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Final Report

Rehabilitation Management Plan: Langwarrin Sand Quarry, 60 Valley Road and 150 Quarry Road, Langwarrin, Victoria

Prepared for

Heidelberg Materials Australia Pty Ltd

February 2026

Ecology and Heritage Partners Pty Ltd

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DOCUMENT CONTROL

Assessment type	Rehabilitation Management Plan
Address	Langwarrin Sand Quarry, 60 Valley Road and 150 Quarry Road, Langwarrin, Victoria
Project number	19775
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File name	19775_EHP_RMP_LangwarrinQuarry_Final_0022026
Client	Heidelberg Materials Australia Pty Ltd
Bioregion	Gippsland Plain
Catchment Management Authority	Melbourne Water
Council	City of Frankston

VERSION CONTROL

Report version	Comments	Report authored by:	Report reviewed by:	Date submitted
Draft	Report sent to the client for review	CS	SLB	06/02/2026
Final	Minor changes based on client feedback. Report sent to the client.	CS	-	10/02/2026

Ecology and Heritage Partners Pty Ltd acknowledge the Traditional Owners of the country we live and work on, and we pay our respect to Elders past, present and emerging.

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1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by Heidelberg Materials Australia Pty Ltd to prepare a Rehabilitation Management Plan (the 'Plan') for Langwarrin Sand Quarry, 60 Valley Road and 150 Quarry Road, Langwarrin, Victoria (Figure 1). This Plan will be used to guide the physical restoration works, including revegetation, habitat creation, weed control and pest animal control.

Ecological values within the study area have previously been documented as part of earlier flora, fauna and habitat hectare analyses for the proposed quarry extraction footprint within 60 Valley Road, which also slightly extends into 150 Quarry Road (Abzeco Pty Ltd 2023; Ecology and Heritage Partners Pty Ltd 2025; Galbraith and Associates Pty Ltd 2025), with these reports providing background information for this Plan.

The aims of this Rehabilitation Management Plan are to:

- Replicate (as far as practicable) the natural characteristics of extant local vegetation communities within the quarry extraction footprint, conservation area and drainage channel;
- Provide a range of habitat opportunities for native fauna; and
- Ensure potential disturbances/threats are identified and managed appropriately and in a timely manner.

1.2 Study Area

The Langwarrin Sand Quarry is located at 60 Valley Road and 150 Quarry Road, Langwarrin and is approximately 40 kilometres south-east of Melbourne's CBD (Figure 1). The study area is approximately 54.55 hectares in area and is bound by Valley Road and semi-rural properties to the north, active quarries and semi-rural properties to the east and west, and Quarry Road to the south-west.

This Plan includes management actions for the:

- Rehabilitation of the quarry extraction footprint (6.06 hectares) that occurs on both 60 Valley Road and 150 Quarry Road;
- The designated conservation area (1.00 hectare) within 60 Valley Road; and
- The drainage channel (424 metres) that will be reinstated along the eastern boundary of 60 Valley Road and link up to Boggy Creek through 150 Quarry Road (Figure 2). The remaining quarry area within 150 Quarry Road is outside the scope of this Plan but is referenced where appropriate.

The land within 60 Valley Road includes a mosaic of open grassy areas comprised largely of exotic species and largely intact native vegetation/bushland. The land is flat to gently undulating due to it being part of the inland coastal sand dune system. Small depressions that would likely hold water in wetter months were observed within this property. A residence and associated outbuildings occur within 60 Valley Road.

The existing quarry is located within 150 Quarry Road, which contains steep banks and standing water at the base of some of the quarry pits. It also contains some isolated pockets of native vegetation. Boggy Creek runs through 150 Quarry Road and contains largely intact native vegetation.

1.3 Rehabilitation Management Plan Duration

The quarry operations will commence as soon as the relevant approvals have been given. This Plan will apply from the time the quarry operations commence, including pre-quarrying actions such as vegetation removal to facilitate the quarry extraction footprint and rehabilitation works within the conservation area. The Plan's duration will also include a 10-year period commencing from the time the quarry operations cease and the pit is infilled (i.e. ready for revegetation). The life of the plan is expected to be approximately 16 years from the time relevant approvals are given, which includes approximately six years for the quarries operational stage and then 10 years for the rehabilitation stage.

2 LEGISLATION AND POLICY CONSIDERATIONS

2.1 *Planning and Environment Act 1987* (Victoria)

2.1.1 *Local Planning Scheme*

The study area is located within the City of Frankston. The following zoning and overlays apply (Department of Transport and Planning [DTP] 2026):

- Rural Conservation Zone – Schedule 2 (RCZ2)
- Special Use Zone – Schedule 2 (SUZ2)
- Public Use Zone – Service and Utility (PUZ1)
- Bushfire Management Overlay (BMO)
- Environmental Significance Overlay – Schedule 1 (ESO1)

Environmental Significance Overlay – Schedule 1 Native Vegetation and Fauna Habitat

The ESO and ESO1 applies to approximately the southern two-thirds of 60 Valley Road and a small triangle in the eastern corner of 150 Quarry Road. One of the purposes of ESO1 (Clause 42.01 – Schedule 1) is to "*protect and enhance bio links across the landscape and ensure that vegetation is suitable for maintaining the health of species, communities and ecological processes, including the prevention of the incremental loss of vegetation*." While 4.569 hectares of native vegetation is proposed to be removed for the quarry extraction footprint within the study area, this footprint will be rehabilitated with the intention of restoring it to a natural setting that aligns with the Heathy Woodland EVC (Ecology and Heritage Partners 2025). Furthermore, the long arm to the study area's north-east currently contains largely exotic grasses, which will be revegetated in line with the Heathy Woodland EVC within the designated conservation area (Figure 2). As an additional related measure, revegetation is currently occurring and will continue to occur within 150 Quarry Road (Figure 3). These revegetation measures over the long term across the larger quarry site will expand the area of native vegetation beyond its current extent and enhance biolink corridors across the greater Frankston/Langwarrin landscape.

2.2 *Catchment and Land Protection Act 1994* (Victoria)

The CaLP Act contains provisions relating to catchment planning, land management, noxious weeds and pest animals. Landowners are responsible for the control of any infestation of noxious weeds and pest fauna species to minimise their spread and impact on ecological values.

Five noxious weeds listed under the CaLP Act were recorded during the ecological assessment within the study area (Ecology and Heritage Partners Pty Ltd 2025) both within and directly adjoining the quarry extraction footprint, being Blackberry *Rubus fruticusus* spp. agg., Boneseed *Chysanthemoides monilifera*, Spear Thistle *Cirsium vulgare*, Common Thorn-apple *Datura stramonium* and Gorse *Ulex europaeus*. CaLP Act weeds should be eradicated where located outside the extraction footprint (i.e. where vegetation is not being removed) and killed as part of the weed control process during the rehabilitation stage within the extraction footprint.

2.3 High Priority Biolinks

The Frankston Fauna Linkages and Crossing Structure Design report (Practical Ecology Pty Ltd 2012) identified several fauna biolink habitat corridors linking several large reserves withing the City of Frankston and City of Casey municipalities. This information was then incorporated into the Biodiversity Action Plan 2021-2036 (Frankston City Council 2021). The study area forms part of a linkage corridor known as C1, which is proposed to provide a biolink between The Pines Flora and Fauna Reserve in the west, and the Cranbourne Royal Botanic Gardens to the east (Figure 3 of this report; Figure 12 of Frankston City Council 2021).

