Miling Revegetation Management Plan

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1. INTRODUCTION

1.1. Background

Established in 1933, Cooperative Bulk Handling Limited (CBH) is Australia's largest co-operative and a leader in the Australian grains industry. It is a Western Australian (WA) based grain storage and handling organisation, with operations extending along the value chain from fertilizer to grain storage, handling, transport, marketing and processing. Owned and controlled by approximately 3,500 WA grain growing businesses, the core purpose of CBH is to sustainably create and return value to both current and future growers. The CBH storage and handling system is world class and currently receives and exports around 90% of the WA grain harvest through a network of more than 130 grain receival sites and 4 export terminals.

CBH has total assets with a replacement value of approximately $6.5 billion and employs approximately 1,100 permanent employees and up to 1,800 casual employees during the harvest period from October through to January. To meet its strategic objectives, CBH's storage capacity must be expanded at strategically chosen sites that meets the pace and innovation of growers and investment to increase out-bound supply chain capacity via out-loading infrastructure, rail siding upgrades and rail lines.

The Miling Grain Receival Site (Miling site) has been identified in the CBH Network Strategy as a primary (important) site of the future, and for expansion within the CBH Operations Network Plan (Figure 1). The proposed development is required to cater for the growing quantities of grain receivals around the Miling region and surrounding catchments. This is driven by improved cropping and farming techniques, and higher yielding seed varieties being planted by WA growers.

In addition to operational, financial, grower and logistical considerations when identifying expansion options under its Operations Network Plan, CBH seeks to build or expand sites in proximity to regional towns and communities built around the original grain receival site. This contributes to the longevity of rural communities by employing local and regional residents and attracting customers for local businesses during the out-loading of grain and peak harvest receival periods, whilst also reducing the need for employees to travel significant distances following long shifts. As such, the options explored for the Miling site were focused on locations proximate to the local community and the existing CBH receival site.

1.2. Purpose and Scope

The purpose of this revegetation management plan (the Plan) is to describe the processes CBH will implement for re-establishing and improving native vegetation at the Miling site. The Plan describes the proposed management measures that will ensure the restoration and improvement of the revegetation areas. This document has been prepared to meet the requirements of the Department of Water and Environmental Regulation's (DWER) 'A Guide to Preparing Revegetation Plans for Clearing Permits' (DWER, 2018) (the Guidelines). It is based upon existing information available from ecological studies and investigations.

The scope of this Plan is to:

- Provide environmental management procedures that:
  - Return vegetation communities appropriate to the locality
  - Align with relevant legislation, standards and guidelines
  - Outline roles and responsibilities
  - Define a monitoring and maintenance program that assesses the performance of the revegetation activities
  - Define the contingency actions that will be implemented if the revegetation program looks like it may not achieve the completion criteria

1.3. Project Overview

The Miling site is located within the townsite of Miling in the Shire of Moora. The site occurs within a combination of land tenure, as follows:

- Lots 6 and 7 on Deposited Plan 418426, owned by CBH
- Lot 3954 on Deposited Plan 175371 and Lot 4089 on Deposited Plan 187070, rail reserves that occur on Crown Land (Crown Reserve 26009) and are the responsibility of the Public Transport Authority of Western Australia (PTA). CBH is currently leasing this land and the 99-year lease expires on 24 May 2102
- Lot 329 on Deposited Plan 409265 and other untitled reserves that comprise road reserve under the responsibility of the Shire of Moora.

Under the Shire of Moora Local Planning Scheme No. 4 (District Scheme), most of the site is zoned as 'Industrial', with a small area zoned 'General Agriculture', road and rail reserve.

The proposed upgrades to the site include the development of up to four new open bulkheads to the southwest of the existing CBH facilities, along with additional roads, weighbridges, drainage basins, sample hut and other supporting facilities.

These upgrades will cater for approximately 200,000 tonnes of grain storage required to service increased grain production in the Miling area. Operations at the site, once constructed, will continue indefinitely.

To enable these works to progress CBH proposes to clear up to 18.4 ha of native vegetation within a 29.4 ha Development Envelope that contains the existing grain receival site, roads and railway.

1.4. Approvals process and context

Due to the proposed clearing of low quality Carnaby's Cockatoo habitat, the project was referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) on 15 August 2022 (EPBC 2022/09336). On 24 November 2022, a delegate of the Minister for the Environment determined that the proposed action is not a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act), and therefore did not require assessment under the EPBC Act.

An application (CPS 10262/1) to clear native vegetation under the *Environmental Protection Act 1986* (WA) (EP Act) was submitted to the Department of Water and Environmental Regulation (DWER) on 5 July 2023. This plan has been prepared to address requirements of DWER's assessment process, including the requirement to prepare a revegetation plan to support works associated with clearing of native vegetation.

