Natural Area
CONSULTING MANAGEMENT SERVICES

City of Melville

Ken Hurst Park

Revegetation Management Plan

Natural Area Holdings Pty Ltd
Whadjuk Country
57 Boulder Road, Malaga WA 6090
Ph: (08) 9209 2767
info@naturalarea.com.au
www.naturalarea.com.au

Acknowledgement of Country

Ngala kaaditj Noongar moort keyen kaadak nidja boodja.
Natural Area acknowledges the Traditional Owners of the lands on which we operate, and recognises their continuing connection to lands, waters and communities.

Disclaimer

System Certifications

Environmental management system registered to ISO 14001:2015
Quality management system registered to ISO 9001:2015
Occupational health and safety management system registered to ISO 45001:2018

Document Title	COM-R-Ken Hurst Revegetation Plan
Location	/ConsultingSP/Shared Documents/City of Melville/RFQ242527 Revegetation Management Plan for Ken Hurst/5. Reporting/COM-R-Ken Hurst Revegetation Plan.docx

Draft/Version No.	Date	Changes	Prepared by	Approved by	Status
Draft	Feb 2025	New Document	KE	JW/LI	Draft for client comments
V1	Feb 2025	Client Comments	KE	JW	Superseded
V2	Feb 2025	Minor amendments	KE	JW	Released

Executive Summary

Natural Area Consulting Management Services (Natural Area) was contracted by the City of Melville to prepare a revegetation management plan for Ken Hurst Park, Leeming. This revegetation plan is associated with the clearing of 0.6 ha of native vegetation required for the expansion of ovals at John Connell Reserve, Leeming (CPS 10237-1). An area of 14.5 ha within Ken Hurst Park has been selected for revegetation and management actions in order to enhance and protect a minimum of the following as per Department of Water and Environmental Regulations (DWER) advice.

- 6.65 ha of black cockatoo foraging habitat.
- 4.75 ha of Banksia woodland threatened ecological community.
- 4.5 ha of native vegetation within an extensively cleared landscape.

The outlined prescription in this document addresses the primary goals of enhancing vegetation condition to excellent as defined by the Keighery Vegetation Condition Scale (EPA, 2016) and by meeting the following completion criteria:

- Weed coverage < 5 %.
- No Weed of National Significance (WoNS) or declared pest (DP) present within revegetation site.
- Species richness consists of > 40 native species.
- Vegetation coverage upper strata > 60 % coverage.
- Vegetation coverage middle strata > 25 % coverage.
- Vegetation coverage lower strata > 75 % coverage.
- Bare ground < 10 % coverage.
- No rubbish present within the revegetation site.
- No erosion present within revegetation site.

Contents

1.0 Introduction

Natural Area Consulting Management Services (Natural Area) has prepared this revegetation management plan on behalf of the City of Melville (the City) for Ken Hurst Park, Leeming. This revegetation plan is associated with the clearing of 0.6 ha of native vegetation required for the expansion of ovals at John Connell Reserve, Leeming (CPS 10237-1).

1.1 Purpose

This revegetation management plan has been developed to mitigate the clearing of 0.6 ha of *Banksia attenuata* and *Banksia menziesii* Woodland by enhancing a minimum the following as per Department of Water and Environmental Regulation (DWER) advice:

- 6.65 ha of black cockatoo foraging habitat.
- 4.75 ha of *Banksia* woodland threatened ecological community.
- 4.5 ha of native vegetation within an extensively cleared landscape.

This revegetation management plan was prepared in accordance with the Department of Water and Environmental Regulation (DWER) A *Guide to Preparing Revegetation Plans for Clearing Permits* (DWER, 2018) and will:

- Describe the proposed revegetation offset site.
- Outline and analyse the reference site, including species list and density.
- Outline completion criteria including any limitations and potential issues.
- Describe methodology including:
  - plant and seed sourcing
  - seed collection
  - site preparation
  - revegetation techniques
  - site maintenance and contingencies including weed control activities
  - hygiene management
  - monitoring and reporting requirements
  - indicative schedule.

1.2 Location

The clearing site is located to the east of John Connell Reserve, Leeming within the City of Melville; approximately 14 km south of Perth Central Business District (CBD) (Figure 1). The revegetation site is located approximately 0.5 km south-east of the clearing location within Ken Hurst Park, Leeming (Figure 2). Ken Hurst Park forms part of Bush Forever Site 245 (Department of Planning Lands and Heritage (DPLH), 2019).

1.3 Legislative Context

State and Federal environment-related laws impact how environmental values are governed in Western Australia. The following legislation and policies are relevant to this report.

***Biodiversity Conservation Act 2016* (WA)**

The *Biodiversity Conservation Act 2016* (WA) (BC Act) aims to protect and conserve biodiversity as well as to promote the ecologically sustainable use of biodiversity components in the State. The BC Act provides the statute relating to conservation and legal protection of flora, fauna, and ecological communities. The BC Act follows the principles of ecologically sustainable development, detailing that decision-making processes should effectively integrate long-term and short-term economic, environmental, social, and equity considerations.

***Biosecurity and Agriculture Management Act 2007* (WA)**

The *Biosecurity and Agriculture Management Act 2007* (WA) (BAM Act) regulates the framework for plant and animal pest and disease biosecurity in Western Australia. The framework provides for the control of declared flora and fauna species (declared organisms) that are known to be a significant environmental threat and the management, control and prevention of these declared plants and animals.

***Environmental Protection Act 1986* (WA)**

The *Environmental Protection Act 1986* (WA) (EP Act) provides for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment. The Environmental Protection Authority (EPA) is established under this act and provides a structured policy framework that is consistent with the EP Act. The EPA produces the guidelines and procedures associated with conducting environmental assessments in line with the EP Act.

***Environment Protection and Biodiversity Conservation Act 1999* (Cth)**

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) serves to protect and manage nationally and internationally important flora, fauna, ecological communities, and heritage places. The primary objective of the EPBC Act is to promote the conservation of biodiversity and the sustainable use of natural resources while allowing for ecologically sustainable development. The EPBC Act allows for the creation of conservation agreements between the Australian government and individuals, communities, or organizations to support the conservation of biodiversity.

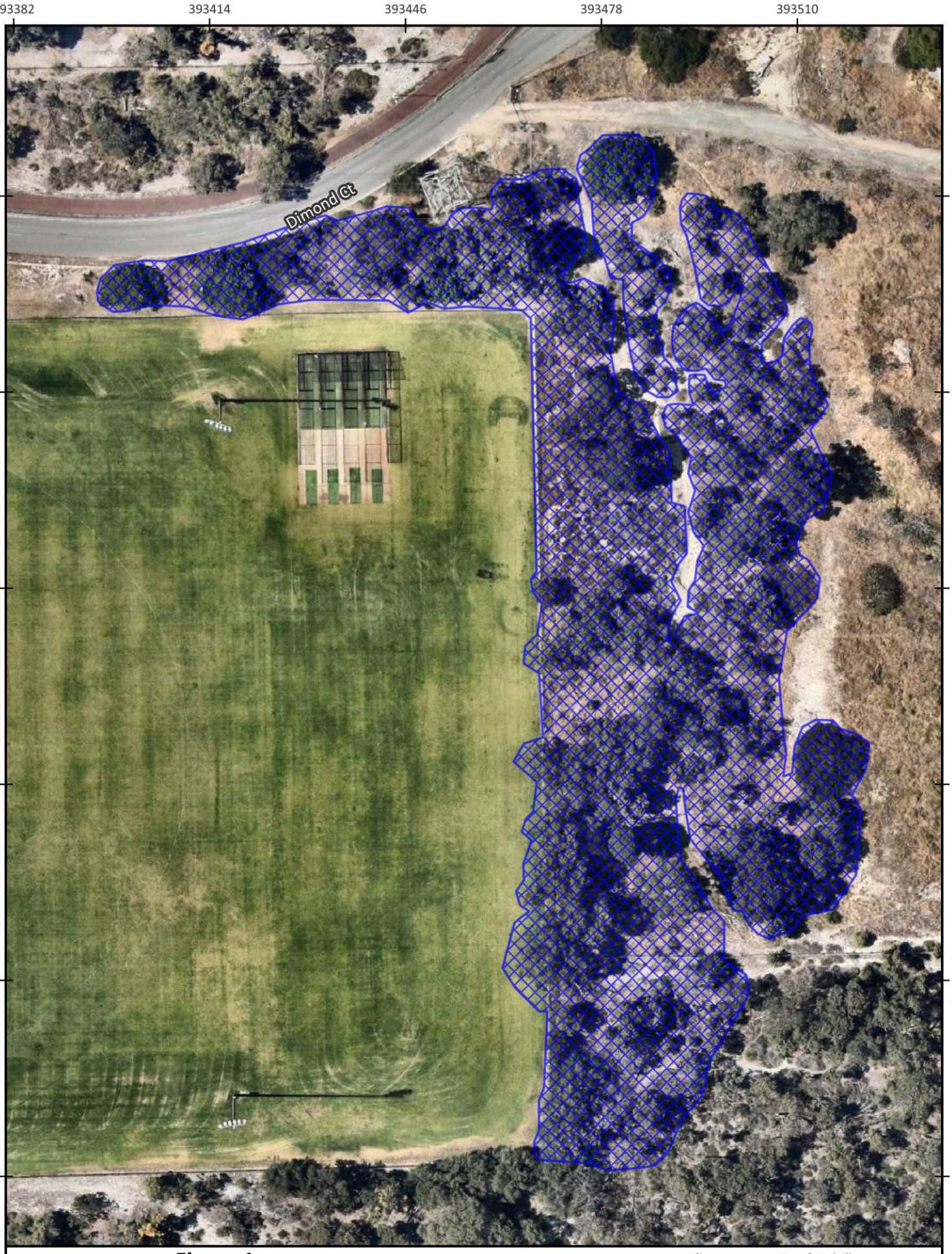


Figure 1:
John Connell Reserve
Clearing Location

Leeming, City of Melville

Legend

Clearing Location

Client:	City of Melville
Date:	10/02/2025
Created by:	K.Evans
Image Source:	Nearmap, 2025
Datum:	GDA2020 / MGA zone 50
Scale:	1: 800

