration of the area to vegetation that has a similar vegetation structure, composition, and diversity to the pre-disturbance vegetation community (i.e., generally RE 12.3.3 and RE 12.9-10.7). The proposed rehabilitation will also aim to enhance fauna habitat and connectivity values, particularly for the threatened koala (*Phascolarctos cinereus*).

Rehabilitation objectives for the proposed rehabilitation area will aim to:

- Conserve and maintain existing native vegetation within the site.
- Enhance the ecological values and processes on site through the removal of weed species and replacement of impacted native vegetation with a preference for koala food and shelter species.
- Control restricted weed species as listed under the *Biosecurity Act 2014* and environmental weeds through appropriate weed control methods and maintenance.
- Enhance habitat values of the site for native fauna species by the planting of native canopy vegetation (including species currently not present on the site) for nesting, roosting, and foraging.

The following sections identify the extent of rehabilitation area, recommended treatment of this area, and target vegetation communities. It also provides recommended species to be incorporated within site landscaping to provide a transition between landscaped features and natural areas.

3.2 Rehabilitation Treatment Intent

3.2.1 Management Unit 1

Across the majority of the site (within the northern extent), assisted natural revegetation is to be utilised to enhance and reinforce existing environmental (vegetation and habitat) values across MU1A and MU1C areas. Planting within MU1B is proposed.

Management Unit 1A contains a largely intact regional ecosystem structure which provides connectivity values to adjacent areas, with strong potential for habitat enhancement through targeted weed management works.

Management Unit 1B contains a largely intact canopy structure aligned with the site regional ecosystem. It is proposed that additional enhancement works be undertaken through replanting to reestablish a densified native canopy structure and understory shrub cover.

Management Unit 1C provides limited connectivity opportunities due to its direct proximity to adjacent roadways and interface with substation feed lines. It is identified that this management unit be subject to weed management works to maintain existing residual ecological values and permit fauna mobility as a stepping stone area.

3.2.2 Management Unit 2

Within the south-eastern extent of the site (containing sparse vegetation values), in areas not to be utilised for development works, environmental values are to be strengthened and enhanced, including through revegetation of the underlying pre-clear regional ecosystem canopy and understory (shrub) species.



Figure 2 Rehabilitation Areas

Project: 2-12 & 14 Glynton Road, Riverbend

Client: Energex

Project No.: J003002

Compiled by: MJW Date: 6/10/2026
Approved by: WG Date: 6/10/2026

0 14 28 Metres

Legend

- Site boundary
- Proposed development footprint

Proposed rehabilitation areas

- MU1A (~4059m2)
- MU1B (~3508m2)
- MU1C (~3710m2)
- MU2A (~5353m2)

The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.

Source: Cadastral data sourced from DNRME (2026). Aerial imagery sourced from NearMap (2026).

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3.3 Weed Management

3.3.1 Management Unit 1

Existing weed occurrences occur through this management unit, with scattered individual patches of lantana undergrowth and additional groundcover environmental weeds present throughout the area.

An initial intensive weed treatment of the area is to be undertaken utilising cut and paint techniques, and foliar spraying.

A further 12 x follow up bi-monthly maintenance/retreatment runs are to be completed for a following two (2) years following initial treatment.

3.3.2 Management Unit 2

Individual lantana bushes occur across management unit 2 in association with other scattered and sporadic environmental weeds.

An initial knock down herbicide application is to be made across this area, targeting environmental weed occurrence (excluding pasture grasses).

Individual planting locations are to be marked out, with 1m diameter spray circles applied at each planting location (targeting existing groundcover occurrence).

Bi-monthly weed management across this management unit is to be completed for a two (2) year period following planting works. Bi-monthly weed management works are to include treatment of any regrowth environmental weeds, and hand removal or spraying of invasive grass growth around planted trees.

Prior to mechanical removal of lantana, herbicide treatment of environmental weeds is to be undertaken.