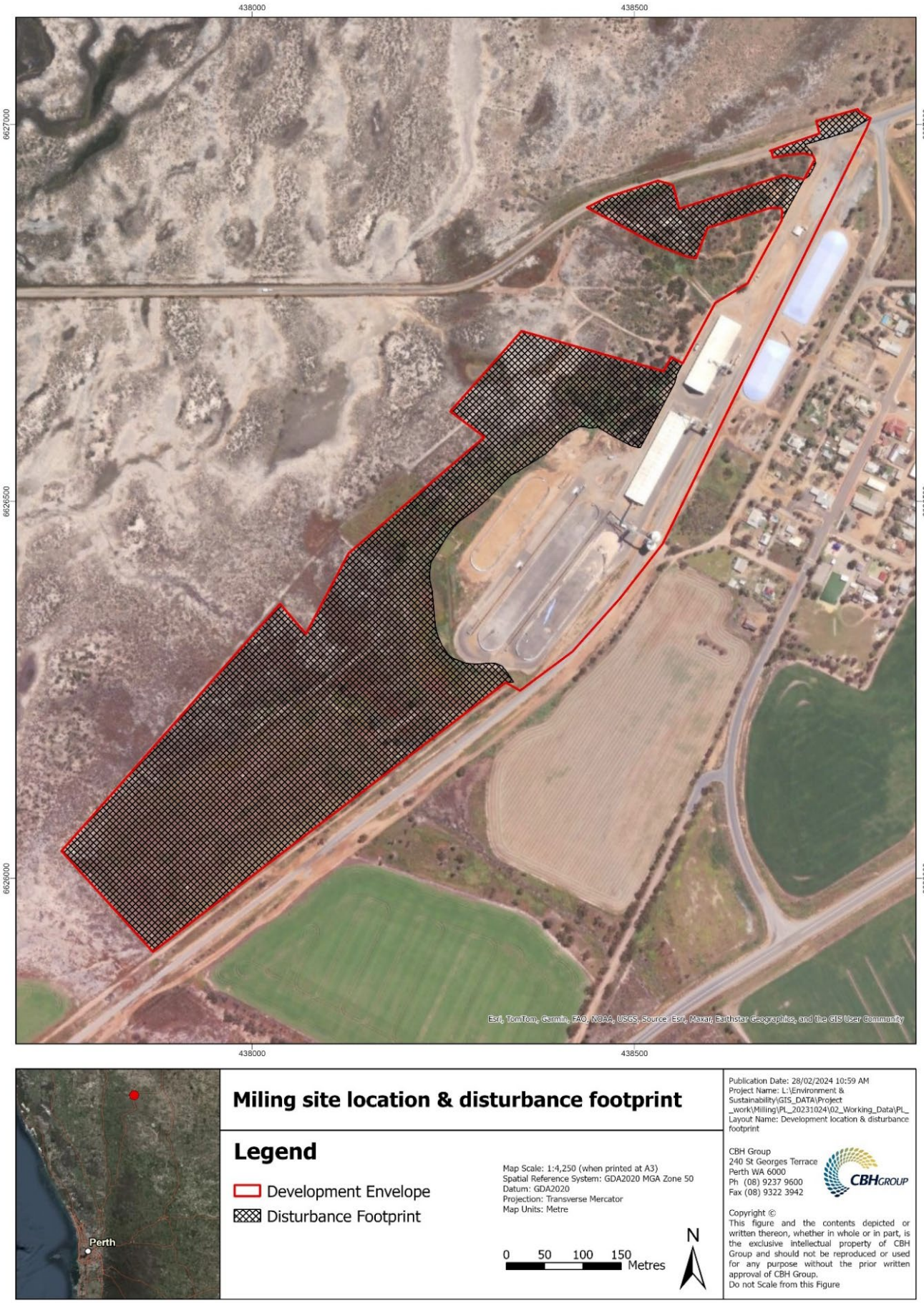

Figure 1: Miling site location and disturbance footprint

2. EXISTING ENVIRONMENT

2.1. Topography, Landform and Soils

The clearing will occur within the Avon Wheatbelt Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion (DAWE 2021). The Avon Wheatbelt bioregion is described as a dissected plateau of Tertiary laterite in the Yilgarn Craton with a semi-arid (dry) warm Mediterranean climate (Eco Logical Australia 2023). It is comprised of gently undulating rises to low hills with abrupt breakaways; its drainage is rejuvenated and comprises continuous stream channels that flow in most years.

Residual lateritic uplands and derived sandplains are covered by areas of proteaceous scrub heaths (which are rich in endemic species) and quaternary surfaces of erosional slopes and valley floors support woodlands of Wandoo, York Gum, Jam and Casuarina (Eco Logical Australia 2023). The Miling site is situated on the Goomalling soil landscape system (Landgate 2021 and Purdie et al. 2004).

2.2. Surface Water

The Miling site is within the Moore-Hill Rivers Basin, within the Moore River catchment. An intermittent unnamed minor drainage line (a tributary of the Moore River North) runs through the site. The Miling site is located approximately 800 m from the Moore River North main channel, with associated saline flats occurring across the valley floor extending across the Disturbance Footprint boundary in parts. There is potential for the development of a perched groundwater table at the site following periods of rainfall. Depth to groundwater ranges from 1.3-2.3 m below ground level (Eco Logical Australia 2023).

2.3. Flora and Vegetation

Vegetation type and extent have been mapped at a regional scale by Beard (1975) who categorised vegetation into broad vegetation associations. Based on this mapping at a scale of 1:1,000,000, the Department of Primary Industries and Regional Development (DPIRD) has compiled a list of vegetation extent and types across WA (Shepherd et al. 2002; DPIRD 2019a).

Two pre-European vegetation associations were mapped within the site; Victoria Plains 631 (VP 631) and Victoria Plains 142 (VP 142) (Figure 2). Both associations only have a small proportion of their pre-European extent within the AVW02 IBRA subregion remaining but within the Avon Wheatbelt region 46% of vegetation association VP 631 still remains intact (Government of Western Australia 2019). A total of six vegetation communities were delineated and mapped by ELA during their ecological survey of the site in 2021. The vegetation communities are described in Table 1 and Figure 3.

Table 1: Vegetation communities at Miling Grain Terminal.