0 10 20 m

N

Figure 2:
Ken Hurst Park
Site Location

Leeming, City of Melville

Legend
Site Boundary

Client:	City of Melville
Date:	07/02/2025
Created by:	K.Evans
Image Source:	Google Satellite
Datum:	GDA2020 / MGA zone 50
Scale:	1: 6000

0 50 100 m

N

2.0 Site Description

Ken Hurst Park is approximately 52 ha located 14 km south of the Perth Central Business District within Leeming in the City of Melville. The trainline Cockburn and Thornlie Link runs through the middle of Ken Hurst Park, splitting the reserve into a northern and southern section.

2.1 Land Tenure and Zoning

Ken Hurst Park is jointly owned and managed by the City of Melville and Main Roads WA. Ken Hurst Park is a Bush Forever Site (245), and is known to be representation of ecological communities, diversity, rarity, scientific or evolutionary important and general criteria for the protection of wetland (Government of Western Australia, 2000).

2.2 Existing Adverse Site Conditions

2.2.1 Weeds and Plant Pathogens

Weed mapping was carried out at Ken Hurst Park in 2024 (Natural Area, 2025). A total of 78 introduced species were mapped across the reserve, of which 5 were DPs and/or WoNS, namely:

- Arum Lily (**Zantedeschia aethiopica)* (DP)
- Bridal Creeper (**Asparagus asparagoides)* (DP and WoNS)
- One-Leaf Cape Tulip (**Moraea flaccida)* (DP)
- Paterson's Curse (**Echium plantagineum)* (DP)
- Two-leaf Cape Tulip (**Moraea miniata)* (DP)

Dieback mapping was carried out at Ken Hurst Park in 2023 by Gleven Consulting. Approximately 43.11 % of the bushland was recorded as infected (Figure 3).

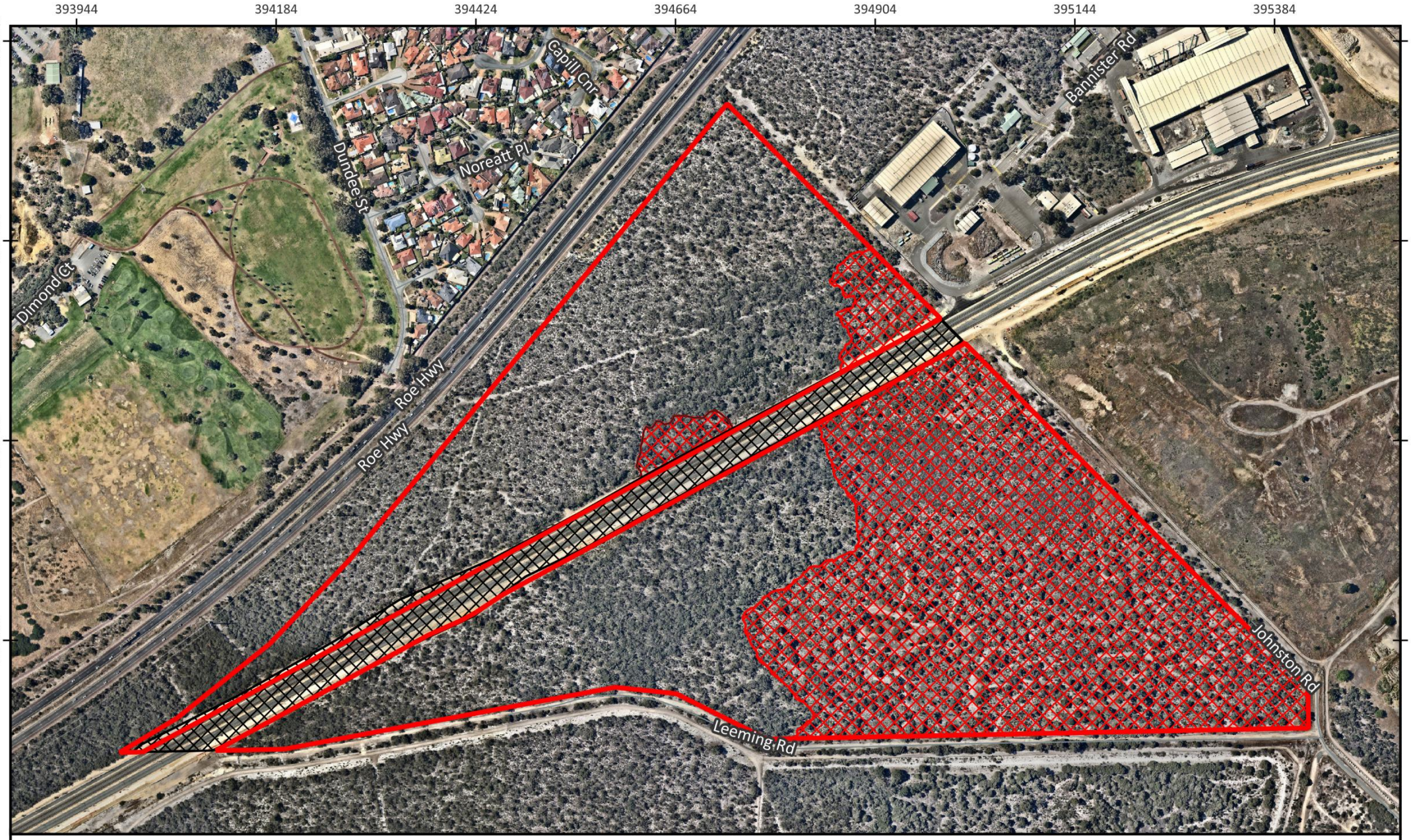


Figure 3:
Ken Hurst Park
Dieback Occurence

Leeming, City of Melville

Legend

- Site Boundary

Dieback Occurrence (Gleven, 2023)

- Excluded
- Infested
- Uninfested

Client:	City of Melville
Date:	10/02/2025
Created by:	K.Evans
Image Source:	Nearmap, 2025
Datum:	GDA2020 / MGA zone 50
Scale:	1: 6000

0 50 100 m

N

2.2.2 Feral Animals

During the 2024 ecological surveys, five introduced species of which three were declared pests were recorded within Ken Hurst Park. Declared pests are listed on Western Australian Organism List (Department of Primary Industries and Regional Development (DPIRD), 2024) under the BAM Act and requires the landowner/land manager to control the population to limit damage as a result of the presence of these species (DPIRD, 2019). The declared pests recorded included:

- Rainbow Lorikeet (**Trichoglossus moluccanus*) - Declared Pest - s22(2) (C1 Exempt, C3 Exempt)
- Red Fox (**Vulpes vulpes*) - Declared Pest - s22(2) (C1 Prohibited, C3 Prohibited)
- Rabbit (**Oryctolagus cuniculus*) - Declared Pest - s22(2) (C3 Prohibited).

Of the above rabbits will likely impact the success of revegetation through grazing pressure, land degradation and exacerbating spread of weeds. The native Western Grey Kangaroo (*Macropus fuliginosus melanops*) will also have the potential to impact the success of revegetation efforts if populations exceed carrying capacity of Ken Hurst Park. Monitoring and potential management of these species should be considered during revegetation efforts.

2.2.3 Rubbish

Ken Hurst Park is bounded by Resource Recovery Group - Canning Vale Centre on the north-east boundary and Ranford Road Resource Recovery and Waste Transfer station on the south-east boundary. Both facilities are likely to increase the presence of rubbish within Ken Hurst Park. Rubbish has been recorded along the eastern boundary during 2024 surveys.

Figure 4: Examples of rubbish present at Ken Hurst Park 2024.

2.2.4 Unauthorised Access

Various points within the fence lines surrounding Ken Hurst Park have been illegally cut or impacted by falling vegetation. This has increased incidents of illegal dumping of rubbish and recreational vehicle access. Examples of the damaged fence line are shown in Figure 5.

Figure 5: Examples of unauthorised access points and cut fence lines 2024.