C1 appears to predominantly comprise a range of vegetated low density residential lots, larger areas of native vegetation within privately owned land, and road reserves. 60 Valley Road is one of the low-density residential parcels that forms part of C1. The integrity of C1 is not expected to be compromised if the study area is used for extractive industry purposes, as the biolink will still be maintained via the northern half of 60 Valley Road and immediately adjacent parcels (see Proposed C1 Alternative Corridor – Figure 3), however the proposed action will reduce habitat availability while being undertaken.

Following sand extraction within the extraction footprint, the land will be rehabilitated and revegetated within 10 years of operations ceasing, and as such, the C1 linkage will be re-established in full within 60 Valley Road, and result in the long-term integrity of the biolink being maintained within this section.

Separate to the proposed extractive works, revegetation works are currently being undertaken within 150 Quarry Road within the proposed biolink areas (Figure 3) and will continue to occur where portions of the proposed biolinks are no longer need for quarry operation purposes. This revegetation activity will expand the section of the C2 biolink that intersects the existing quarry. C2 is present as a riparian corridor along the Boggy Creek easement. The easement is approximately 10.5 metres wide. Although the current extent of vegetation along and adjacent to Boggy Creek is greater than the width of the easement, it is predominantly located on privately owned land (i.e. outside of the easement on the quarry land) and under the existing Work Plan, can be removed for quarrying purposes. However, the ongoing revegetation of 150 Quarry Road will increase the extent of native vegetation along the C2 biolink from approximately 0.73 hectares (within the easement) to approximately 9.2 hectares (including vegetation on privately owned quarry land outside the easement) which will ultimately optimise and enhance the connectivity provisions for fauna. The Plan does not specifically cover revegetation within the proposed biolink extent, as this is already underway and will be undertaken when fill is placed and ready to be revegetated as part of the site rehabilitation process.

3 MANAGEMENT ACTIONS

The management actions have been categorised as pre-quarry extraction actions (Section 3.1) and post-quarry extraction actions (Section 3.2). The post-quarry extraction actions refer to all management actions that will be undertaken following the quarry operations ceasing and the pit being infilled ready for revegetation.

3.1 Pre-quarry Extraction Works

Three management actions are included in this Plan, with two actions being prior to the extraction activities occurring and one being following extraction activities but prior to the revegetation actions occurring. These include the installation of nest boxes for habitat creation, log collection and storage, and soil contouring.

3.1.1 Habitat Creation – Nest Boxes in the Conservation Area

The forested areas within the study area contain many mature eucalypts, providing an array of small and medium hollows, bark fissures and crevices that provide nesting and sheltering opportunities for a wide range of native fauna, including arboreal mammals, birds, bats, reptiles and insects. Many species of wildlife rely on natural tree hollows for nesting, breeding and shelter. Hollows provide a safe home away from the weather and predators. In eucalypt trees, small hollows may take over 70 years to develop and large hollows many decades longer. The range of hollow sizes and types is matched by the range of wildlife able to use them – small species such as the Feathertail Glider use small hollows, large parrots such as the Sulphur-crested Cockatoo use large, deep hollows.

Nest boxes are an important aspect to wildlife conservation and site rehabilitation in that they provide additional habitat for hollow-dependant fauna in areas where hollows are in short supply or have been removed, such as the case with the removal of several hollow-bearing trees to facilitate the quarry extraction footprint. Nest boxes will be installed within the existing mature eucalypts within the proposed conservation area to create fauna habitat for species that maybe displaced through the removal of hollow-bearing trees within the quarry extraction footprint. Nest boxes may also be secured to poles at least three metres high with a plastic sheet/band around the upper one metre within the quarry extraction footprint at a later stage in the 10-year Plan timeline once plants have become established and provided some height.

Given that several (exact number is unknown) habitat features, i.e. hollows, bark fissures and crevices, with respect to the vegetation being cleared within the quarry extraction footprint will be removed, nest boxes will be installed on one third of the mature existing eucalypts within the conservation area and maintained. Any damaged nest boxes observed during the life if this Plan will be replaced.

Nest Box Design

The different requirements of local wildlife necessitate that nest boxes are specially designed to incorporate essential features that mimic the characteristics of their natural nesting hollows. The table below (Plate 1), as prepared by BirdLife (undated), indicates the various specifications required for a range of native and indigenous species.

Several familiar introduced species, especially the Indian Myna *Acridotheres tristis*, Common Starling *Sturnus vulgaris* and House Sparrow *Passer domesticus* all nest in tree hollows, and they will happily use nest boxes

intended for native birds or mammals. They tend to be very aggressive around nest sites, and Indian Mynas have been recorded driving nesting birds away and tossing their eggs and nestlings from hollows or nest boxes.

The Anti-Myna Baffle is a simple device which shields the entrance hole to the nest box, and prevents Indian Mynas from entering (they always fly directly to the entrance of the nest hollow), while allowing access to rosellas and other parrots, which usually climb up to the entrance of their nesting hollow, and so are able to climb between the baffle and the nest box. It is important to provide a 'ladder' for the parrot to climb up the entrance — chisel or saw a few horizontal grooves into the front of the nest box or attach a small piece of wire mesh that they can climb up, but do not attach a stick, which may allow Indian Mynas to land there. The distance that the baffle is placed in front of the nest box should be the same as the diameter of the entrance hole (BirdLife, undated).

SPECIES	INTERNAL DIAM (mm)	DEPTH/LENGTH (mm)	ENTRANCE DIAM (mm)	VERTICAL/HORIZ.	HEIGHT (m)
Black-Cockatoo, Glossy	300	870–1000	160 x 200	v	
Boobook, Southern			150	h	
Cockatoo, Sulphur-crested			150	v	
Corella, Little			150		
Corella, Long-billed			150		
Duck, Australian Wood	200	500	120	v	
Duck, Pacific Black	450 x 300		120	h	
Galah	200	650	120–150	v	6
Kestrel, Nankeen	400	750	100	v	5
Kingfisher, Sacred	130	600–900	75	h	5–10
Kookaburra, Laughing	300–400 x 150–200	500–600	open, >130	h	5–10
Lorikeet sp.	120	600	60	h	5
Lorikeet, Little			25–30		
Lorikeet, Musk			25–30		
Lorikeet, Purple-crowned			25–30		
Owl, Eastern Barn	400	750	open, >150	h	5
Owlet-nightjar, Australian	100–150	300–400	30–120	v	5
Pardalote sp.	120	400–500	30–45	h	5
Pardalote, Striated	90–200 x 120–150	200	25–35	v/h	
Parrot, Red-rumped	100–240	400–600	25–120	v/h	5
Rosella sp.	120–200	350–800	70–120	v/h	5
Rosella, Crimson	150–200	350–800	75–100	v/h	5–6
Rosella, Eastern	135–240	350–800	60–100	v/h	5–6
Shrike-thrush, Grey	150–200 x 200–300	150–300	open, >150	h	
Swallow, Welcome	130		open	h	3
Teal, Chestnut	200–400 x 300	450–750	80–120	v	1.5
Teal, Grey	200–450 x 300	450–750	80–120	v	1.5
Treecreeper sp.	90–150	100–400	50–80	v	
Treecreeper, White-throated	75–100	300–400	50–70	v	5
Antechinus, Yellow-footed			20–25		
Bat sp.	70–100 x 150–240	200–250	15–20 (slit)	v	
Bat, Chocolate Wattled			10 (slit)		
Bat, Gould's Wattled			10 (slit)		
Bat, Lesser Long-eared			10 (slit)		
Brushtail-Possum	210 x 240–320	380–400	90–150	v	4–8
Glider, Feather-tailed			20–25		
Glider, Squirrel			60		
Glider, Sugar	200–250	300–450	25–50	v	4–8
Phascogale, Brush-tailed			25–30		
Ringtail-Possum	250	350–400	60–90	v	4–8

Plate 1. Recommended nest box dimensions (BirdLife Australia, undated).