Community	Description	Area (ha)	%
VC1 *Eucalyptus loxophleba* low open mallee woodland	*Eucalyptus loxophleba* low open mallee woodland over *Melaleuca stereophloia, Santalum acuminatum* tall sparse shrubland over *Austrostipa elegantissima* and **Avena barbata* low sparse grassland. Other species forming components of the vegetation in areas include **Mesembryanthemum nodiflorum*, *Ptilotus polystachyus* and *Sclerolaena diacantha*.	0.1	0.6
VC2 *Tecticornia undulata* and *T. pergranulata* low open samphire shrubland	*Tecticornia undulata* and *T. pergranulata* low open samphire shrubland with **Lolium rigidum* low sparse grassland and **Mesembryanthemum nodiflorum* low sparse forbland. Other common species include *Austrostipa elegantissima, Enchylaena tomentosa, Eragrostis dielsii, Siloxerus multiflorus* and **Vulpia myuros forma megalura*.	7.1	37.4
VC3 *Acacia hemiteles* isolated shrubs	*Acacia hemiteles* mid isolated shrubs over *Maireana brevifolia, Salsola australis, Atriplex* spp. low open chenopod shrubland over **Hordeum leporinum* low open grassland and **Mesembryanthemum*	7.8	40.7

Community	Description	Area (ha)	%
over *Maireana brevifolia* and *Salsola australis* low open chenopod shrubland	*nodiflorum*, **Oncosiphon piliferum* low open forbland. Other common species include **Avena barbata*, *Chloris truncata*, *Eragrostis dielsii*, **Hypochaeris glabra*, **Lolium rigidum*, *Ptilotus exaltatus*, *P. polystachyus* and **Sonchus oleraceus*. This vegetation was cleared agricultural pasture lands that has remained undisturbed for an estimated 10 years or greater and is in the early stages of ecological recovery.		
VC4 *Casuarina obesa*, *Hakea preissii*, *Melaleuca lateriflora* and *M. stereophloia* tall shrubland	*Casuarina obesa, Hakea preissii, Melaleuca lateriflora* and *M. stereophloia* tall shrubland over *Rhagodia drummondii, Comesperma integerrimum* mid isolated shrubs over *Austrostipa elegantissima, *Lolium rigidum* open grassland. The Casuarina and Melaleuca components of this shrubland can form dense small monoculture stands within this vegetation community.	0.9	4.8
VC5 *Acacia lineolata subsp. lineolata*, *Melaleuca lateriflora* and *Hakea preissii* tall sparse shrubland	*Acacia lineolata subsp. lineolata, Melaleuca lateriflora* and *Hakea preissii* tall sparse shrubland over *Rhagodia drummondii, Maireana brevifolia* and *Tecticornia pergranulata* mid open chenopod shrubland over *Austrostipa elegantissima, Eragrostis dielsii, *Vulpia myuros forma megalura* low sparse grassland and **Mesembryanthemum nodiflorum, Siloxerus multiflorus* low sparse forbland. This community occurs fringing the margins or occupying low rises within the saline flats supporting the samphire shrubland.	1.1	6.0
VC6 *Eucalyptus loxophleba* open woodland	*Eucalyptus loxophleba* low open woodland over *Hakea preissii* tall isolated tall shrubs over *Atriplex amnicola, Maireana brevifolia* and *Tecticornia pergranulata* mid open chenopod shrubland and, **Hordeum leporinum, *Lolium rigidum* low open grassland and **Mesembryanthemum nodiflorum, *Oncosiphon piluliferum and **Sonchus oleraceus* low open forbland.	1.3	7.0
Cleared		0.7	3.5

The survey area comprised of 79 flora species inclusive of 27 weed species. One declared pest, namely *Echium plantagineum* (Paterson's curse) was identified. An estimated half of the Disturbance Footprint contains no or poor-quality vegetation. A small portion (1.8%) was assessed as Very Good condition with (46.7%) in Good condition. No vegetation was found to be in Excellent or better condition.