3.0 Reference Site

Two reference sites have been selected to inform the development of the revegetation plan. One site is located within Ken Hurst Park the other is located within John Connell Reserve located south of the clearing area and west of Ken Hurst Park (Figure 6). Data was collated from areas in excellent vegetation condition and within *Banksia* spp*.* woodlands. The following sections outline the process and methodology undertaken in selecting the reference site, as well as justification on the suitability of the reference site to inform this management plan.

3.1 Desktop and Literature Review

The desktop survey was undertaken by Natural Area in 2024 as part of ongoing environmental surveys commissioned by the City to update management plans for high value conservation reserves. As such, this revegetation plan should be read in conjunction with *Ken Hurst Park Environmental Surveys* (Natural Area, 2025) for the full desktop assessment of the site. In addition, the following reports and management plans were assessed to obtain further relevant information:

- *Ken Hurst Strategic Management Plan 2021-2026* (Natural Area, 2021)
- *John Connell Reserve Detailed Flora, Vegetation and Fauna Assessment* (Natural Area, 2020)
- *John Connell Reserve Threatened Ecological Community Assessment* (Natural Area, 2020)
- *Ken Hurst Park Dieback assessment* (Glevan Consulting, 2023)
- *Ken Hurst Park Environmental Surveys* (Natural Area, 2025)

Conservation code definitions for the State and Commonwealth are provided in Appendix 1.

3.2 Suitability of Reference Site

The following sections outline the process and methodology undertaken in selecting the reference site, as well as justification on the suitability of the reference site to inform this revegetation plan.

The quadrat data that was collected during the *Ken Hurst Park Environmental Surveys* conducted in 2024 (Natural Area, 2025) *and John Connell Threatened Ecological Community Assessment* (Natural Area, 2020) has been analysed to inform the development of an appropriate reference site for this revegetation plan. In order to be considered a reference site the quadrats were required to be in excellent vegetation condition within *Banksia* spp. woodlands. Reference site and quadrat locations are shown in Figure 6.

The *Ken Hurst Park Ecological Surveys* conducted in 2024 (Natural Area, 2025) and *John Connell Threatened Ecological Community Assessment* (Natural Area, 2020) reports provides additional baseline information on the site and outlines the methodology for the flora and vegetation survey and establishment of quadrats. The following was undertaken during the Natural Area 2020 and 2024 surveys:

- Desktop survey and literature review.
- Outlines survey findings and methodology including:
  - Three 10 x 10 m quadrats recording the upper, middle and understorey as specified in the EPA technical guidance document (EPA, 2016) across the one vegetation type present.
  - Photographing each quadrat in the north-west corner and recording GPS coordinates.

- Recording landscape characteristics including soil types/colour, aspect, slope, surface rock, topography and drainage using Natural Area's modified recording sheets based on the NAIA templates developed for the Perth Biodiversity Project.
- Determining leaf litter depth, percentage cover, and percentage of bare ground.
- Recording percentage cover, height, number alive/dead stems and life form for each flora species in the quadrats.
- Marking locations of any conservation significant flora, DP and/or WoNS identified.
- Recording vegetation type including dominant over, middle and understorey species and condition using the scale attributed to Keighery (Government of Western Australia, 2000).
- The use of GPS to map significant species and boundaries of differing vegetation type and condition.

A summary of the results from the flora survey are listed below in Table 3. The average attributes indicate what target values should be considered when establishing completion criteria. During the 2024 survey, bare ground was mapped across the entirety of the Ken Hurst Park (Appendix 2). The average bare ground within areas in excellent vegetation condition was 9.5 %. Although this is higher than what is presented in Table 3, it gives a larger more accurate sample of the reserve and is more representative of the target vegetation structure.

Table 3: Site species and attributes based on reference quadrats (Natural Area, 2020; Natural Area, 2025)

Location		**JC01**	**JC02**	**JC03**	**KEN01**	**Average Attributes**
Vegetation Condition*		4	4	4	4	4
Vegetation % Cover	**Upper**	25	85	20	110	57.5
	Mid	14	33	35	21	25.75
	Lower	106	78.9	104.3	29.3	77.05
	Total	145	196.9	159.3	160.3	160.3
Species Richness		32	35	51	37	38.75
Weed Coverage		12.3	3.6	2.9	0.5	4.83
Gravel %		0	0	0	0	0
Rock %		0	0	0	0	0
Leaf Litter %		80	10	30	5	31.25
Bare Ground %		0	1	0	1	0.5

Vegetation Condition Key*	
Rating	Vegetation Condition
0	Completely Degraded
1	Degraded
2	Good

Vegetation Condition Key*	
3	Very Good
4	Excellent
5	Pristine

The target vegetation condition for the offset revegetation area is excellent. To increase the diversity opportunities, target attributes for the revegetation site have been determined using the *Ken Hurst Park Environmental Surveys* (Natural Area, 2025) and *John Connell Threatened Ecological Community Assessment* (Natural Area, 2020) undertaken for the City. Quadrat data is outlined in Appendix 3.

A total of 135 species were identified from the collated reference quadrats and assessed for suitability of use in revegetation work (Table 4). Through linking areas of excellent vegetation condition and enhancing current vegetation present, it is expected that over time a natural migration of some species will occur to build biodiversity within the site.

Table 4: Combined species list from John Connel Reserve and Ken Hurst Park

Species	Species
Acacia applanata	*Hovea trisperma*
Acacia pulchella	*Hypocalymma angustifolium*
Acacia stenoptera	*Hypocalymma robustum*
Acacia willdenowiana	*Hypolaena exsulca*
Adenanthos cygnorum	*Isolepis cernua*
Adenanthos obovatus	*Jacksonia furcellata*
Allocasuarina fraseriana	*Jacksonia sternbergiana*
Allocasuarina humilis	*Kunzea glabrescens*
Amphipogon turbinatus	*Lagenophora huegelii*
Anigozanthos humilis	*Laxmannia squarrosa*
Anigozanthos manglesii	*Lechenaultia floribunda*
Arnocrinum preissii	*Lepidosperma apricola*
Astartea scoparia	*Lepidosperma pubisquameum*
Asteridea pulverulenta	*Lepidosperma scabrum*
Austrostipa compressa	*Lepidosperma squamatum*
Banksia attenuata	*Lobelia tenuior*
Banksia dallanneyi	*Lomandra caespitosa*
Banksia ilicifolia	*Lomandra hermaphrodita*
Banksia menziesii	*Lomandra micrantha*

Species	Species
Boronia crenulata	*Lomandra micrantha subsp. micrantha*
Boronia dichotoma	*Lomandra nigricans*
Bossiaea eriocarpa	*Lomandra preissii*
Burchardia congesta	*Lomandra suaveolens*
Caesia occidentalis	*Lyginia barbata*
Calectasia narragara	*Lyginia imberbis*
Calytrix angulata	*Macrozamia riedlei*
Calytrix flavescens	*Melaleuca seriata*
Calytrix fraseri	*Melaleuca thymoides*
Cassytha racemosa	*Mesomelaena pseudostygia*
Centrolepis aristata	*Microlaena stipoides*
Centrolepis glabra	*Microtis media*
Chaetospora curvifolius	*Myriocephalus occidentalis*
Chamaescilla corymbosa	*Nuytsia floribunda*
Clematis linearifolia	*Opercularia vaginata*
Comesperma calymega	*Patersonia occidentalis*
Conostephium pendulum	*Pericalymma ellipticum*
Conostylis aculeata	*Persoonia saccata*
Conostylis aculeata subsp. cygnorum	*Petrophile linearis*
Conostylis juncea	*Philotheca spicata*
Conostylis setigera	*Phlebocarya ciliata*
Cyanicula gemmata	*Phlebocarya filifolia*
Dampiera linearis	*Pimelea sulphurea*
Dasypogon bromeliifolius	*Platysace filiformis*
Daviesia decurrens	*Podotheca angustifolia*
Daviesia divaricata	*Podotheca gnaphalioides*
Daviesia triflora	*Pultenaea reticulata*
Desmocladus asper	*Regelia ciliata*
Desmocladus fasciculatus	*Regelia inops*
Desmocladus flexuosus	*Rhagodia baccata*
Dianella revoluta	*Scaevola repens*
Eremaea astrocarpa	*Scaevola thesioides*

Species	Species
Eremaea pauciflora	*Schoenus caespititius*
Eryngium pinnatifidum	*Schoenus pedicellatus*
Eucalyptus marginata	*Scholtzia involucrata*
Eucalyptus todtiana	*Stackhousia huegelii*
Euchilopsis linearis	*Stirlingia latifolia*
Gastrolobium capitatum	*Styphelia conostephioides*
Gompholobium confertum	*Styphelia racemulosa*
Gompholobium tomentosum	*Synaphea spinulosa*
Haemodorum paniculatum	*Thysanotus manglesianus*
Hakea prostrata	*Thysanotus sparteus*
Hemiandra pungens	*Thysanotus thyrsoideus*
Hensmania turbinata	*Trachymene pilosa*
Hibbertia cuneiformis	*Tricoryne elatior*
*Hibbertia huegeli**i***	*Xanthorrhoea brunonis*
Hibbertia hypericoides	*Xanthorrhoea preissii*
Hibbertia racemosa	*Xanthosia huegelii*
Hibbertia subvaginata	