Alternative Nest Box Options

Traditional artificial nest boxes are useful habitat alternatives, however they can disintegrate and become unusable after only a few years depending on their quality. Alternative options include repurposing existing hollows, hollows physically calved into living trees and 3-D printed nest boxes.

Hollows within tree trunks and large branches from the vegetation being cleared within the quarry extraction footprint can be repurposed but cutting out the hollow section of the trunk/branch and securing it to mature trees within the conservation area, thereby providing the most natural instant hollow achievable. These hollows can also be secured to poles at least three metres high with a plastic sheet/band around the upper one metre within the quarry extraction footprint. This may only be practical for smaller hollows, depending on how heavy the trunk/branch with the hollow section is.

The creation of carved hollows into tree trunks has been shown to better mimic the physical and thermal properties of natural tree hollows compared to artificial nest boxes (Griffiths *et. al.* 2018). Artificial hollows carved directly into live trees can produce thermally stable supplementary habitats that could potentially buffer hollow-dependent fauna from weather extremes, whereas poorly insulated plywood nest boxes produce lower-quality thermal environments. Installation of carved hollows provides an opportunity to create long-term, sustainable ecologically robust habitat within the conservation area.

A recent development that has been trialled in the City of Knox has been the creation and installation of 3-D printed nest boxes – created specifically to mimic the naturally occurring characteristics of known Powerful Owl nesting sites. These nest boxes can be moulded to a unique fit from a range of organic materials including hemp concrete, wood earth (i.e. clay, mud) and/or fungus, and as they are lightweight, they can be easily fixed onto trees or poles. The utilisation applicability of using 3-D printed nest boxes for Powerful Owl is currently being trialled in a partnership between the City of Knox and a team in the Architectural Design Lab at Melbourne University (Nadine Gaskell, *pers. comm*). These nest boxes might be a viable option depending on whether they are available, i.e. in commercial production. These hollows can also be secured to poles at least three metres high with a plastic sheet/band around the upper one metre within the quarry extraction footprint.

Habitat Creation: Nest Boxes in the Conservation Area – Management Actions

- Install nest boxes in the conservation area, which can be undertaken anytime following planning permit approval for the quarry's development. All nest boxes must be installed prior to vegetation being removed to facilitate the quarry extraction footprint.
- A nest box will be installed on one third of the mature eucalypts within the conservation area.
- Consult with Frankston City Council and/or local Landcare groups to ensure the types of boxes (i.e. which species should be targeted) are appropriate for the local ecosystem.
- The nest boxes (artificial wood, repurposed trunk/branch hollows, carved hollows or 3-D printed nest boxes) will be fixed securely to the trunk or a sturdy branch of trees in the conservation area at least two metres above the ground, but at a height where it can be monitored easily, and is out of the prevailing wet-weather winds, in the shade or semi-shade, and near sources of food and water.
- Any nest boxes that are damaged will be replaced within one month of the damage being observed.

3.1.2 Log Collection and Storage

Logs provide an excellent habitat and food source for many species and are extremely important for the proper function of a healthy ecosystem. Frogs, reptiles and small mammals use logs with hollows for shelter and as a food resource, i.e. eat insects and small reptiles that occupy these locations.

The mature eucalypts within the quarry extraction footprint can be repurposed as logs within the revegetation area once the soil has been infilled and in the conservation area. Tree trunks and large branches with hollows, cracks and/or fissures are particularly valuable as logs, as they provide additional habitat opportunities for ground-dwelling native fauna such as small mammals (rodents, dunnarts, antechinus') and reptiles (blue-tongue lizards, skinks, dragons, snakes) compared to perfectly round intact logs. Existing logs within the quarry extraction footprint can also be reused as logs, as these logs will likely be at various stages of decomposition and therefore provide another habitat option for native fauna.

The minimum benchmark log length for the Heathy Woodland EVC is 150 metres per hectare (DEECA 2026), which equates to 909 metres of log length across the quarry extension footprint following infill and 150 metres of log length across the conservation area.

Logs Collection and Storage - Management Actions
• When removing/felling native vegetation in the quarry extraction footprint, mature eucalypt trunks and large branches will be retained for use as logs (particularly those with hollows, cracks and/or fissures) in the quarry extension footprint and conservation area. Existing logs that can be reused during the rehabilitation stage will also be collected and stored. A total of 1,059 metres length of tree trunks, large branches and existing logs should ideally be collected for use as future logs to meet the minimum Heathy Woodland EVC log length.
• The tree trunks, large branches and existing logs will be stored as a stockpile in a suitable location within the quarry area until such time as they are needed as part of the rehabilitation stage.

3.1.3 Soil Contouring

Following the completion of quarrying operations, clean fill and other material approved by the Environment Protection Authority (EPA) will be brought into the study area to fill the quarry pit void and return it to natural ground level. Topsoil and overburden stockpiled elsewhere within the existing quarry is also available for use in the infill process if/when required.

Low-lying areas, including two dams, and drainage channels are currently scattered throughout the quarry extraction footprint area, which would occasionally hold water during the wetter months and provide habitat for a range of frogs and drinking source for other animals. These areas contain a dense carpet of heathy vegetation, grasses and/or herbs. There is therefore an opportunity to contour the soil as part of the infill process to provide ponds (i.e. like the existing dams), depressions and undulations that reflects a natural setting and provide habitat for aquatic fauna and a source of drinking water for other fauna.

Soil Contouring - Management Actions
• When infilling the quarry extraction footprint in preparation for rehabilitation, soil will be contoured to provide depressions that may seasonally hold water and undulations. • A minimum of two ponds measuring at least 10 metres in diameter each will be incorporated as part of the soil contouring works.

3.2 Post-quarry Extraction Works

3.2.1 Habitat Creation - Logs

Habitat for a wide range of native fauna will be created through the placement of logs around the quarry extension footprint following soil contouring and before revegetation works commence. Revegetation works within the conservation area are intended to commence following planning permit approval, with logs needing to be placed around this area prior to revegetation works beginning.

Habitat Creation: Logs - Management Actions
• Tree trunks, large branches and existing logs that were retained and stored during the quarry extraction footprint vegetation clearance stage will be placed around the quarry extension footprint prior to the revegetation/planting works commencing. • Tree trunks, large branches and existing logs that were retained and stored during the quarry extraction footprint vegetation clearance stage will be placed around the conservation area prior to the revegetation/planting works commencing, which is expected to commence shortly after the logs become available. • The logs will be placed as single items or in small groups, i.e. not as large log 'stacks'.

3.2.2 Revegetation Principles

Revegetation will be the main component of the rehabilitation program, with general principles and planting methods provided below. Revegetation will occur following log placement.

Over the first three years the focus of the revegetation effort should be on:

- Ensuring survival of at least 90% of planted tubestock, or replacement of deceased tubestock to achieve compliance with this target; and
- Minimising ongoing disturbances (i.e. weed and pest animal control).