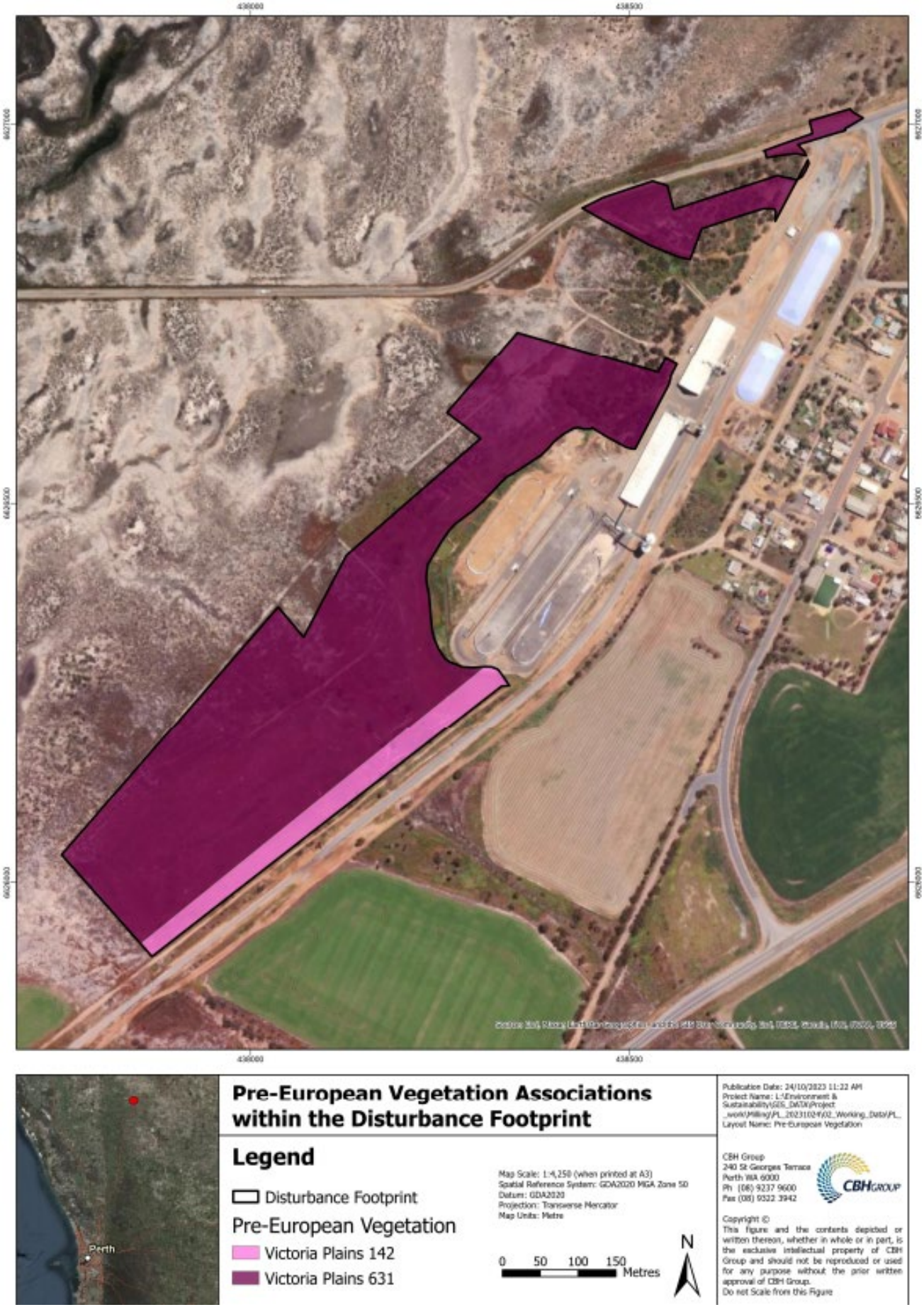

Figure 2: Vegetation associations

Figure 3: Vegetation communities within the disturbance footprint

2.4. Fauna

A total of 27 vertebrate fauna species were recorded during biological surveys of the site, comprising 23 birds, three mammals and one reptile (ELA 2021a). No evidence of Threatened or Priority fauna species listed under the EPBC Act or the *Biodiversity Conservation Act 2016* (WA) (BC Act) or listed by the Department of Biodiversity, Conservation and Attractions (DBCA) were recorded during the recent surveys (ELA 2021a, 2021b; Invertebrate Solutions 2021).

A total of 23 conservation significant fauna species were identified from a desktop assessment as possibly occurring within the site, only one of which was considered to potentially occur based on the availability of suitable habitat and proximity of nearby records, Carnaby's Cockatoo (*Zanda latirostris*) listed as Endangered under the EPBC Act and BC Act (ELA 2021a). The remaining 22 fauna species are considered as unlikely to occur or do not occur based on lack of suitable habitat for these species and/or distance of known records (ELA 2021a), this includes the Western Spiny-tailed Skink (*Egernia stokesii subsp. badia*), listed as Endangered under the EPBC Act (ELA 2021c).

An assessment of Carnaby's Cockatoo habitat was undertaken in accordance with the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) EPBC Act referral guidelines for three threatened black cockatoo species (SEWPaC 2012; ELA 2021a). This survey was undertaken prior to the recent release of Referral Guideline for 3 species of black cockatoo (DCCEEW 2022), however the survey methodology is consistent with the new guideline.

Vegetation present within the site was assessed for its potential to provide foraging, breeding and roosting habitat for Carnaby's Cockatoo. Approximately 3.5 ha of poor quality foraging habitat for Carnaby's Cockatoo occurs within the Disturbance Footprint with the majority (81.6%) of the Disturbance Footprint containing no foraging habitat for the species. Suitable foraging plant species present included *Hakea preissii* and *Eucalyptus loxophleba*. Both species were present at a low density, resulting in the quality of the foraging vegetation being classed as 'poor'. No evidence of foraging by Carnaby's Cockatoo was observed within the within the Disturbance Footprint.

3. MANAGEMENT PLAN

3.1. Revegetation Areas

This plan refers to discrete revegetation areas within the footprint of the Miling site (Figure 4). Revegetation works will occur within a 1.14 ha area within the Disturbance Footprint and will be cleared during the development but will not be required during ongoing operations.

The revegetation works will involve site preparation, seeding and planting of seedlings of endemic species, as well as supporting activities, such as installation of fencing and weed control. Endemic native flora species for the revegetation will be selected to reflect the current area and the baseline vegetation mapping completed by ELA in 2021.

Planting techniques will include a combination of manual labour, hand planting or tractor mount with seeds ideally sourced from local provenance.

3.2. Objectives

The overarching revegetation objective is to establish self-sustaining native vegetation communities similar to that which occurs in adjacent areas.

3.3. Management Zones

Two revegetation management zones have been defined (Figure 4), based on landform, soil and remnant vegetation characteristics:

- Management Zone A: A 0.08 ha parcel alongside Miling West Rd that represents VC2 (samphire shrubland on saline flats) vegetation types in generally Good condition but includes disturbed areas. The entire zone will be managed to reflect typical VC2 vegetation, in Good condition or better.
- Management Zone B: 1.06 ha made up of Good-Degraded condition VC2 (samphire shrubland on saline flats), as well as disturbed areas. The entire zone will be managed to reflect typical VC2 vegetation, in Good condition or better.