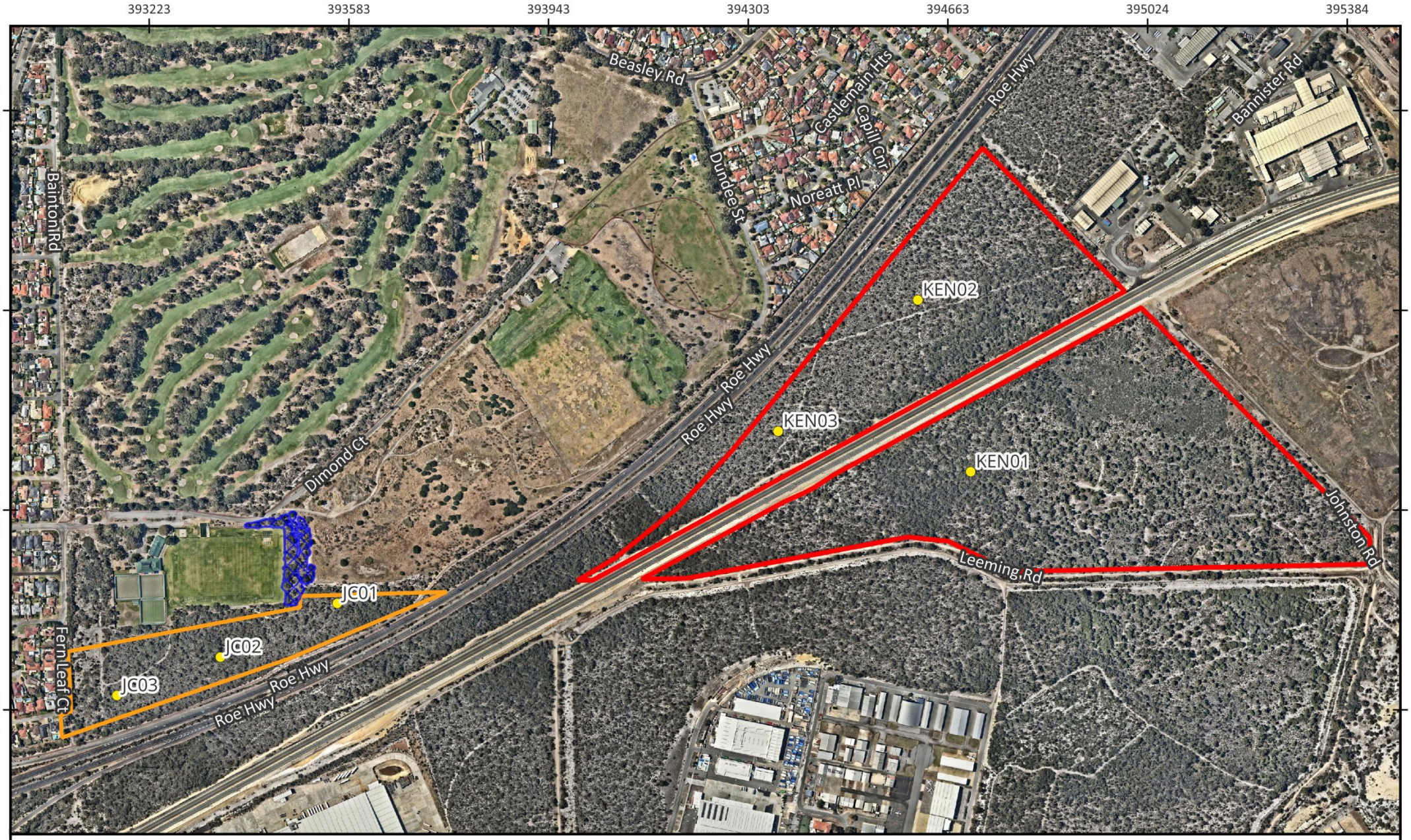


Figure 6:
Reference Site and Quadrat Locations

Leeming, City of Melville

Legend

- Ken Hurst Park Site Boundary
- John Connell Boundary
- Clearing Location
- Quadrat Location

Client:	City of Melville
Date:	12/02/2025
Created by:	K.Evans
Image Source:	Nearmap, 2025
Datum:	GDA2020 / MGA zone 50
Scale:	1: 9000

0 50 100 m

N

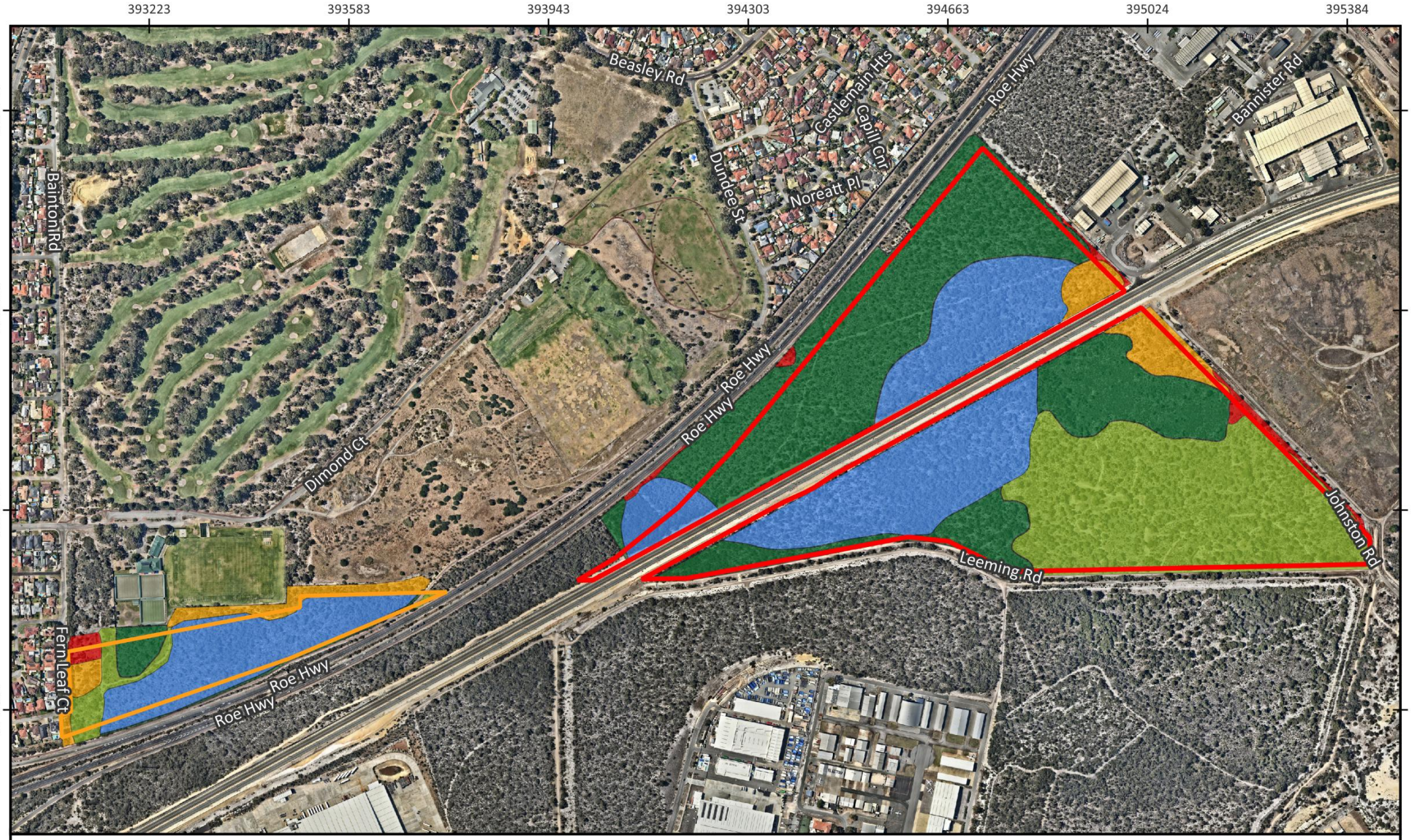


Figure 7:
Reference Site Vegetation Condition

Leeming, City of Melville

Legend

- Ken Hurst Park Site Boundary
- John Connell Reserve Boundary
- Excellent
- Very Good
- Good
- Degraded
- Completely Degraded

Client:	City of Melville
Date:	12/02/2025
Created by:	K.Evans
Image Source:	Nearmap, 2025
Datum:	GDA2020 / MGA zone 50
Scale:	1: 9000

0 50 100 m

N

4.0 Completion Criteria

Monitoring activities will assess the success of the revegetation works by comparing the outcomes of monitoring to the completion criteria. The following completion criteria outlined in Table 5 are to be achieved by the final monitoring event.

Monitoring and maintenance will be conducted for a period of 4 years following revegetation implementation. If tubestock seedlings and seed are planted at the optimum time of year, losses can be minimised. Additional infill planting may be required to achieve completion criteria which can be sourced from the initial indicative planting list in Section 5.2.