Revegetation Principles - Management Actions
The general principles and actions for revegetation that must be adhered to as part of the plan are as follows: • Revegetation activities will be undertaken using either tubestock or be direct seeded, with both options being of local provenance. Tubestock are typically used for trees, shrubs and herbs, while direct seeding is a good option for native grasses if preferred over planning individual grasses. If used, seeds will be dispersed directly onto the ground.

- All tubestock must be actively growing, have been drought-hardened prior to planting out and will have a well-developed root ball without being root-bound.
- Planting and direct seeding (if applicable) will occur in autumn to early winter (generally April to June). This planting window is ideal for plant success, as the warm soil promotes root growth, soil moisture is increasing but not too excessive and the cooler air reduces transplant stress. Planning in spring or summer increases the risk of plant failure due to higher air temperatures and less natural rainfall.

The planting methods for tubestock should be conducted to industry standard, using the following guidelines:

- Holes should be dug that are twice the depth and width of the tube with steep sides and loose soil in the bottom of the hole.
- The plant should be held by the stem upright, whilst the hole is backfilled.
- The back filled soil should be firmly pressed down using the hand or heel without damaging the root ball.
- The plant should rest within a slight concave depression to allow the retention and absorption of water.
- Tree guards and stakes will be placed around each plant at the time of planting. The specific tree guard type (e.g. classic plastic sleeve, biodegradable plastic sleeve, mesh, corflute) will be chosen based on site conditions and environmental factors, such as potential herbivorous grazing pressures and level of protection required from wind, frost and sun/heat.
- The initial watering should be approximately four litres per plant and be allowed to percolate through the backfilled soil to consolidate any loose soil and remove air pockets.

The health of the tubestock will be monitored every three months and any tubestock that has died will be replaced within one week of its death being known.

3.2.3 Planting Design and Species Selection

Plantings will comprise indigenous native flora species typical of Heathy Woodland EVC within the Gippsland Plain bioregion, which was observed within the study area as part of the Biodiversity Assessment (Ecology and Heritage Partners Pty Ltd 2025). Heathy Woodland EVC is characterised by low woodland to 10 metres tall dominated by eucalypts. The understorey typically contains a diverse array of narrow or ericoid-leaved shrubs (Department of Energy, Environment and Climate Action [DEECA] 2026).

A selection of indigenous flora species suitable for revegetation, their lifeform category and target percentage cover (as per the EVC benchmark) is presented in Table 1. These values are based on the estimated total replanting area of 6.06 hectares within the quarry extraction footprint and 1.00 hectare in the conservation area for Heathy Woodland EVC. Species selection within each life form will depend on factors such as availability from local nurseries and seasonal availability. Minimum revegetation standards historically did not require the replanting of life forms such as prostrate shrubs, herbs and climbers (DSE 2006); however, prostrate shrubs in particular are recommended in this situation to assist in ensuring the rehabilitated site provides a diverse range of species.

Plants were selected using known occurrence data and EVC lists and maps. Plants have also been selected, in some instances, for their broader soil and condition tolerances. Future wildlife habitat, including food sources, has also been considered in the selections. A decision was also made to reduce some fire-prone and colonising species, of which Tea-trees (*Leptospermum* spp. and *Gaudium laevigatum*) and Burgan (*Kunzea*

leptospermoides) were not selected. It is important to note that the selection of species provided in Table 1 is not exhaustive and other flora species representative of the Heathy Woodland EVC may also be suitable.

The planting density targets provided in Table 1 are drawn from the Victorian government's revegetation planting standards (Department of Sustainability and Environment [DSE] 2006), with the targets for Heathy Woodland EVC being:

- 50 trees per hectare;
- 1,200 medium shrubs per hectare;
- 2,000 small shrubs per hectare; and,
- 500 large tufted graminoids per hectare.

Additionally, planting density targets for prostrate shrubs and herbs in Table 1 have been set at 100 plants per hectare, as these are important layers for diversity at this site. These life forms are often faster growing and typically facilitate natural recruitment.

Species suitable for the banks of the ponds and within depressions created as part of the soil contouring within the quarry extraction footprint have also been provided in Table 1. Target planting densities have not been provided, as the number of plants depends on the size of the ponds but should be planted out to provide adequate soil coverage.

It is important to note that the targets in Table 1 are not just planting targets but also survival targets.

Any native plants currently existing within the conservation area will contribute to the total count of target plants required for that life form.

Table 1. Species suitable for planting in the quarry extraction footprint and conservation area for each life form. The number of plants specified for the tree, medium shrub, small shrub and large tufted graminoid life forms is based on the number of plants required per hectare in Heathy Woodland EVC (DSE 2006) multiplied by the extent to be revegetated. The number of plants specified for the prostrate shrub and herbaceous life forms are based on site conditions.

Life Form	Scientific Name	Common Name	Total Target Planting Density	
			Within the quarry extraction area	Within the conservation area
Measurable life forms/species				
Tree (T)	*Acacia mearnsii*	Black Wattle	**303**	**50**
	Allocasuarina littoralis	Black Sheoak		
	Banksia integrifolia	Coast Banksia		
	Banksia serrata	Saw Banksia		
	Eucalyptus cephalocarpa	Mealy Stringybark		
	Eucalyptus obliqua	Messmate Stringybark		
	Eucalyptus radiata	Narrow-leaf Peppermint		
	Eucalyptus viminalis subsp. pryoriana	Rough-barked Manna Gum		
	Acacia paradoxa	Hedge Wattle	**7,272**	**1,200**

Life Form	Scientific Name	Common Name	Total Target Planting Density	
			Within the quarry extraction area	Within the conservation area
Medium Shrub (MS)	*Banksia marginata*	Silver Banksia		
	Bursaria spinosa	Sweet Bursaria		
	Epacris impressa	Common Heath		
	Monotoca scoparia	Prickly Broom-heath		
	Ricinocarpos pinifolius	Wedding Bush		
	Solanum laciniatum	Large Kangaroo-apple		
	Styphelia ericoides	Pink Beard-heath		
Small Shrub (SS)	*Amperea xiphoclada var. xiphoclada*	Broom Spurge	**12,120**	**2,000**
	Dilwynia glaberrima	Smooth Parrot-pea		
	Hibbertia sericea	Silky-Guinea-flower		
	Leucopogon virgatus	Common Beard-heath		
	Pimelea humilis	Common Rice-flower		
Large Tufted Graminoid (LTG)*	*Dianella revoluta*	Black-anther Flax-lily	**3,030**	**500**
	Gahnia sieberiana	Red-fruit Saw-sedge		
	Hypolaena fastigiate	Tassel Rope-rush		
	Lepidosperma filiformis	Variable Sword-sedge		
	Lomandra longifolia	Spiny-headed Mat-rush		
	Microlaena stipoides var. stipoides	Weeping Grass		
	Poa morrissii	Soft Tussock-grass		
	Rytidosperma setaceum	Bristly Wallaby-grass		
	Xanthorrhoea minor ssp. lutea	Small Grass-tree		
Prostrate Shrub (PS)	*Acrotriche serrulate*	Honey-pots	**606**	**100**
	Astroloma humifusum	Cranberry Heath		
	Bossiaea prostrata	Creeping Bossiaea		
	Hibbertia fasiculata	Bundled Guinea-flower		
Large Herb (LH and Medium Herb (MH)	*Acaena novae-zelandiae*	Bidgee-widgee	**606**	**100**
	Goodenia geniculata	Bent Goodenia		
	Gonocarpus tetragynus	Common Raspwort		
	Senecio glomeratus	Annual Fireweed		
	Scencio quadridentatus	Cotton Fireweed		
Non-measurable pond plantings				
Various	*Eleocharis acuta*	Common Spike-sedge	**N/A**	
	Shoenus apogon	Common Bog-sedge	**N/A**	

Life Form	Scientific Name	Common Name	Total Target Planting Density	
			Within the quarry extraction area	Within the conservation area
	Typha domingensis	Narrow-leaf Cumbungi	**N/A**	

* Medium to Small Tufted Graminoids (MTG) and Medium Non-tufted Graminoids (MNG) have been included in the Large Tufted Graminoid (LTG) life form category for use in the revegetation works.