Target plant species (from baseline data from ELA relevés) for each zone are outlined in Table 2. For disturbed and degraded areas, tree species will be seeded/planted at a rate of 250/ha, with shrubs and other understorey species at 1,000/ha.

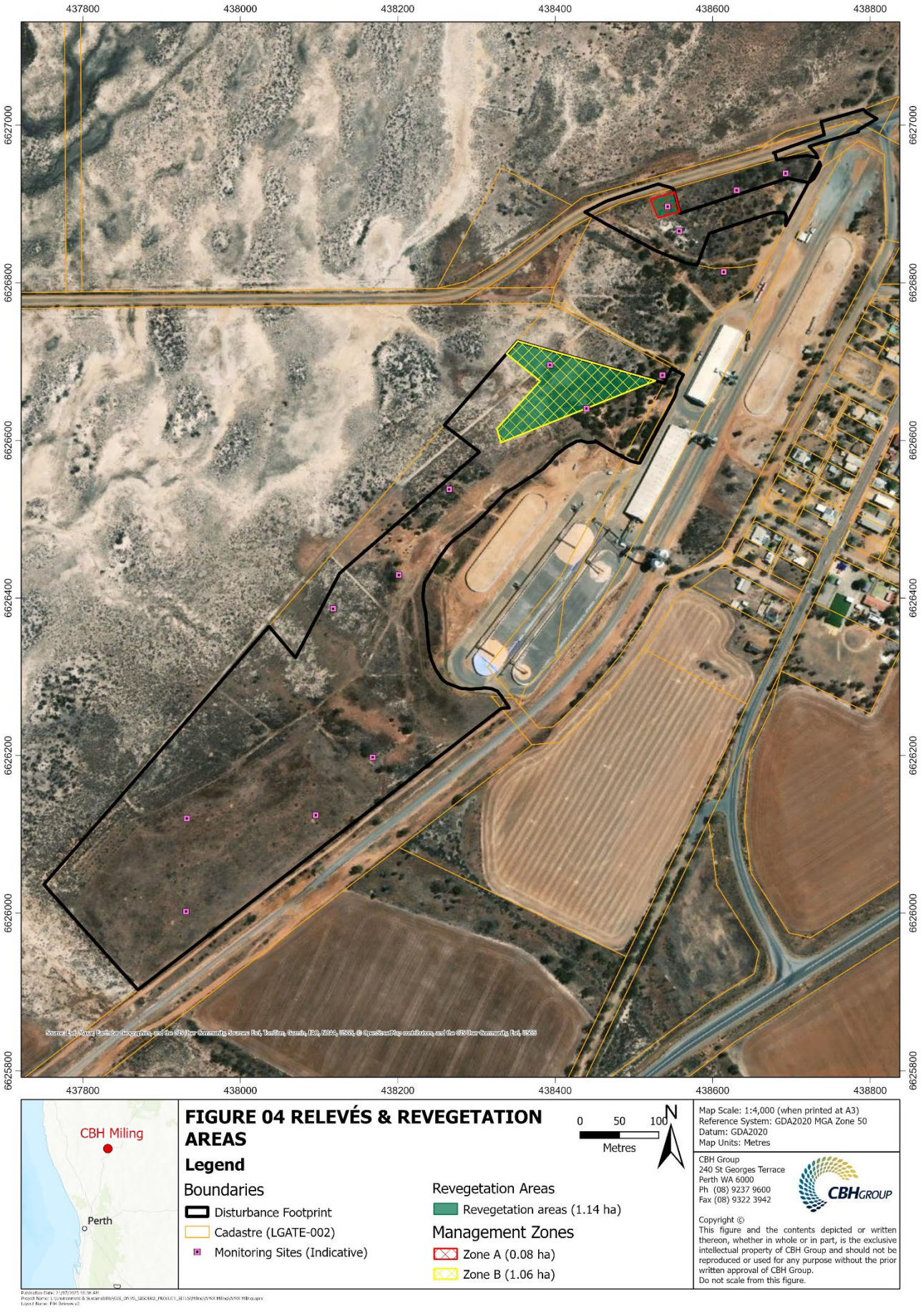

Figure 4: Relevés and revegetation areas

Table 2: Proposed species list for management zones

Management Zone A	Management Zone B
Shrublands *Hakea preissii* *Acacia lineolata subsp. lineolata* *Austrostipa elegantissima* *Rhagodia drummondii* *Tecticornia pergranulata* *Atriplex hymenotheca* *Comesperma integerrimum* *Maireana carnosa* *Melaleuca stereophloia* *Podolepis capillaris* *Siloxerus multiflorus* *Templetonia sulcata* *Thysanotus sp.*	**Samphire Flats** *Acacia lineolata subsp. lineolata* *Atriplex codonocarpa* *Atriplex hymenotheca* *Austrostipa elegantissima* *Casuarina obesa* *Comesperma integerrimum* *Didymanthus roei* *Enchylaena tomentosa* *Eragrostis dielsii* *Grevillea biternata* *Hakea preissii* *Maireana brevifolia* *Melaleuca lateriflora* *Melaleuca stereophloia* *Rhagodia drummondii* *Salsola australis* *Siloxerus multiflorus* *Stylobasium australe* *Tecticornia pergranulata* *Tecticornia undulata*
Samphire Flats *Tecticornia undulata* *Hyalochlamys globifera* *Austrostipa elegantissima* *Salsola australis*	

3.4. Reference Sites

Reference sites are usually established to observe the progress of the proposed actions within a revegetation plan and to determine their effectiveness in achieving the objectives and completion criteria.