3.4 Replanting

3.4.1 Management Unit 1

Planting within management unit 1B is proposed. An assisted natural regeneration outcome is proposed to be utilised within management unit 1A and 1C.

The planting approach within Management Unit 1B has been modified to provide the following outcomes:

- A planting density to achieve a net density of 1 canopy tree per 20m^2, equating to 46 additional native trees to be planted within this management unit (noting that 130 are already present)
- A net density of 1 shrub per 20m^2, equating to 176 native shrubs to be planted within this management unit

Table 2 below provides an overview of the proposed revegetation species for areas identified for replanting works.

Table 2 Species for revegetation (Management Unit 1B)

Species	Common Name	Management Unit 1B (3508m2)
Canopy		
Eucalyptus tereticornis	Forest red gum	12
Corymbia intermedia	Pink bloodwood	12
Corymbia tessellaris	Moreton Bay ash	11
Lophostemon suaveolens	Swamp box	11

Total		**46**
Mid-storey		
Acacia disparrima	Brush ironbark wattle	44
Alphitonia excelsa	Soap tree	44
Jacksonia scoparia	Dogwood	44
Exocarpos cupressiformis	Native cherry	44
Total		**176**

3.4.2 Management Unit 2

The intent of rehabilitation within this area is to improve ecological values through re-establishment of a native canopy and sub-canopy. Replanting of native canopy and shrub species will form the majority of works within this area. This area will require the initial removal of weed species, ongoing weed control, and revegetation over approximately 5353m^2 of an area currently containing limited (reduced densities of) koala habitat trees. Additional planting within this area is proposed to strengthen koala habitat values at the site, with adjoining extensive areas of koala habitat to the south and east.

The majority of existing vegetation across the site contains a mature native canopy with a grassy understory. Due to the existing canopy values within and surrounding the revegetation areas, canopy species aligning with the ground-truthed REs (12.3.3 and 12.9-10.7) have been utilised in species list preparation. Selection includes species identified as occurring within the regional ecosystem, and as commercially available and used for revegetation.

Table 3 below provides an overview of the proposed revegetation species for areas identified for replanting works.

Table 3 Species for revegetation (Management Unit 2A)

Species	Common Name	Management Unit 2A (5353m2)
Canopy		
Eucalyptus tereticornis	Forest red gum	46
Corymbia intermedia	Pink bloodwood	46
Corymbia tessellaris	Moreton Bay ash	45
Lophostemon suaveolens	Swamp box	45
Total		**182**
Mid-storey		
Acacia disparrima	Brush ironbark wattle	67
Alphitonia excelsa	Soap tree	57
Jacksonia scoparia	Dogwood	67
Exocarpos cupressiformis	Native cherry	67
Total		**268**

3.4.2.1 Species Substitutions

Where species within Table 2 and 3 are required to be substituted, alternative species from the applicable regional ecosystem are to be utilised on a like-for-like basis (i.e., canopy tree replaced by canopy tree). Where

canopy trees are required to be substituted, koala habitat trees of similar species utility are required to be utilised. Prior to purchasing substitute plants, the revegetation contractor must seek approval from LCC.

3.5 Nest Boxes

20 next boxes will be installed at the site to enhance habitat to mitigate impacts from the proposed development.

Nest boxes can provide short to medium term compensatory habitat to displaced wildlife and in areas where low levels of naturally occurring hollow bearing trees are found. The value of hollow bearing trees to Australian wildlife has been well quantified (Treby, 2014). Many species (including those within SEQ) require hollows to survive, including for sleeping and breeding activities. Hollows typically take at least 80 years to form and are valuable components of a habitats' condition. Significant variation in hollow size and form occurs, supporting a range of species.

Nest boxes typically have a lifetime of 15-20 years and are considered to be a short-term solution; however, they can be used to supplement existing environments where hollow dependent species are known to occur. The use of nest boxes is a highly species-specific action, and accurate information is required about the receiving environment and target species. Conducting routine monitoring of nest boxes provides an opportunity to ensure correct implementation, confirm use, and carry out maintenance (if required).