Planting Design and Species Selection - Management Actions
• The quarry extraction footprint and conservation area will be planted out using the life forms and target density numbers provided in Table 1.

3.2.4 *Mulching*

Mulching tubestock after being newly planted provides critical protection during their most vulnerable stage of growth by retaining soil moisture, regulating soil temperature and suppressing weed growth.

Mulching - Management Actions
• All revegetation areas will be mulched within one day of plants being planted in any given area. • Organic mulches will be used, such as leaf litter, woodchips and/or organic jute mattings. Jute matting will be used on sloped areas where the water runoff may cause soil movement/erosion. • If leaf litter and/or woodchips are being used, these mulches will only be applied to areas where the ground is level, at a depth of between 75-100 millimetres, and not piled up around the stem of a plant, as this may cause the stem to rot. • Leaf litter and/or woodchip mulching depths will be monitored every six months for the first two years following planting as they may need to be topped up periodically given they decompose over time, thereby reducing this layer's depth.

3.2.5 *Tree Guards and Stakes*

It is important to ensure pest animal controls are in place and maintained during the rehabilitation process, as pest animal control plays a crucial role in the success of the plant's survival. Removing guards when little food is available can attract rabbits, hares and other pests.

Tree Guards and Stakes - Management Actions
• Tree guards and stakes will be checked a minimum of every three months and repaired or replaced when necessary. Tree guards will need to be removed as the plant grows, which is typically within the first 12 months of planting, however timing will vary with the type of guard, plant and season. • Tree guards will be removed when the plant is approximately 10-15 centimetres above the guard height, or when growth is clearly being restricted. Tall plants left too long within a tree guard will likely fall over after the tree guard is removed.

3.2.6 Supplementary Watering Schedule

Supplementary watering will be required to ensure that tubestock (or seedlings from direct seeding, if applicable) become established and take hold. This will be particularly important if natural rainfall does not occur during the month following planting/seeding.

Supplementary Watering Schedule - Management Actions
• A soil moisture probe may be used to gauge whether additional watering events are required to maintain soil moisture of plant root zones above wilting level. • Supplementary watering will be required until sufficient natural rainfall occurs and/or the plants become established (i.e. plants showing new growth), which will generally be approximately once a week. • Ensure each plant gets adequate water, not just a light spray, as more irregular deep watering has greater benefits than more regular light watering with respect to tubestock survival.

3.2.7 Weed Control

Weeds currently exist within the study area, including five noxious weeds listed under the CaLP Act (Section 2.2). While all vegetation will be removed from within the quarry extraction footprint, the addition of soil into the pit in preparation for the rehabilitation stage will provide a 'clean slate' in which weeds will reestablish. Furthermore, weeds that currently exist within the study area outside the quarry pit extraction boundary will need to be controlled and where possible eradicated.

Weed control activities will be strategically employed and species dependent. The delegated contractor undertaking weed control works will make appropriate decisions on which technique to use based on site specific situations. It is likely that several weed control methods will be required, including spraying, physical removal, hand pulling, and cutting and painting. A broad summary of weed control methods is provided in Appendix 1. General principles when undertaking weed control are provided below.

Weed Control - Management Actions
The following general principles will be followed when undertaking weed control activities: • Weed control will begin as soon as possible within the proposed conservation area to facilitate revegetation works that are expected to occur shortly after planning permit approval and around the boundary of the quarry extraction footprint, i.e. the areas not being disturbed by the quarry operations. Weed control works will continue on a quarterly basis following the initial weed control action. • Weed control works will be undertaken quarterly following revegetation of the quarry extraction footprint to ensure weeds are managed and kept to a minimum. • Weed control will be conducted in a way that minimises soil disturbance and off-target damage; • Pest plants that reproduce sexually (by seed) are best controlled before seed set; • Weed species capable of vegetative (asexual) reproduction must be disposed of following treatment;

Weed Control - Management Actions
• Given that weed management around waterbodies will likely occur (i.e. the proposed drainage channel and any depressions created as part of soil contouring), it is recommended that spraying is minimised/avoided where possible to avoid any potential contamination and transportation of harmful chemicals. Any herbicide used within or adjacent to waterbodies must contain an 'aquatic approved' surfactant (e.g. Roundup Biactive®). Failing to do so may have negative impacts on the flora and fauna utilising the water or areas downstream. • CaLP Act-listed weeds will be intensively treated within the study area within the first year with the aim of eradicating them at the end of Year 1. • To minimise the risk of weed seed ingress and spread, all vehicles, plants, and personnel must be free of weed material (e.g. seeds, propagules) prior to accessing the site.

3.2.8 *Pest Animal Control*

Rabbits and hares remain a threat for the regeneration/recruitment of native flora species and foxes present a threat to native fauna throughout Victoria. Pest animals must be dealt with appropriately if detected.

Pest Animal Control - Management Actions
• All vermin harbour (i.e. burrows) will be treated, without disturbance to native vegetation or significant soil disturbance. They will be treated by low impact measures such as fumigation or collapsing. • Foxes are a threat to native fauna and will be controlled if found within the study area. Fox dens, where present, will be destroyed through fumigation and hand collapse.

3.2.9 *Vandalism*

Plants, tree guards and/or tree stakes may be vandalised during the rehabilitation stage and action must be taken if this occurs.

Vandalism - Management Actions
• If items are noted as vandalised during revegetation activities, photo(s) must be taken of the vandalism activities (e.g. destroyed/removed plants) and the incident reported to the site manager/supervisor. The site manager/supervisor may then report the vandalism to police depending on the situation. • Any damaged or destroyed items (e.g. plants, tree stakes) will be replaced within one week (where possible) of the incident being known.

3.3 Monitoring and Reporting

A regular monitoring program will be performed by a suitably qualified person to assess the management actions outlined in Sections 3.1, 3.2 and 4 of this Plan being undertaken for the quarry extraction footprint and conservation area over the 10-year life of the Plan.

Monitoring and Reporting - Management Actions
• Monitoring will be undertaken every six months during the first three years, then annually thereafter. • The first monitoring event for the quarry extraction footprint will be undertaken six months after the quarry operations cease and the pit is infilled (i.e. ready for revegetation). • The first monitoring event for the conservation area will be undertaken six months after commencement of earthworks for the quarry extraction footprint. • The rehabilitation works during each monitoring event will be assessed against the management actions provided in Sections 3.1, 3.2 and 4. • Photo points will be established around the quarry extraction footprint and conservation area, with the location and number of photo points being dependant on the site conditions. • An annual report will be prepared at the end of every year and will be provided to Council detailing the results of the monitoring program and progress of the rehabilitation works.