While CBH initially proposed reference sites to be part of this revegetation plan, DWER has advised that reference sites in this instance will not be required. This was based upon the unlikely ability to identify suitable reference sites within an extensively cleared environment. In lieu of reference sites, the plan will focus on establishing vegetation associations suitable for the local environment “saline paleochannel”.

A flora and vegetation study was conducted by Ecological Australia (ELA), during which a total of 15 relevés were established (Figure 4). Each relevé described broad vegetation communities, focusing on dominant species, structure and overall condition. The data recorded within each relevé included:

- Site details (site name, number, observer/s, date, and location)
- Broad vegetation type survey based on the evaluation of the dominant flora species in the three traditional strata (upper, mid, and ground) and mapping extent
- Vegetation condition according to the Keighery (1994) vegetation condition scale, as outlined in the EPA Technical Guidance (EPA 2016a).

3.5. Performance Monitoring

Monitoring sites (quadrats) will be established in both management zones to ensure that the revegetation objectives are progressing towards achievement, with the ultimate success measured against the completion criteria. Quadrats will be established in areas that provide a representative sample of the vegetation structure, floristics and condition.

The quantity, location and size of monitoring quadrats will be established in accordance with the *Standard Operating Procedure Establishing Vegetation Quadrats (Department of Environment and Conservation 2009),* and the Environmental Protection Authority’s (EPA) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (2016*). Monitoring will be undertaken within the revegetation areas annually for a minimum of five years, or until completion criteria have been met and maintained for a period of two years.

Monitoring data obtained from the quadrats will be used to assess the success of revegetation against completion criteria. Formal monitoring for the revegetation zones will be performed by experienced consultants in growth periods for the duration of the 5-year management period.

The monitoring activities will collect the following data:

- Site number
- Native flora species density (plants per m2) – noting species in current vegetation communities
- Native species flora richness (per quadrat) - noting species in current vegetation communities
- Native species and foliage cover (%)
- Vegetation condition under the Keighery Scale (Keighery 1994)
- Weed species and foliage cover (%)
- Number of mature trees (DBH>30 cm)
- Indicators of the presence of fauna (e.g., scats, burrows, tracks)
- General observations (e.g., pest insects, feral animal disturbance, fire occurrence)

To support the monitoring program, photo monitoring points will be established at representative locations within each monitoring site and recorded with a GPS. At each point, two photographs will be taken along each direction of a transect or one photo from a quadrat corner. All photos will be date stamped and photo number recorded with appropriate details (monitoring site number and direction of photo).

During the revegetation phase, a brief one to two-page report will be developed by the revegetation specialist, giving a snapshot of the status of the revegetation program. This report will provide a results summary, establish trends with respect to previous assessments (including photographs) and give recommendations for action. Seedling survival will be monitored by counting alive and dead/missing plants. Weed cover will be estimated by visual site assessment, and the presence of any particularly significant weed species noted.

The results of the monitoring and general observations will determine whether remedial action such as weed control and infill planting are required to meet the success targets.

3.6. Completion Criteria

Table 3 sets the completion criteria to be applied to relevant management zones. CBH will develop interim progress targets based on a review of the first two years of monitoring and inform future monitoring and maintenance activities (see section 5).

Table 4 outlines the contingency measures to be implemented if aspects of the completion criteria are not achieved.

Table 3: Completion criteria

Criterion	Criteria	Objective/Target	Completion criteria for each zone and target area		Monitoring
			Zone	Criterion	
1a	Vegetation structure and plant density	Achieve a similarity in the density of endemic plants to the reference quadrat across upper and mid storey.	Applicable to all zones	Average plant densities (stems/m2) for dominant trees, shrubs, and understorey species, are at least 60% of plant densities recorded from the referenced quadrat	Baseline (pre-disturbance) survey of reference quadrat to establish species' density criteria. Annually in spring by an environmental specialist until completion criteria has been met and maintained for two years (i.e. three successive monitoring events)
1b	Species richness/diversity			At least 60% of the species listed in Table 2.	
3a	High Impact Weeds	No high impact weeds No Weeds of National Significance	Applicable to all zones	No weeds present that are listed as Priority Alert, High Impact or Rapid invasiveness on the DBCA Wheatbelt Region Impact and Invasiveness Ratings on the DBCA Wheatbelt Region Impact and Invasiveness Ratings list, as this is periodically updated.	Monitor the revegetation site for weeds by quadrats twice annually in spring and autumn for a minimum of three years after the last year plants were established
3b	Weed density/cover	Weed cover is no greater than the baseline at the reference quadrat.	Applicable to all zones	For each zone, weed cover shall be no greater than the baseline data recorded within referenced quadrat.	Annually in spring by an environmental specialist until completion criterion has been met and
4	Bare ground	No more than 5 percent greater than the baseline at the appropriate relevés for each management zone	Applicable to all zones	No more than 70% bare ground in the referenced quadrat	maintained for two years (i.e. three successive

4. REVEGETATION METHODOLOGY

4.1. Timing

Revegetation will take place during the wetter months upon completion of the construction phase. Due to the size of the area compared to available resources, revegetation is expected take place over several years.

4.2. Site Preparation

Where required, surface preparation activities such as ripping and or hand auguring will be performed by experienced personnel. Revegetation areas of bare earth resulting from clearing will have mulch applied to a depth of 50-100mm to retain soil moisture and control erosion by utilizing mulch generated from vegetation cleared within the project area.