Although the revegetation methodology has been prescribed in Section 5.0 to ensure completion criteria are achieved, unforeseen site conditions may impede the desired outcomes. It is important that both informal monitoring during maintenance events and formal monitoring guide the progression of the revegetation. Contingency actions and adaptive management recommendations below should be implemented if completion criteria are likely to not be met. If completion criteria are not met by the end of the defined establishment period, further works should be carried out to ensure the best possible outcomes for the project.

Table 5: Completion criteria and contingency actions

Completion Criteria	Potential Issue	Contingency Actions
Vegetation in excellent condition	Vegetation condition is less than excellent	Determine factors reducing condition rating (species diversity, weed coverage etc.) and implement control measures such as infill planting and additional weed control.
Weed coverage < 5 %	Weed coverage > 5 %	Implement additional weed control events.
	Adverse weather does not allow for weed control to occur	Implement weed control as weather permits.
No WoNS or DPs present within revegetation site	WoNS or DP present	Conduct targeted weed control events.
Species richness consists of $\geq$ 40 native species	Species richness < 40 native species	▪ Conduct investigation into the likely cause (e.g. ecotoxicity, species not suitable for site conditions, adverse weather conditions). ▪ Assess species selected and review infill planting list. ▪ Implement infill planting of species that are not recorded.

Completion Criteria	Potential Issue	Contingency Actions
		▪ Implement appropriate remedial actions for example: – Implement watering events – Additional soil investigations – Implement pest management program – Implement Kangaroo population survey – Install tree guards
Vegetation coverage upper strata ≥ 60 % coverage	Vegetation coverage < 60%	▪ Assess species selected and review infill planting/seeding list ▪ Implement additional infill planting/seeding
Vegetation coverage middle strata ≥ 25 % coverage	Vegetation coverage < 25 %	▪ Assess species selected and review infill planting/seeding list ▪ Implement additional infill planting/seeding
Vegetation coverage lower strata ≥ 75 % coverage	Vegetation coverage < 75 %	▪ Assess species selected and review infill planting/seeding list ▪ Implement additional infill planting/seeding
Bare ground ≤ 10 % coverage	Bare ground > 10%	▪ Assess species selected and review infill planting/seeding list ▪ Implement additional infill seeding/planting ▪ Areas mapped as > 25 % bare coverage to be added to the following years infill planting area
No rubbish present within the revegetation site	Rubbish present	▪ Undertake rubbish removal ▪ Consider fence installation or installation of shade cloth to fence to reduce rubbish entering revegetation area. ▪ Repair damaged fences/gates
No erosion present within revegetation site	Erosion present	▪ Undertake erosion control measures for example: – Matting and/or coir log installation – Surface water diversion – Consider installation of additional rock pitching – Installation of habitat logs to slow down and divert water.

4.1 Project Limitations and Potential Issues

Several project specific limitations are present which could limit the rehabilitation of the site. The following limitations have been considered during the planning stage of this project (Table 6). Limitations and potential issues should be assessed throughout the project during maintenance and monitoring events. At this time the City should be made aware of any issues and the project should be driven by adaptive management throughout the project.

Table 6: Potential limitations and considerations

Potential Limitations/Issues	Considerations
Excessive rubbish on site due to surrounding land use.	Upgrade fencing and re-establish shade cloth along boundary fence to prevent rubbish from blowing into the reserve. Repair damaged fences and install lockable gates if applicable. If large quantities of rubbish are reported liaise with waste management facilities to minimise and prevent rubbish from leaving their managed sites. Undertake additional maintenance events and rubbish collection events when required.
Excessive herbivory on revegetation due to native and introduced fauna.	It is not feasible or recommended to remove Western Grey Kangaroos from the reserve entirely. However, due to increasing habitat loss and fragmentation, considerations should be made to monitor the Western Grey Kangaroo population and carrying capacity within Ken Hurst Park with management actions implemented if grazing pressures are seen to be increasing. Feral animal management should be undertaken biannually or on an as-required basis to increase vegetation health and reduce pressures on native vegetation. Integrated pest management targeting Rabbits and Red Foxes to be implemented. Tubestock species are to be hardened off before dispatch to provide less palatable foraging. Installation and seeding density expected to produce enough stems to offset herbivory.
Bare ground calculation	Bare ground was mapped in coverage ranges. Calculations have been completed using the maximum value of the range with the exception of the > 25 % category that was given the value of 25 %.
Acquiring local provenance seed and tubestock	Seed collection conducted by Revegetation Industry Association of Western Australia (RIAWA) accredited seed collectors to occur to obtain provenance seed a minimum of one year prior to propagation and installation and to continue for entirety of project.

	Tubestock to be ordered from an accredited nursery by September the year prior to installation. Propagation via cuttings may be possible for some recalcitrant species to be determined by nursery/nurseries producing tubestock.

5.0 Revegetation Methodology

5.1 Species Densities

Analysis of areas within Ken Hurst Park in very good and excellent condition have been used to determine approximate values of site attributes and vegetation cover per strata that need to be enhanced to increase the vegetation condition rating. Table 7 indicates the current vegetation cover and differences between very good and excellent condition *Banksia* Woodlands. Table 7 indicates that vegetation cover is required to increase by 60 % across all strata layers to be considered in excellent condition. By comparing the vegetation cover between the current and desired vegetation cover at the different strata layers, the following additional revegetation effort is required:

- 1 upper strata species per 10 m^2,
- 1 mid strata species per 2 m^2 and
- 1 lower strata species per 1 m^2.

The required vegetation coverage can be achieved via a combination of:

- seed dispersal
- plant installation
- protection of existing vegetation from threatening process such as herbivory, dieback
- weed control.

Table 7: Ken Hurst Park vegetation cover of very good areas

Location		KEN02	KEN03	Average Attributes (Very Good Condition)	Average Attributes (Excellent Condition)	Difference
Vegetation % Cover	**Upper**	43	70	56.5	60	- 3.5
	Mid	23	8	15.5	25.75	- 10.25
	Lower	31	37.4	34.2	79.63	- 45.43
	Total	97	115.4	106.2	165.38	- 59.18

5.2 Species List

An indicative species list for revegetation is provided in Table 8, which has been created based on common species found at John Connell Reserve and Ken Hurst Park *Banksia* spp. woodlands. The aim of the flora species list is to provide an indication of species that could be included within the restoration process, with the actual list being informed by those available from the nursery (or nurseries) contracted to provide the tubestock for the project. Species strata selection is to occur at a rate of 1:5:10 (Upper, Middle, Lower), per 10 m^2 in order to meet the target vegetation cover.

Table 8: Indicative species list for revegetation

Species	Black Cockatoo Foraging (F, N, R)	Seed/ tubestock	Indicative Plant Numbers
Lower Strata			
Acacia applanata	-	T	21,894
Acacia stenoptera	-	T	
Acacia willdenowiana	-	T	
*Amphipogon turbinatus^*	-	T	
Anigozanthos humilis	-	T	
Anigozanthos manglesii	-	T	
Austrostipa compressa	-	S	
*Banksia dallanneyi^*	-	T	
Bossiaea eriocarpa	-	S, T	
Burchardia congesta	-	S	
*Calectasia narragara^*	-	T	
*Calytrix flavescens^*	-	T	
*Chamaescilla corymbosa^*	-	T	
Conostylis aculeata	-	T	
Conostylis aculeata subsp. *cygnorum*	-	T	
Conostylis juncea	-	T	
*Conostylis setigera^*	-	T	
Dampiera linearis	-	T	
*Dasypogon bromeliifolius^*	-	T	
*Daviesia triflora^*	-	T	
Dianella revoluta	-	T	
Eryngium pinnatifidum	-	S	
*Euchilopsis linearis^*	-	T	
Gastrolobium capitatum	-	T	
Gompholobium confertum	-	T	
Gompholobium tomentosum	-	T	
Haemodorum paniculatum	-	S	
Hemiandra pungens	-	T	
*Hibbertia huegelii^*	-	T	
Hibbertia hypericoides	-	T	

Species	Black Cockatoo Foraging (F, N, R)	Seed/ tubestock	Indicative Plant Numbers
*Hibbertia racemosa^^*	-	T	
Hibbertia subvaginata	-	T	
Hovea trisperma	-	T	
*Hypolaena exsulca^*	-	T	
Isolepis cernua	-	T	
Lagenophora huegelii	-	S	
Laxmannia squarrosa	-	T	
Lechenaultia floribunda	-	T	
Lobelia tenuior	-	T	
*Lomandra nigricans^*	-	T	
*Lomandra preissii^*	-	T	
*Lomandra suaveolens^*	-	T	
Opercularia vaginata	-	T	
Patersonia occidentalis	-	S, T	
*Petrophile linearis^*	-	T	
*Philotheca spicata^*	-	T	
*Phlebocarya ciliata^*	-	T	
Podotheca angustifolia	-	S	
Podotheca gnaphalioides	-	S	
Rhagodia baccata	-	S	
*Scaevola repens^*	-	T	
Scaevola thesioides	-	T	
Scholtzia involucrata	-	T	
Thysanotus manglesianus	-	S, T	
*Thysanotus thyrsoideus^*	-	T	
Tricoryne elatior	-	S	
Middle Strata			
Acacia pulchella	-	S, T	
*Adenanthos cygnorum^*	-	T	
*Adenanthos obovatus^*	-	T	10,947
Allocasuarina humilis	-	S, T	
Astartea scoparia	-	S, T	