No current Federal, State, or Local regulatory guidelines apply to the installation of nest boxes. Nest boxes are to be installed utilising an appropriate cabling and wiring system (i.e., Habisure), with recommended next box types provided in Table 4 and recommended next box sizes provided in Table 5.

Table 4 Recommended nest box types

Box type	Quantity
Brushtail possum	4
Ringtail possum	3
Sugar/squirrel glider	2
Microbat	3
Barn Owl	4
Owlet-nightjar	4

Table 5 Species specific requirements for common species (Wildlife Preservation Society of QLD, 2018)

Species	Dimensions (L, B, H)	Entrance diameter	Depth below entrance	Height above ground	Placement
Brushtail possum	30x30x40cm	100mm	300-500mm	3-5m	Vertical
Ringtail possum	20x20x45cm	60-80mm	250-350mm	3-5m	Vertical
Sugar/squirrel glider	20x20x50cm	50mm	250-450mm	4-8m	Vertical
Microbat	10x20x45cm	10mm slit	Entrance at bottom	3m	Clear flight path
Barn Owl	40x90x20cm	Platform	Platform	5-10m	Horizontal
Owlet-nightjar	15x15x15cm	70mm	300mm	5m	Vertical

3.5.1 Installation Requirements

Installation of nest boxes should meet the following requirements:

- Nest boxes should be installed such that monitoring is able to be conducted utilising available devices (i.e., between 4-12m above ground level).
- Installation should avoid facing west, with the box placed in a location where it is shaded by the canopy or located within a sub-canopy layer.
- Nest boxes are to be installed in an appropriate density, such that when large areas of receiving habitat are available, the nest boxes should be evenly spread across these areas.
- Nest boxes should be installed in an area of viable foraging and alternative habitat resources.
- Trees should be chosen appropriately based on species-specific requirements.
- Boxes are to be installed with small drainage holes.
- Boxes should be installed using a secure system (i.e., Habisure).
- Following installation, the GPS location, box type, height, and aspect should be recorded.

3.6 Roles and Responsibilities

Contractors undertaking rehabilitation works must be instructed directly of the requirements of this plan. A copy of this WMRP is to be retained and displayed on site at all times during rehabilitation activities.

The project manager shall ensure that all relevant contractual documents specify the rehabilitation plan as a responsibility to be implemented. The roles and responsibilities assigned to individuals are outlined in Table 6.

Table 6 Roles and Responsibilities

Position	Responsibilities	Activities
Rehabilitation contractor (must be suitably qualified and have a minimum of five (5) years relevant experience)	Rehabilitation works	• Implement the requirements of the rehabilitation plan throughout the construction phase and monitoring period. • Conduct on-going maintenance works.
Restoration ecologist (must be suitably qualified and have a minimum of five (5) years relevant experience)	Ensure the requirements of the rehabilitation plan have been implemented throughout the construction phase and monitoring period.	• Monitoring of rehabilitation works to ensure compliance with the rehabilitation works plan. • Sign off at end of maintenance period (24 months).
Project Manager	Ensure the rehabilitation contractor has the necessary access to the site. Ensure the rehabilitation contractor is implementing the requirements of the rehabilitation plan throughout the construction phase and monitoring period.	• Review monitoring reports to ensure compliance with the rehabilitation plan.

3.7 Rehabilitation Performance Criteria

The performance criteria for rehabilitation works are outlined in Table 7. Works are considered complete upon the fulfilment of the below criteria.