4.3. Seed Sources and Seedling Propagation

Seeds used for seedlings and direct seeding will be of local provenance (i.e., within 100 km of the impact site) where possible, however it is expected that seed sources are expected to be extremely limited and may need to be supplemented from sources further away in the Avon-Wheatbelt bioregion.

Seedlings will be acquired from a commercial nursery, propagated from material sourced as close to the site as available at the time of order. Alternatively, if timing permits it may be possible to collect seeds from the site for future propagation.

4.4. Fencing

Where applicable, the installation of fencing and upgrades to existing fencing will be conducted to manage risks regarding vehicle access and grazing animals.

4.5. Drainage

Where erosion may be a risk to the revegetation objectives, local surface water drainage features will be stabilized with appropriate materials, such as jute matting or rocks.

4.6. Disease and Weed Hygiene

The implementation of a weed control program will prevent weed species from competing with native vegetation for light, nutrients and moisture, and will also reduce the fuel load.

Weed control events will be required both prior to and following planting and will commence at least three months prior to vegetation establishment. Targeted weed spraying will be undertaken by traversing the entire area by foot and spot spraying for weeds prior to the planting of tubestock.

The annual spraying and weed management shall continue for a period of three years post revegetation works commencing. The application of herbicide will occur in still, dry conditions when no rain is predicted within 12 hours.

Spraying will be conducted in such a manner that spray drift is minimised and that any nearby native species are not affected. Following spraying, the ground will be left for a minimum of two weeks before the preparation of planting commences. Herbicide application will be undertaken by trained personnel in accordance with manufacturers' instruction, which will include the application of appropriate safety requirements.

The Miling locality is not recognised as a dieback risk area, nor was it referenced within any surveys performed by consultants. Preventative controls such as appropriately cleaning machinery and vehicles will still need to be implemented to mitigate the risk of contaminated soil or seeds being brought to site.

4.7. Revegetation

Bare areas will be scoured and seeded at rates determined to be appropriate to the completion criteria.

Tubestock will be utilised for revegetation. Plant layout will reflect natural conditions to the greatest extent possible by distributing plant species with adequate spacing for root development. It is necessary to ensure that planting density reflects the natural bush surroundings in order to create 'like for like' vegetation conditions.

Planting will preferably be undertaken with a motorised post hole digger by skilled personnel. The planting hole will be excavated vertically into free draining mulched soil to an approximate depth of 0.5 – 0.7 m to accommodate the root ball of the plant.

Each seedling planted will have a biodegradable tree guard placed around them to reduce predation from rabbits and kangaroos. The tree guards will be held in place with three 60 cm to 80 cm bamboo sticks. These tree guards will be removed after one year which will prevent damage to the growing seedlings caused by constriction of outward growth.

5. REVEGETATION MAINTENANCE

Maintenance will be undertaken following planting/seeding with all activities to be conducted in response to the maintenance inspections and monitoring (as discussed below). The key elements associated with maintenance works will include soil stabilisation or treatment, additional spraying for weeds and infill planting/seeding. The requirement to implement revegetation maintenance and infill planting/seeding measures will be determined following each monitoring event.

5.1. Reporting

Monitoring reports will be compiled within three months following each monitoring event. These reports will be submitted to DWER for their records as a component of the annual compliance report (NVCP Permit) and will:

- Outline the date and description of works undertaken during the reporting period
- Record and evaluate the success of revegetation works through analysis of data (both spatial and temporal trends against control and revegetated sites)
- Identify any follow up remedial or maintenance works to be undertaken to meet the completion criteria
- Set out a program for the remedial or maintenance works

5.2. Contingency Measures

Contingency actions may be required if completion criteria are not achieved. This may be due to factors such as unseasonal or changes in weather patterns and disturbance from grazing animals, namely rabbits and/or kangaroos. Measures will be adaptive to both informal and formal monitoring and may not be limited to the actions detailed in Table 4.

Table 4: Contingency measures

Issue	Actions
Monitoring indicates revegetation areas do not comply with the completion criteria.	Identify revegetation shortfalls: ▪ Identify likely cause of failure (e.g. weeds, lack of water, inappropriate timing of revegetation, lack of nutrients, poor soil condition, lack of water, insect/fungus attack, dieback, predation by herbivores, poor species selection) ▪ Address cause of failure (this may include watering strategies, mulching, soil stabilisation, pest control, tree guards) ▪ Plan infill planting/seeding to compensate for vegetation shortfalls
Inadequate tubestock/seed available in first year	Commission alternative nurseries to germinate stock ▪ Identify alternative species in consultation with botanical specialist ▪ Plant additional tubestock/seed in subsequent year ▪ Source seed outside provenance range

5.3. Revegetation Schedule

Table 5 provides an outline of the schedule for revegetation works within the Project site. To ensure quality and consistent outcomes, revegetation and weed management works will be undertaken by a suitably qualified and experienced revegetation contractor. The revegetation performance targets for the design density seedlings will be at least 60% at the end of the maintenance period, inclusive of any weed coverage not impacting planted seedlings with an absence of declared weed species.