Species	Black Cockatoo Foraging (F, N, R)	Seed/ tubestock	Indicative Plant Numbers
*Boronia crenulata^*	-	T	
Calytrix angulata	-	T	
Calytrix fraseri	-	T	
Clematis linearifolia	-	S, T	
Daviesia decurrens	-	T	
Daviesia divaricata	-	T	
Eremaea astrocarpa	-	S, T	
Eremaea pauciflora	-	S, T	
Hakea prostrata	-	T	
Hibbertia cuneiformis	-	T	
Hypocalymma angustifolium	-	S, T	
Hypocalymma robustum	-	S, T	
Jacksonia furcellata	-	S, T	
Jacksonia sternbergiana	-	S, T	
Kunzea glabrescens	-	S, T	
Macrozamia riedlei	-	S	
Melaleuca seriata	-	S, T	
Melaleuca thymoides	-	S, T	
Microlaena stipoides	-	S	
Pericalymma ellipticum	-	S, T	
*Pimelea sulphurea^*	-	T	
Pultenaea reticulata	-	S, T	
Regelia ciliata	-	S, T	
Regelia inops	-	S, T	
Stirlingia latifolia	-	T	
Styphelia conostephioides	-	T	
Thysanotus sparteus	-	T	
Xanthorrhoea brunonis	-	S, T	
Xanthorrhoea preissii	-	S,T	
Upper Strata			
Allocasuarina fraseriana	F	S, T	2,189
Banksia attenuata	F	T	

Species	Black Cockatoo Foraging (F, N, R)	Seed/ tubestock	Indicative Plant Numbers
*Banksia ilicifolia^*	F	T	
Banksia menziesii	F	T	
Eucalyptus marginata	F, R	T	
Eucalyptus todtiana	F	T	
Nuytsia floribunda	-	T	
			35,031

(^= Recalcitrant, F=Foraging, N=Nesting, R=Roosting, S= Seed, T=Tubestock)

Plants utilised should meet the following requirements:

- Plants will be preferentially sourced from a Nursery Industry Accreditation Scheme Australia (NIASA) facility which will undertake dieback testing and can propagate majority of the stock from seed.
- All plant stock and seed to be free from pest and diseases.
- Only healthy, true to form plants will be installed on site.
- Plant stock is (preferentially) propagated from provenance specific seed or from seed sourced as close to the appropriate provenance as possible.
- Plant stock to have a large healthy root system with no evidence of having been restricted or damaged (e.g. root bound or j-rooted) and the root ball of the plant shall remain intact with only a minor amount of loose soil present.

The proposed target density is 4 plants per m^2. To achieve this, it is recommended a total of 35,031 tubestock are planted during the initial planting event, with 10,510 tubestock planted during year one and year two of infill planting event and 3,153 tubestock planted during the third year of infill planting event. This will ensure that density is maintained in the event there is some tubestock loss. Further infill planting should be undertaken as required to maintain the target density throughout the site.

Approximately 14.5 ha of area has been selected for revegetation and management actions to enhance vegetation condition from very good to excellent. Management areas have been selected as they are in less than excellent vegetation condition and are a part of the *Banksia* spp. woodlands vegetation community. Areas selected for revegetation (2.19 ha) have been determined as they contain areas with > 25 % bare ground as assessed in the 2024 surveys or are preexisting vehicle access tracks that are to be closed. The location of the revegetation activities has been outlined in Figure 8.

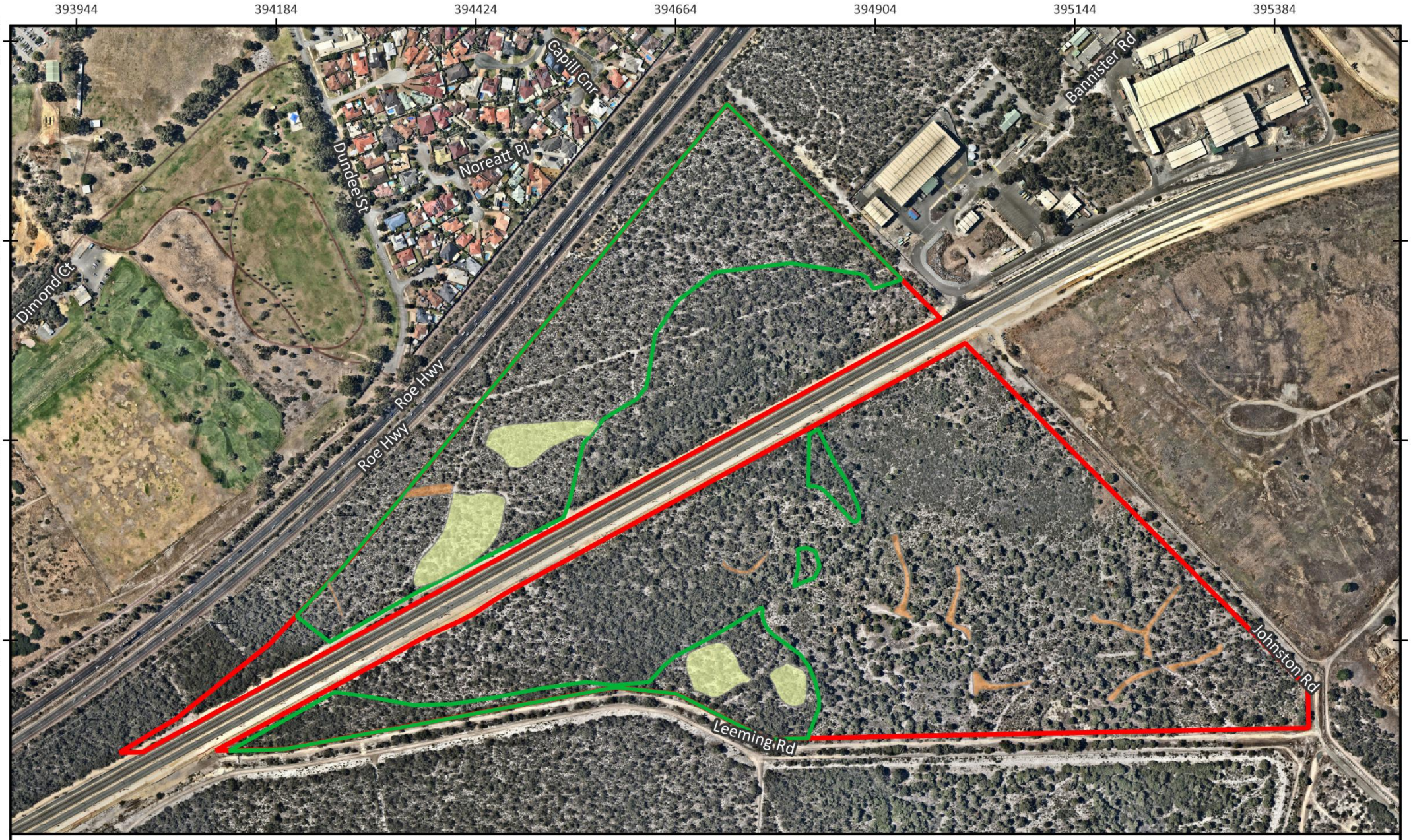


Figure 8:
Ken Hurst Park
Management and Revegetation Areas

Leeming, City of Melville

Legend

- Site Boundary
- Management Boundary (14.02 ha)
- Direct Seeding and Plant Installation (0.56 ha)
- Plant Installation (1.63 ha)

Client:	City of Melville
Date:	26/02/2025
Created by:	K.Evans
Image Source:	Nearmap, 2025
Datum:	GDA2020 / MGA zone 50
Scale:	1: 6000

0 50 100 m

N

5.3 Site Preparation

There are multiple existing tracks within Ken Hurst Park. As a part of this management plan tracks have been assessed and given one of three categories; formalise, keep, and revegetate (Figure 10).

Tracks marked 'formalise' will be upgraded to a bitumen stabilised limestone, crushed limestone or similar. The formalised tracks will be installed to meet the Department of Fire and Emergency Services (DFES) standards of 3 m wide by 5 m high to ensure access is available during fire events. The formalised tracks will allow further access for ongoing maintenance and will help to contain and reduce the spread of dieback. Upgrades to tracks should be carried out prior to revegetation activities. Tracks categorised to 'keep' will be left as is and should be maintained to stop vegetation from encroaching.

Tracks marked 'revegetate' have been included in the revegetation zones (Figure 8). Site preparation will include weed control and scarification activities. Scarification should occur at the time of seeding with the use of a GreenPro 1200 or similar. If machinery is unable to be used without harming existing vegetation seeding activities are to be carried out by manually scarifying the area and hand seeding. Native flora material from John Connell Reserve clearing should be mulched and/or placed on tracks being closed and large bare areas as brushing at the time of direct seeding to further protect seed distributed and tubestock installed.