4 RESPONSIBILITIES AND TIMEFRAMES

Heidelberg Materials Australia Pty Ltd will be responsible for all monitoring, maintenance, and management actions described in this Plan following its endorsement. Table 2 provides the timeframes for management actions across the 10-year period.

Table 2. Management action timeframes of the life of the 10-year Rehabilitation Management Plan.

Year	Management Action	Area	Comment	Timing	Applicable Section
Pre-soil removal for quarry preparation	Habitat creation – Nest boxes in the conservation area	Conservation area	Install nest boxes within the conservation area on one third of the existing mature eucalypts. All nest boxes must be installed prior to vegetation being removed to facilitate the quarry extraction footprint. Any nest boxes that are damaged will be replaced within one month of the damage being observed.	Any time prior to vegetation clearance for the quarry extraction footprint	Section 3.1.1
	Log collection and storage	Quarry extraction footprint	Collect a total of 1,059 metres length of tree trunks, large branches and existing logs, or as close to this value as practicable, from the quarry extraction footprint area. Store this timber for use in the revegetation stage.	Any time prior to vegetation clearance for the quarry extraction footprint	Section 3.1.2
	Soil contouring	Quarry extraction footprint	When infilling the quarry extraction footprint in preparation for rehabilitation, contour the soil to provide depressions that may seasonally hold water and undulations. A minimum of two ponds measuring at least 10 metres in diameter each will be incorporated into the contouring works.	Following quarry extraction footprint infill	Section 3.1.3
	Monitoring and reporting	Conservation area	The first monitoring event for the conservation area will be undertaken six months after commencement of earthworks for the quarry extraction footprint.	Six months after quarry earthworks commencement	Section 3.3

Year	Management Action	Area	Comment	Timing	Applicable Section
Year 1 (Time of revegetation commencement)	Habitat creation – logs	Conservation area and Quarry extraction footprint	Place the tree trunks, large branches and existing logs around the quarry extraction footprint and conservation area prior to the revegetation/planting works commencing.	Prior to revegetation	Section 3.2.1
	Revegetation principles	Conservation area and Quarry extraction footprint	Ensure all revegetation principles are followed when undertaking revegetation activities, including the planting timing, planting method, installing tree guards and providing water.	-	Section 3.2.2
	Planting Design and Species Selection	Conservation area and Quarry extraction footprint	Plant out the quarry extraction footprint and conservation area using the life forms and target density numbers provided in Table 1.	Plant between April to June	Section 3.2.3
	Mulching	Conservation area and Quarry extraction footprint	Mulch revegetation areas within one day of planting using organic mulches at a depth between 75-100 millimetres.	Within one day of planting	Section 3.2.4
Year 1 (in the first 12 months following the infill of the quarry extraction footprint ready for revegetation works)	Revegetation principles	Conservation area and Quarry extraction footprint	Monitor the health of the tubestock and any tubestock that has died will be replaced within one week of its death being known.	Every three months	Section 3.2.2
	Mulching	Conservation area and Quarry extraction footprint	Inspect mulching depth and top up any areas where the depth has fallen below 75 millimetres so it is between 75-100 millimetres.	Every six months	Section 3.2.4
	Tree guards and stakes	Conservation area and Quarry extraction footprint	Inspect tree guards and stakes and replace any that have been removed or damaged if still needed to protect the plant. Remove tree guards and stakes from any plants when it is approximately 10-15 centimetres above the guard height.	Every three months	Section 3.2.5
	Supplementary watering schedule	Conservation area and Quarry extraction footprint	Provide supplementary water to each plant until sufficient natural rainfall occurs and/or the plants become established (i.e. plants showing new growth).	Once a week, depending on natural rainfall events	Section 3.2.6

Year	Management Action	Area	Comment	Timing	Applicable Section
	Weed control	Conservation area and Quarry extraction footprint	Treat weeds using the appropriate method in Appendix 1: • Prior to the revegetation of the conservation area; and • Following revegetation works. Existing CaLP Act-listed weeds will be eradicated by the end of Year 1.	Every three months	Section 3.2.7
	Pest animal control	Conservation area and Quarry extraction footprint	Treat pest animal burrows and dens by the appropriate measure, i.e. fumigation or collapsing.	Within one week of detection	Section 3.2.8
	Vandalism	Conservation area and Quarry extraction footprint	Note any vandalism and replace damaged and/or missing items. Report any incidents to the site manager/supervisor, who may report the vandalism to the police.	Replace any damaged and/or missing items within one week of the incident being known	Section 3.2.9
	Monitoring and Reporting	Conservation area and Quarry extraction footprint	Monitoring will be undertaken every six months for the first three years, then annually thereafter. An annual report will be prepared at the end of every year and will be provided to Council detailing the results of the monitoring program and progress of the rehabilitation works.	Every six months	
Years 2-3	Revegetation principles	Conservation area and Quarry extraction footprint	Monitor the health of the tubestock and any tubestock that has died will be replaced within one week of its death being known.	Every three months	Section 3.2.2
	Weed control	Conservation area and Quarry extraction footprint	Treat weeds using the appropriate method in Appendix 1 to minimise weed presence. CaLP Act-listed weeds will be intensively treated should they be observed.	Every six months	Section 3.2.7

Year	Management Action	Area	Comment	Timing	Applicable Section
	Pest animal control	Conservation area and Quarry extraction footprint	Treat pest animal burrows and dens by the appropriate measure, i.e. fumigation or collapsing.	Within one week of detection	Section 3.2.8
	Vandalism	Conservation area and Quarry extraction footprint	Note any vandalism and replace damaged and/or missing items. Report any incidents to the site manager/supervisor, who may report the vandalism to the police.	Replace any damaged and/or missing items within one week of the incident being known	Section 3.2.9
	Monitoring and Reporting	Conservation area and Quarry extraction footprint	An annual report will be prepared at the end of every year and will be provided to Council detailing the results of the monitoring program and progress of the rehabilitation works.	Every six months	Section 3.3
Years 3-10	Weed control	Conservation area and Quarry extraction footprint	Treat weeds using the appropriate method in Appendix 1 to minimise weed presence. CaLP Act-listed weeds will be intensively treated should they be observed.	Every six months	Section 3.2.7
	Pest animal control	Conservation area and Quarry extraction footprint	Treat pest animal burrows and dens by the appropriate measure, i.e. fumigation or collapsing.	Within one week of detection	Section 3.2.8
	Vandalism	Conservation area and Quarry extraction footprint	Note any vandalism and replace damaged and/or missing items. Report any incidents to the site manager/supervisor, who may report the vandalism to the police.	Replace any damaged and/or missing items within one week of the incident being known	Section 3.2.9
	Monitoring and Reporting	Conservation area and Quarry extraction footprint	An annual report will be prepared at the end of every year and will be provided to Council detailing the results of the monitoring program and progress of the rehabilitation works.	Annually	Section 3.3