Table 5: Schedule of revegetation and monitoring activities

Phase	Action	Action Detail	Responsibility	Evidence/Output	Frequency/Timing	Corrective Action
Year 1	Species List and Completion Criteria	Establish a species list for revegetation and update completion criteria	Revegetation specialist/contractor	Invoice/seed stock supplies/inspection report	Annual	Source additional supply from revegetation / accredited nurseries
	Seed collection	Suitably qualified professional to collect and manage seeds	Revegetation specialist/contractor	Invoice/seed stock supplies	Annual	Source additional supply from revegetation / accredited nurseries
	Weed Control	Initiate weed control as per Section 4.6	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE (CBH internal recording system) Determine appropriate remedy (e.g. additional round of weed control, adjusted method, alternative herbicides, changed timing) Implement remedy
	Order Plants	Order local endemic plants/seed mix on species list	Revegetation specialist/contractor	Invoice/seed stock supplies	Annual	Source additional supply from revegetation / accredited nurseries
	Planting	Consideration to plant seedlings/seed mix in accordance with species outlined in Section 3.3	Revegetation specialist/contractor	Inspection report	Annual	Investigate cause and assign action in SHARE
	Monitoring and reporting	Undertake monitoring to determine the required maintenance measures (i.e. weed control, pest control and infill planting). Submit annual report to DWER	Revegetation specialist/contractor	Monitoring report	Annual	Investigate cause and assign action in SHARE

Phase	Action	Action Detail	Responsibility	Evidence/Output	Frequency/Timing	Corrective Action
Year 2	Weed Control	Undertake management of annual weed germinants in revegetation areas as required	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE Determine appropriate remedy (e.g. additional round of weed control, adjusted method, alternative herbicides, changed timing) Implement remedy
	Pest Control	Undertake control measures for pest incursion if found to be required during monitoring	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE Determine appropriate remedy (e.g. additional round of weed control, adjusted method, alternative herbicides, changed timing) Implement remedy
	Planting	Consideration to plant seedlings/seed mix in accordance with species outlined in Section 3.3	Revegetation specialist/contractor	Inspection Report	Annual	Investigate cause and assign action in SHARE
	Infill Planting	Order local endemic plants/seed mix on species list based on survival rates Plant seedlings in accordance with Section 3.3	Revegetation specialist/contractor	Inspection report	Annual	Investigate cause and assign action in SHARE
Year 3	Monitoring and reporting	Undertake monitoring to determine the required maintenance measures (i.e. weed control, pest control and infill planting). Submit annual report to DWER	Revegetation specialist/contractor	Monitoring report	Annual	Investigate cause and assign action in SHARE

Phase	Action	Action Detail	Responsibility	Evidence/Output	Frequency/Timing	Corrective Action
	Weed Control	Undertake management of annual weed germinants in revegetation areas as required	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE Determine appropriate remedy (e.g. additional round of weed control, adjusted method, alternative herbicides, changed timing) Implement remedy
	Pest Control	Undertake control measures for pest incursion if found to be required during monitoring	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE Determine appropriate remedy (e.g. additional round of weed control, adjusted method, alternative herbicides, changed timing) Implement remedy
	Infill planting	Order local endemic plants/seed mix on species list based on survival rates Plant seedlings in accordance with Section 3.3	Revegetation specialist/contractor	Inspection report	Annual	Investigate cause and assign action in SHARE
Year 4	Monitoring and reporting	Undertake monitoring to determine the required maintenance measures (i.e. weed control, pest control and infill planting). Submit annual report to DWER	Revegetation specialist/contractor	Monitoring report	Annual	Investigate cause and assign action in SHARE
	Weed Control	Undertake management of annual weed germinants in revegetation areas as required	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE Determine appropriate remedy (e.g. additional round of weed control,

Phase	Action	Action Detail	Responsibility	Evidence/Output	Frequency/Timing	Corrective Action
						adjusted method, alternative herbicides, changed timing) Implement remedy
	Pest Control	Undertake control measures for pest incursion if found to be required during monitoring	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE Determine appropriate remedy (e.g. additional round of weed control, adjusted method, alternative herbicides, changed timing) Implement remedy
	Infill planting	Order local endemic plants/seed mix on species list based on survival rates Plant seedlings/seed mix in accordance with Section 3.3	Revegetation specialist/contractor	Inspection report	Annual	Investigate cause and assign action in SHARE
Year 5 and beyond (continue annually until completion criteria has been met and maintained for two years) – Spring	Monitoring and reporting	Undertake monitoring to determine the required maintenance measures (i.e. weed control, pest control and infill planting). Submit annual report to DWER	Revegetation specialist/contractor	Monitoring report	Annual	Investigate cause and assign action in SHARE
	Weed Control	Undertake management of annual weed germinants in revegetation areas as required	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE Determine appropriate remedy (e.g. additional round of weed control, adjusted method, alternative herbicides, changed timing) Implement remedy

Phase	Action	Action Detail	Responsibility	Evidence/Output	Frequency/Timing	Corrective Action
	Pest Control	Undertake control measures for pest incursion if found to be required during monitoring	Contractor	Inspection report	Annual	Investigate cause and assign action in SHARE Determine appropriate remedy (e.g. additional round of weed control, adjusted method, alternative herbicides, changed timing) Implement remedy
	Infill planting	Order local endemic plants/seed mix on species list based on survival rates Based on the survival rates of plants from the monitoring program, additional seedlings to be acquired,	Revegetation specialist/contractor	Inspection report/Invoice seed stock supplies	Annual	Identify revegetation shortfalls (via monitoring report) Identify likely cause of failure (e.g. weeds, lack of water, inappropriate timing of revegetation, lack of nutrients, poor soil condition, lack of water, insect/fungus attack, dieback, predation by herbivores) Address cause of failure (this may include mulching, soil stabilisation, pest control, tree guards) Plan infill planting/seeding to compensate for vegetation shortfalls
Years 10 or two years after completion criteria being met and maintained	Monitoring and reporting	Completion survey and closure	Revegetation specialist/contractor	Monitoring report	Annual	Investigate cause and assign action in SHARE

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