Figure 9: Current condition of informal tracks within Ken Hurst Park.

Fence lines surrounding Ken Hurst Park South will be upgraded to a 1.8 m high chain link with fauna access points every 500 m with the intention to limit access and illegal vehicular entry. No formal fence lines will be

installed within Ken Hurst Park North due to joint management and tenure of the site and potential to disturb existing vegetation. Temporary fences will be installed across tracks that are being revegetated with signage to notify the public that they have been closed.

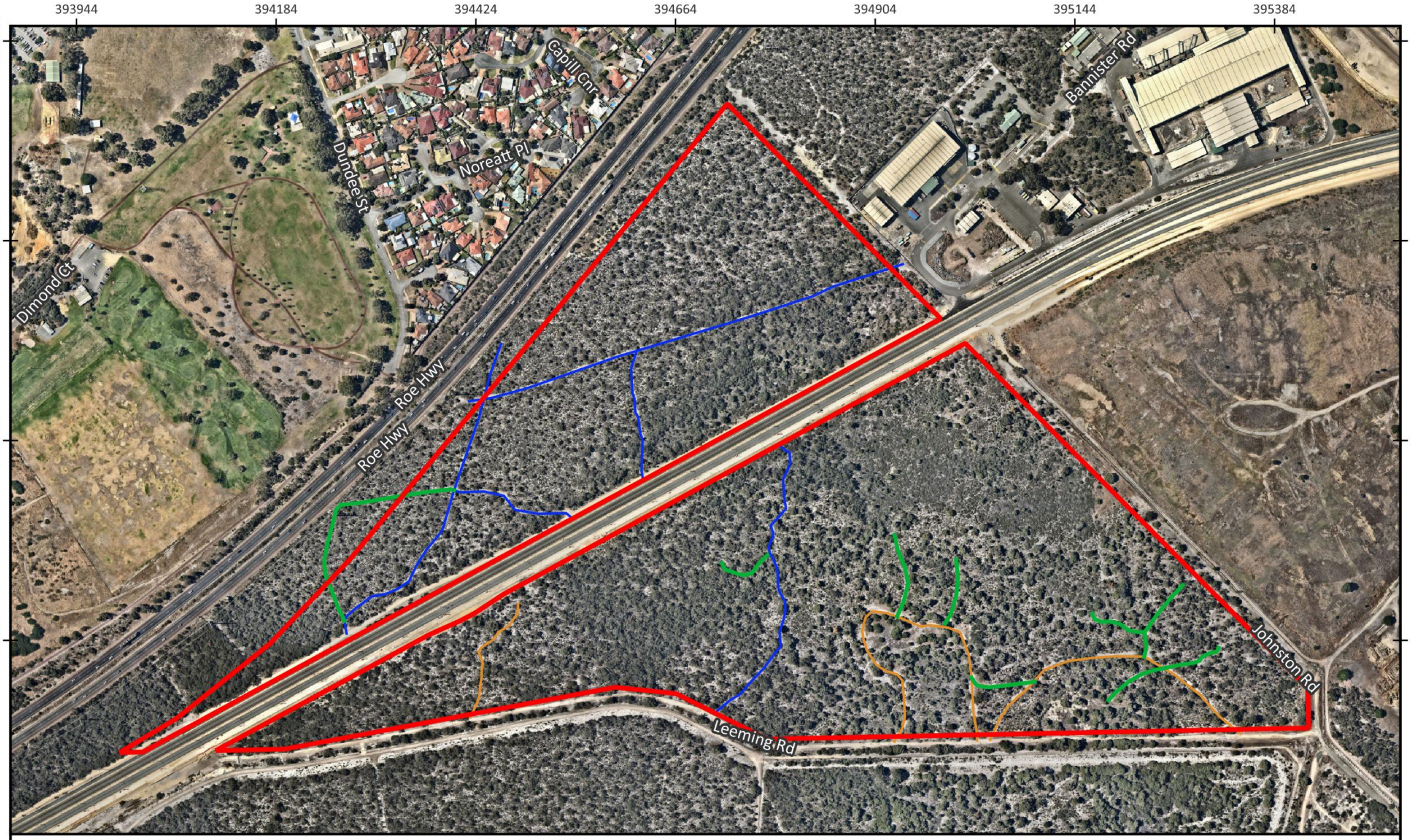


Figure 10:
Ken Hurst Park
Tracks and Firebreaks

Leeming, City of Melville

Legend

- Site Boundary
- Formalise
- Keep
- Revegetate

Client:	City of Melville
Date:	13/02/2025
Created by:	K.Evans
Image Source:	Nearmap, 2025
Datum:	GDA2020 / MGA zone 50
Scale:	1: 6000

0 50 100 m

N

5.4 Revegetation Techniques

Revegetation activities will primarily involve direct seeding and planting at the site to enhance the vegetation structure. Revegetation methodology is discussed in the following sections.

5.4.1 Seed Collection

An experienced revegetation seed collection consultant will be engaged to conduct seed collection and salvage throughout John Connell Reserve, Ken Hurst Park and other nature reserves within the City to provide provenance specific seed which will produce a similar vegetation representation to the immediate area. Seed collectors will be licenced and ideally be accredited by RIAWA. All correct permissions are to be obtained prior to seed collectors mobilising. All seed is to be handled and stored under RIAWA standards at a minimum.

Seed collection and salvage should occur within the clearing boundary prior to clearing works being undertaken and should continue for a minimum of one year prior to plant installation to ensure a range of diversity is captured. Seed collection events will need to obtain enough seed to produce the required 51,370 stems required for initial and infill planting events and direct seeding. Final seed weights will be determined by the species collected and availability.

5.4.2 Direct Seeding

Direct seeding is most commonly conducted when autumn and early winter rainfall presents adequate soil moisture and rain to settle seed. Seeding is only to be carried out by a competent and qualified revegetation consultant. Seed is to be treated to alleviated dormancy and stimulate germination prior to distribution. Incorrect treatment and handling of seed can be detrimental to final stem counts. Seed treatments may include:

- heat treatment
- scarification
- smoke treatment
- removal of physical dormancy inhibitors.

Following review and adjustments of seeding calculations based on seed collected over the collection period, seed will be broadcast over the site. The areas to be seeded will need to be scarified to allow an appropriate settlement of seed within the soil and appropriate seed to soil contact is made. It is preferential to use equipment that can direct drill seeds to an appropriate depth and cover the seed with minimal seed disturbance. Seed which requires light for germination does not need drilling or covering. Deep ripping is not suitable and will cause excessive disturbance throughout the site. Seeding activities are to be tracked via GPS to document the 0.56 ha of seeded area.

5.4.3 Tubestock

Tubestock is to be installed after the first major rains following direct seeding (within a month) as to not disturb emerging seedlings. The following methodology will be used to install tubestock:

- Tubestock will be installed utilising Pottiputki's or augers as required.
- One fertiliser tablet or 5 g of activated terracottem per tubestock will be incorporated into the hole at the time of planting.

- All plants will be installed at a sufficient depth to enable the root ball of the tubestock to be below the surface of the soil.
- Soil surrounding the installed plant will be backfilled and patted down firmly to eliminate air pockets from forming around the root ball.
- Natural Area recommends biodegradable tree guards be installed around each tubestock at the time of planting, to reduce the risk of predation.
- All stock will be planted in bare areas to meet the revegetation goals outlined.

Infill planting is recommended in the first, second and third year, to account for the natural attrition and herbivory of tubestock. Infill planting numbers will be 30 % of original tubestock in years one and two and 9 % in year three. Beyond year three, infill planting numbers will be determined on an as needed basis. Species selection will be based on the success rate of individual species across the site, and the unavailability of uncommon species in the planting season. It is recommended that infill species be comprised as much as possible of any species from the species lists above that were unable to be sourced for the previous planting season.

5.5 Vegetation Establishment

The vegetation establishment period will extend for a period of 4 years following the completion of the initial planting works. During this period maintenance works such as weed control, watering, and infill planting will be implemented to increase the chance of tubestock survival and maintain the functionality of the site.

5.6 Maintenance and Contingencies

Ongoing maintenance will be required to ensure success of revegetation. Maintenance works are recommended and will include:

- weed control (additional to that outlined in *Ken Hurst Strategic Management Plan 2021-2026* (Natural Area, 2021)
- infill planting (if required)
- watering over the summer months (November to March if there are 3 days in a row exceeding 40 °C)
- maintenance of tree guards, fence lines and tracks
- ongoing management recommendations.

5.6.1 Weed Control

Weeds within the site need to be managed to allow native species to establish and to reduce the presence of exotic weeds. An integrated weed management plan will be implemented across the revegetation and management areas, consisting of chemical and mechanical methodologies. Weed control within the management and revegetation areas will be carried out in addition to that described in *Ken Hurst Strategic Management Plan 2021-2026* (Natural Area, 2021).