Table 7 Rehabilitation Performance Criteria

Element	At completion of initial works	At completion of 12 months	At completion of 24 months	Ongoing maintenance
Tree retention and revegetation area – *Biosecurity Act 2014* listed weeds	N/A	Absent or controlled (90% removal)	Absent	Absent
Tree retention and revegetation area – environmental weeds (excluding grasses)	N/A	Absent or controlled (90% removal)	Absent or controlled (90% removal)	Reasonable actions are undertaken by contractors to manage environmental weeds to reduce inhibition of native species (i.e., herbicide treatment) Absent or controlled (90% removal)
Revegetation of revegetation area – plant survival and plant density (infill planting only)	N/A	Replace mortalities as required to maintain 90% survival rate	Replace mortalities as required to maintain 90% survival rate	N/A
Erosion and sediment control	Maintain ground cover of 80%. Groundcover can include grass, groundcover vegetation, or mulch.	Maintain groundcover of 80%. Ground cover can include grass, groundcover vegetation, mulch, or jute matting.	Maintain groundcover of 80%. Groundcover can include grass, groundcover vegetation, mulch, or jute matting.	N/A

3.8 Rehabilitation Schedule

The proposed rehabilitation schedule including establishment, monitoring, maintenance, and reporting requirements is outlined in Table 8.

Table 8 Schedule for Rehabilitation Works, Monitoring, and Maintenance

Frequency	Task	Action	Responsibility
Initial weed treatment	Site inspection	• Locate tree retention and revegetation areas.	Restoration ecologist and rehabilitation contractor

Frequency	Task	Action	Responsibility
		• Identify weeds and rubbish to be removed. • Determine appropriate weed treatment measures.	
	Weed treatment (initial herbicide application)	• Splatter gun or foliar spray environmental weeds.	Rehabilitation contractor
	Weed management (skid steer removal or forest mulcher)	• Manually remove/forest mulch existing weed vegetation to a manageable level	Rehabilitation contractor
	Weed management (secondary treatment – herbicide treatment)	• Chemical treatment of remaining weeds.	Rehabilitation contractor
One month post	Supplementary weed management	• Treatment of restricted invasive and environmental weeds.	Rehabilitation contractor
	Planting and initial watering	• Planting of tube stock. • Installation of tree guards and jute mats. • Installation of water crystals/fertiliser. • Ensure species composition and density is per the rehabilitation works plan. • Install next boxes.	Rehabilitation contractor
	Watering	• Water on same day as planting. • Water as required (approx. 3 weekly waterings). • Additional waterings to ensure survival (as required).	Rehabilitation contractor
Bi-monthly for first 24 months following completion of initial planting works	Monitoring seedling health	• Replace damaged seedlings to maintain rehabilitation plan densities/adequate coverage.	Rehabilitation contractor

Frequency	Task	Action	Responsibility
Completion of 2-year maintenance period	Confirm completion of all rehabilitation works.	• Verify that all rehabilitation performance criteria have been met.	Rehabilitation contractor and restoration ecologist
	Complete report on rehabilitation success	• Document that all rehabilitation performance criteria have been met.	Rehabilitation contractor and restoration ecologist

Annual monitoring reports are to be prepared by a restoration ecologist and submitted to LCC one (1) year following planting, and at the completion of the two (2) years establishment maintenance works. These reports will summarise the findings of monitoring events with reference to the rehabilitation objectives and the rehabilitation performance criteria. Where the rehabilitation performance criteria are not being achieved, the report will recommend relevant actions required to amend the situation. The restoration ecologist will be responsible for implementing the recommended actions.

3.9 Rehabilitation Monitoring, Maintenance & Reporting

The rehabilitation monitoring schedule provided in Table 8 above outlines actions required to ensure that rehabilitation objectives are fulfilled. The monitoring schedule may be altered to account for changes to rehabilitation success, methods, and/or timeframes. Regular monitoring is to be undertaken by the rehabilitation contractor with the assistance of a restoration ecologist at the initial period and regular intervals until completion of the rehabilitation schedule.

At a minimum, the following should be monitored:

- Effectiveness of weed control measures.
- Indicators of growth and survival of all plantings.
- Effectiveness of erosion and sediment controls.
- Adequacy of site preparation, tree (and plant) protection, and maintenance.

Monitoring reports are to be prepared by the rehabilitation contractor and submitted to the project manager. These reports should summarise the findings of monitoring events and identify the performance of rehabilitation activities with reference to the objectives of this plan. Where the objectives are not being achieved, the report should recommend relevant actions required to amend this situation.