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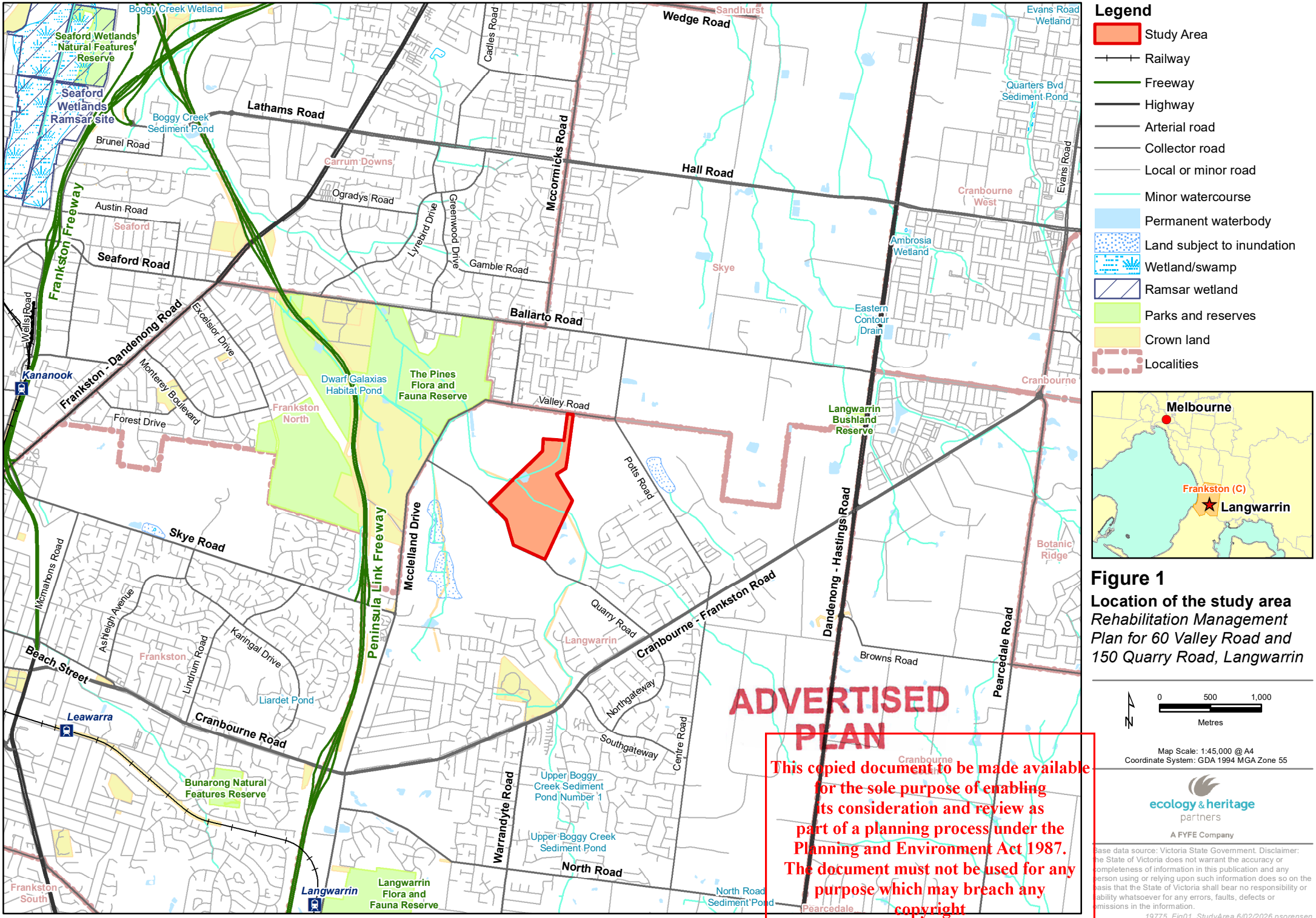


Figure 1

Location of the study area

Rehabilitation Management Plan for 60 Valley Road and 150 Quarry Road, Langwarrin

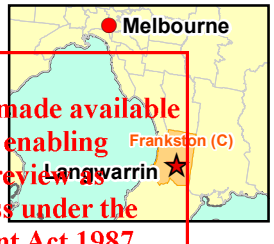
Figure 2

Study Area features

Rehabilitation Management Plan for 60 Valley Road and 150 Quarry Road, Langwarrin

Legend

- Study Area
- Property boundary
- Quarry extraction footprint
- Conservation area
- Drainage channel
- Indicative future outlet to Boggy Creek
- Perimeter road
- Noise bund
- Proposed Biolinks. Revegetation works currently underway.



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0 50 100
Metres

Map Scale: 1:6,200 @ A4
Coordinate System:
GDA 1994 MGA Zone 55

Aerial source: Nearmap 2025

ecology & heritage partners
A FYFE Company

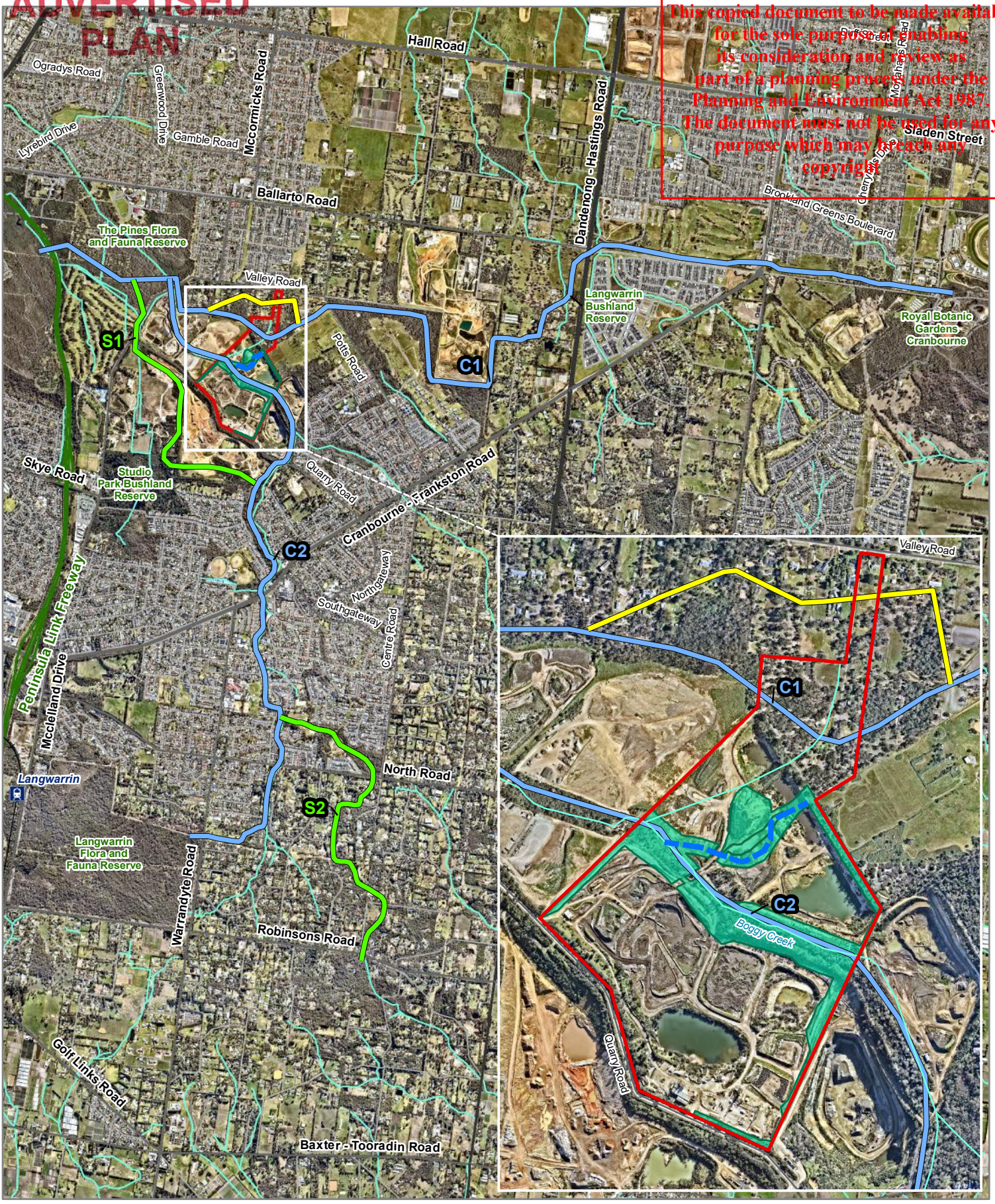

Figure 3

Fauna Corridors and Proposed Biolinks

Rehabilitation Management Plan for 60 Valley Road and 150 Quarry Road, Langwarrin

ecology & heritage partners
A FYFE Company

Legend

- Study Area
- Major Fauna Corridor *
- Subsidiary Fauna Corridor *
- Proposed C1 Alternative Corridor during quarry operations and early rehabilitation
- Proposed Biolinks. Revegetation works currently underway.
- Indicative future outlet to Boggy Creek

* Fauna corridor routes from Figure 12 in the Biodiversity Action Plan 2021-2036 (Frankston City Council 2021)

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Metres

Map Scale: 1:48,000 @ A4
Coordinate System:
GDA 1994 MGA Zone 55

19775_Fig03_FaunaLinkCor 6/02/2026 psorensen

Aerial source: Nearmap 2025

APPENDIX 1 WEED CONTROL METHODS

Weed control measures (including type of herbicide) should follow the guidance of an experienced contractor for the control of the weed species identified above.

Herbicides

Spot Spraying and Rig Spraying

The application of herbicides is an effective and efficient control technique for a range of woody, herbaceous and grass weeds. The correct use and application of herbicides can provide targeted control of a range of species; however, it must be stressed all use of herbicides must be used in accordance with the manufacturer's specifications and occupational health and safety policies.

Application methods for herbicides include spot spraying with a knapsack for small or sensitive areas, or for targeted species. Rig spraying is best used in larger areas which are not sensitive to high volume application of herbicide and there is limited potential for off-target damage. Dabbing of species with foam tipped application device, with the herbicide applied from an attached bottle, should be used in sensitive areas or in areas where weed control is targeted to a small number of plants, especially bulbs or tuberous plants.

Timing of intervals, plant age and growth seasons, plant stress levels and climatic factors all need to be considered when develop methodologies for the application of herbicides to ensure successful outcomes. Problems exist with ongoing unsuccessful herbicide treatments, which may result in weeds developing herbicide resistance, or the build-up of chemicals in the soil. Surrounding plants' susceptibility to herbicides and ongoing uses of the treated areas should also be considered when choosing the right herbicide to be used in a weed control program, as some herbicides are residual and may persist within the soil for varying durations.

Drill and Fill

Drill and fill, also known as direct injection, is a method where the selected herbicide (usually Glyphosate) is injected though a device into a hole that has been made into the targeted plant (i.e. woody species). The hole is usually made using a drill but sometimes a tomahawk or saw may be used to put small nicks into the targeted plant. It is essential that the hole or nick must always be lower than the first branch containing foliage (i.e. ideally, the lowest possible point on the plant) and the herbicide is applied into the hole as quick as possible. The general rule of thumb is that the herbicide must be applied within 30 seconds. Holes are scattered around the main trunk at 50-millimetre intervals, depending on the diameter of the trunk and branches or angle of the trunk. It is essential that a complete ring around the trunk of the plant be made of this herbicide filled holes to ensure plant death, as large gaps may allow sections of the target tree to survive. Generally, the holes or nicks do not need to be deeper than 20 millimetres but do need to be deep enough to penetrate the outer cambium layer of the tree. This allows the phloem to carry the herbicide into the roots, which will kill the plant over several weeks, depending on conditions.

The benefits of this method include: the retention of standing material for habitat, no costs for the removal of the plant from the site; no dragging of material across sensitive areas; and, speed, as the method is fast to

execute (i.e. drill and fill and move on). The drawbacks of this method are that if it is not executed correctly, trees may re-grow, particularly as accessing the base of the trunk of spiny plants such as Hawthorn *Crataegus monogyna* and African Boxthorn *Lycium ferocissimum* can be difficult. However, if the application is successful, dead standing vegetation can become a fire hazard and look aesthetically displeasing to the community.

Cut and Paint

The cut and paint method of control requires the cutting of the target species at the very base, under any foliage, and the immediate application of herbicide (usually a glyphosate, dependent on the target species). The application can be done through a 'dabber' bottle or paint brush. Care should be undertaken during application, to avoid splash of herbicide causing non-target damage. Once cut down, the biomass of the target species may sometimes be left on the ground but usually requires removal. This is particularly necessary if it bears fertile seeds or has the potential to re-shoot from contact with moist ground (i.e. Willows *Salix* spp.) or covers native vegetation. Many herbicides are available that are very effective in the control of woody weed species. Typically, these herbicides are applied to the stem, trunk or roots of the target plant by 'drill and fill', 'cut and paint' or 'frilling' methods of application. These herbicides can be more effective than manual removal alone, as the chance of the plant re-sprouting is significantly reduced.

Mechanical Removal

Mechanical removal by machine may include grooming of woody weed infestations by a tractor-mounted groomer (slasher/mulcher), which is quite effective on Gorse, African Boxthorn and Hawthorn infestations. The excavation of Spiny Rush *Juncus acutus* has been used in areas of dense infestations where other means of eradication may be a slow process due to difficult access.

Ring-barking

Ring-barking is a viable technique for use when eradicating large woody shrubs and trees. The technique involves the use of a large knife, tomahawk or axe to make a continuous cut around the trunk of the plant. The cut should be 5-10 centimetres wide and deep enough to penetrate the heartwood (Muyt 2001). This technique should not be used when removing species which can reproduce by suckering.

Mowing

While it has been found that mowing may enhance the survival of many weed species, in some instances mowing can be used to control their spread. Areas located in close proximity (500 metres – 1 kilometre) to sites of ecological significance that are currently mown, should undergo an intensive mowing regime (every week), particularly in spring. This method of weed control is only effective against species which are prevalent within mown areas. It will prove most effective in controlling the spread of grass species such as Chilean Needle-grass *Nassella neesiana*, Serrated Tussock *Nassella trichotoma* and Toowoomba Canary-grass *Phalaris aquatica*.

Mulching

It is advised that mulching be used in areas of revegetation which were previously dominated by exotic vegetation. Mulching can be a very effective technique in suppressing species which may invade, particularly from mown areas. In areas of remnant vegetation, mulch should be used very carefully. Only people who have an in-depth knowledge and long history of the specific site should advise the use of mulch in these areas to ensure native species (particularly rare and threatened species) are not affected by using mulch.

Soil Scraping

Soil scalping involves the removal of a thin layer of topsoil in areas of extremely high weed cover abundance. Care must be taken to ensure that enough soil is removed to eliminate the possibility of re-colonisation from the soil seedbank. If soil scrapping is to be undertaken, a minimum of depth of 10cm of soil needs to be removed to be effective. Soil scalping cannot be undertaken in areas of native vegetation nominated for retention and protection.

It is important that this process is directly followed by high density revegetation and mulching to reduce the migration of other weeds into these areas. This process is only favoured in areas that are considered a major source population for weed species of high threat to agriculture, heritage or areas of conservation significance.