4 Rehabilitation Methods

All revegetation works are to be conducted in accordance with: Chenoweth EPLA and Bushland Restoration Services (2012) South East Queensland Ecological Restoration Framework: Manual. Prepared on behalf of SEQ Catchments and South East Queensland Local Governments, Brisbane. Rehabilitation should be conducted in a staged approach to prioritise works as follows:

- Weed control within the rehabilitation area.
- Immediate stabilisation of areas of exposed soils.
- Vegetation replacement where required and watering.
- Ongoing weed management and maintenance of rehabilitation area.

The following sections detail the recommended rehabilitation actions to be implemented in accordance with the rehabilitation schedule outlined in Table 8.

4.1 Weed Management

4.1.1 Existing Environment

Species identified under the *Biosecurity Act 2014* and environmental weeds identified on the site are outlined in Table 1. Two (2) *Biosecurity Act 2014* listed species were recorded within the site. The 'general biosecurity obligation' under Part 1 of the *Biosecurity Act 2014* states that all individuals and organisations are responsible for biosecurity risks and threats under their control. Category 3 species listed under the *Biosecurity Act 2014* cannot be distributed.

4.1.2 Weed Control Techniques

Weed control techniques applicable to the rehabilitation area are provided in Table 9. These techniques generally fall into two (2) broad weed control methods; mechanical removal and chemical treatment.

Mechanical controls are generally the first actions implemented during weed control. Mechanical control should be restricted to areas not susceptible to soil erosion. Mechanical control methods include:

- Skid steer removal or forest mulcher.
- Slashing.
- Manual removal by hand or grubbing using loppers, hatchets, or small saws to remove the weed (including roots).
- Lopping of the weed using an axe or chainsaw.

Chemical control should be used when mechanical controls are not appropriate (i.e., is too costly or within erosion prone areas). Chemical control should only be undertaken by a suitably qualified person (i.e., Agriculture Chemical Distribution Control certified) in accordance with the Safety Data Sheet (SDS). Herbicides used in the vicinity of waterways should be designed accordingly (e.g., Roundup® BioactiveTM Herbicide or Weedmaster® Herbicide) and no broad scale spraying or overspray methods should be used. Mixing of chemicals or rinsing of equipment should never occur adjacent to water bodies.

Table 9 Weed Control Techniques

Plant form	Examples	Method
Woody weeds	Lantana	Control of smaller woody weeds observed within the site, including lantana, through the cut-scrape-paint technique, where stems are cut near the ground and are immediately painted with herbicide. Juvenile woody weeds may be removed by hand or treated with chemical spraying.
Herbs	Ornamental asparagus	Herbaceous plants may be controlled through manual hand weeding, crowning, or spraying with herbicide such as in the spot-spray technique.

Detailed methodology for weed control techniques discussed in Table 9 and herbicide application rates can be found in:

- Queensland Government fact sheets for Biosecurity Act-listed weeds, available at https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/biosecurity/plants/invasive/restricted.
- South-east Queensland Ecological Restoration Framework Manual (Prepared on behalf of SEQ Catchments and South East Queensland Local Governments by Chenoweth EPLA and Bushland Restoration Services, 2012).

4.1.3 Weed Disposal

Where offsite disposal of non-native vegetative material is required, weeds should be disposed of at a suitable waste facility.

4.2 Revegetation

Natural regeneration is most suitable in areas of regrowth or containing mature vegetation, as natural recruitment suggests the presence of a viable seed bank. Provided that the regrowth/mature vegetation contains species from each stratum, this method is best for restoring an area to its pre-clearance condition.

In areas where there is little or no cover of native vegetation following weed removal, supplementary planting is required to aid in the regeneration process. Where supplement planting is required in revegetation areas, the following methods should be utilised.

4.2.1 Planting Stock and Densities

Species to be utilised are to be selected from those outlined in planting schedules. All planting stock are to be:

- Of local provenance.
- Healthy and displaying signs of active growth. Plants should be rejected if they display ‘yellowing’, leaf or stem damage or disease, root curling or restriction related to being ‘pot bound’ or have weed species in the container.
- A minimum of 20 cm tall for (75 mm) tube-stock (larger for potted stock).
- Sun-hardened.

Recommended individual planting locations are to be determined on the ground, taking into consideration the effectiveness of natural regeneration, and the location of existing canopy trees and existing native understorey plants within these areas.

4.2.2 Site Preparation

The successful growth of plants relies on careful and appropriate preparation of rehabilitation areas prior to planting. Site preparation involves:

- Signage to designate the area as a "Revegetation Area". Signage is to be in place before vegetation replacement commences and all relevant personnel (e.g., contractors) are to be made aware of associated restrictions.
- Retention of all standing dead trees within the revegetation area.
- Treatment of weeds using appropriate methods prior to any supplementary planting.
- Removing rubbish and other foreign material, such as old fencing materials.
- Carefully clearing a circular area of approximately 60 cm diameter at the site of each planting. The removed groundcover is to be replaced as natural mulch after planting.
- No burning of any material is to take place. All rubbish, grass, and weeds are to be safely removed and suitably disposed of at a waste transfer facility.

4.2.3 Planting

Planting stock is to be randomly planted (not in rows). The planting holes are to be at least twice the width and half as deep again as the pot size. In the case of tube-stock, plants are to be placed in a hole deeper than the pot, with the root ball just below the soil surface after planting. Planting is not to be within 2.5m of a property boundary.

4.2.4 Mulching and Tree Guards

Where supply is available, mulch is to be utilised across the revegetation area as mulch rings. Localised treatment of existing grass species is to be undertaken prior to installation of mulch/jute mats. Jute mats (60x60cm) are to be placed and pinned where revegetation is conducted within revegetation areas and mulch is not installed.

Fluted tree guards with hardwood stakes are to be installed in association with revegetation works.

4.2.5 Fertilising and Watering

Each planting should be fertilised with a 10 g slow-release fertiliser pellet (Agriform or similar). The fertiliser pellet should be placed adjacent (but not in contact) with the root ball; 2-4 cm below the soil surface and under the mulch.

4.2.6 Monitoring and Reporting

Annual monitoring reports are to be prepared by a restoration ecologist and submitted to LCC for a minimum of two (2) years, or until the rehabilitation criteria in Table 7 have been achieved. These reports will summarise the findings of monitoring events with reference to the rehabilitation objectives and the rehabilitation performance criteria. Where the rehabilitation performance criteria are not being achieved, the report will recommend relevant actions required to amend the situation. The restoration ecologist will be responsible for implementing the recommended actions:

- Notify LCC when all plants have been planted. LCC will inspect to ensure the rehabilitation objectives have been met.
- Notify LCC 12 months after planting. LCC will inspect to ensure the rehabilitation performance criteria have been met.

5 Summary

This Weed Management and Rehabilitation Plan has been prepared to identify the extent of rehabilitation works proposed to be provided to address the requirements of the Logan Planning Scheme (2015, Version 9.2). This report identifies the proposed extent of weed management at the site and provides details on the proposed methodology of habitat maintenance.

Accordingly, through enactment of the WMRP, habitat maintenance outcomes associated with the site can be achieved to mitigate the impacts of the proposed development, and provide an enhanced connectivity outcome.

Works are to include the following:

- Treatment and removal of environmental weeds within the revegetation areas.
- The planting and establishment of suitable canopy and understorey native plants within Management Units MU1B and MU2A, including:
    - MU1B – planting of an additional 46 native canopy trees and 176 native understory shrubs, providing for increased densification of this vegetation community
    - MU2A – planting of an additional 182 native canopy trees and 268 native understory shrubs, providing for increased densification of this vegetation community
- The installation of 20 nest boxes within the revegetation areas.
- The completion of weed management and maintenance works for a two (2) year period following planting.

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