The ecological impact and invasiveness ratings for the Swan Region (DBCA, 2016) was used as a tool to determine weed management priorities for the species recorded within the site. The prioritisation process can be used to inform management recommendations and treatment strategies for the species present through focusing on species with greatest ecological impact, as well as any site-specific requirements.

Weed prioritisation according to ecological impact and invasiveness is summarised in Table 9 and provided for each species in Table 10.

Characteristics of a particular species determines the most appropriate type of weed control method/s and can typically be found on the FloraBase website (Western Australian Herbarium, 1998-). Recommended treatment types and methodology for the weeds present are described in Table 11. Weed species listed as declared pests under the BAM Act requires the landowner to remove these species to reduce their impact and spread (DPIRD, 2023). A summary of the recommended treatment methods and optimal timing of herbicide application for each weed species is provided in Table 10.

Table 9: Number of weed species within the survey site based on their impact and invasiveness ratings (DBCA, 2016)

	Ecological Impact				**Invasiveness**			
	High	Medium	Low	Unknown	Rapid	Moderate	Slow	Unknown
Number of Species	39	6	10	25	58	12	2	8

Table 10: Weed species, weed priority ranking (DBCA, 2016) and treatment recommendations (DP/WoNS are highlighted in red)

Species	**Common Name**	**Weed Priority Ranking**		**Treatment Type (Table 11)**	**Optimal Treatment Timing**
		Impact	**Invasiveness**		
**Acacia iteaphylla*		H	R	5 or 6	Mar - Jul
****Acacia longifolia***		H	R	5 or 6	Mar - Jul
**Aira caryophyllea*	Silvery Hairgrass	U	U	1 or 2	Jul - Sept
**Aira cupaniana*		U	U	1 or 2	Jul - Sept
**Arctotheca calendula*	Cape Weed	H	R	1	Jun - Nov
**Asparagus asparagoides*	Bridal Creeper	H	R	3	Jul – Aug
**Asphodelus fistulosus*	Onion Weed	U	R	3	Jul - Oct
**Avena barbata*	Bearded Oat	H	R	1 or 2	Jul - Oct
**Brassica tournefortii*	Mediterranean Turnip	H	R	1	Jun - Nov
**Briza maxima*	Blowfly Grass	U	R	1 or 2	Jul - Oct
**Briza minor*	Shivery Grass	U	R	1 or 2	Jul - Oct
**Bromus diandrus*	Great Brome	H	R	1 or 2	Jul - Oct
**Cenchrus setaceus*	Fountain Grass	H	R	1	Jun-Dec
**Centranthus macrosiphon*		H	R	3	Jul - Sept

Species	Common Name	Weed Priority Ranking		Treatment Type (Table 11)	Optimal Treatment Timing
		Impact	Invasiveness		
**Cerastium glomeratum*	Mouse Ear Chickweed	U	R	1	Aug - Dec
**Cotula bipinnata*	Ferny Cotula	H	R	1	Aug - Nov
**Cotula turbinata*	Funnel Weed	U	R	1	Jan - Dec
**Crassula alata*		L	M	1	Aug - Oct
**Crassula glomerata*		U	R	1	Aug-Nov
**Cynodon dactylon*	Couch	H	R	1 or 2	Mar - Apr
**Disa bracteata*	South African Orchid	U	R	1	Oct - Nov
**Dischisma capitatum*	Woolly-headed Dischisma	U	R	1	Jul - Aug
**Echium plantagineum*	Paterson's Curse	H	M	1	May - Sept
**Ehrharta calycina*	Perennial Veldt Grass	H	R	1 or 2	Jun - Sept
**Ehrharta longiflora*	Annual Veldt Grass	M	R	1 or 2	Jul - Oct
**Erigeron bonariensis*		L	M	1	Jun – Sep
**Erodium botrys*	Long Storksbill	U	M	1	May - Jul
**Euphorbia peplus*	Petty Spurge	U	M	1	May – Nov
**Euphorbia terracina*	Geraldton Carnation Weed	H	R	1 or 6	May – Nov
**Ficinia marginata*	Coarse Club Rush	U	U	1	Jan - Dec
**Ficus carica*	Common Fig	H	M	4	Nov - Mar
**Freesia leichtlinii* subsp. *alba x leichtlinii* subsp. leichtlinii		H	R	3	Jun - Aug
**Fumaria capreolata*	Whiteflower Fumitory	H	R	1 or 3	Jul - Sep
**Fumaria muralis*	Wall Fumitory	H	R	1 or 3	Jul - Sep
**Galium murale*	Small Goosegrass	L	R	1	Jul – Oct
**Gaudium laevigatum*	Coast Teatree	H	R	1, 5 or 6	Jan - Dec
**Geranium molle*	Dove's Foot Cranesbill	L	M	1	Oct - Nov
**Gladiolus caryophyllaceus*	Wild Gladiolus	H	R	1 or 4	Jul - Sept
**Hypochaeris glabra*	Smooth Cats-ear	H	R	1	May - Sept
**Hypochaeris radicata*	Flat Weed	H	R	1	May - Sept

Species	Common Name	Weed Priority Ranking		Treatment Type (Table 11)	Optimal Treatment Timing
		Impact	Invasiveness		
**Lachenalia reflexa*		H	R	3	Jun-Aug
**Lactuca serriola*	Prickly Lettuce	H	R	1	Sept - Mar
**Leontodon rhagadioloides*	Cretan Weed	N/A	N/A	1	Aug - Sept
**Lolium rigidum*	Wimmera Ryegrass	H	R	1 or 2	Jun - Jan
**Lotus subbiflorus*		H	R	1	Oct - Feb
**Lupinus angustifolius*	Narrowleaf Lupin	H	M	1 or 3	Jul - Oct
**Lupinus cosentinii*		H	M	1 or 3	Jun - Sept
**Lysimachia arvensis*	Pimpernel	U	R	1	Feb - Dec
**Malva parviflora*	Marshmallow	L	U	1 or 6	Apr - Jun
**Medicago polymorpha*	Burr Medic	U	R	1	Jun - Aug
**Mentha pulegium*	Pennyroyal	H	R	1 or 6	Dec - Feb
**Monoculus monstrosus*		M	R	1 or 6	Jun- Oct
**Moraea flaccida*	One-leaf Cape Tulip	H	R	4	Jul – Aug
**Moraea miniata*	Two-leaf Cape Tulip	H	R	4	Jul- Sep
**Orobanche minor*	Lesser Broomrape	U	R	1	Sept - Dec
**Oxalis corniculata*	Yellow Wood Sorrel	L	S	3	May - Aug
**Oxalis pes-caprae*	Soursob	H	S	3	Jun - Jul
**Pelargonium capitatum*	Rose Pelargonium	H	R	3 or 6	Jun - Oct
**Petrorhagia dubia*		M	R	1 or 6	Jun - Sept
**Poa annua*	Winter Grass	L	R	1	Jun - Dec
**Pseudognaphalium luteoalbum*	Jersey Cudweed	N/A	N/A	1	Jun - Oct
**Raphanus raphanistrum*	Wild Radish	U	M	1	Jul - Oct
**Retama raetam*		H	R	5 or 6	Dec - Mar
**Romulea rosea*	Guildford Grass	U	R	3	Jul - Aug
**Schinus terebinthifolia*		H	M	5	Nov - Mar
**Senecio condylus*	Perth Groundsel	N/A	N/A	1	Jun - Aug
**Senecio vulgaris*	Common Groundsel	L	U	1	Sep - Dec
**Silene gallica*	French Catchfly	L	M	1	Jul - Oct
**Solanum nigrum*	Black Berry Nightshade	M	R	1 or 6	Jul - Jan

Species	Common Name	Weed Priority Ranking		Treatment Type (Table 11)	Optimal Treatment Timing
		Impact	Invasiveness		
**Sonchus asper*	Rough Sowthistle	U	R	1 or 6	Jun - Aug
**Sonchus oleraceus*	Common Sowthistle	U	R	1 or 6	Jun - Sept
**Stellaria media*	Chickweed	L	R	1	Jun- Sept
**Trachyandra divaricata*		M	R	4	Jun-Sept
**Trifolium arvense*	Hare's Foot Clover	U	U	1	Jul - Oct
**Trifolium campestre*	Hop Clover	U	U	1	Jun - Sept
**Urospermum picroides*	False Hawkbit	M	R	1	Aug - Oct
**Ursinia anthemoides*	Ursinia	U	R	1	Jul - Nov
**Vicia sativa*	Common Vetch	U	U	3 or 6	Jul - Sept
**Vulpia myuros*	Rat's Tail Fescue	H	R	1 or 6	Jul - Sept
**Wahlenbergia capensis*	Cape Bluebell	U	R	1	Sept - Oct
**Watsonia meriana*	Bulbil Watsonia	H	R	4	Sept
**Zaluzianskya divaricata*	Spreading Night Phlox	N/A	N/A	1	Aug - Oct
**Zantedeschia aethiopica*	Arum Lily	H	R	1 or 4	Jul - Sept

Table 11: Treatment types for each targeted species and the application method (green indicates recommended weed control methodologies)

Treatment Number	Treatment Type	Targeted Species	Application Method and Comments
1	Non-selective (Glyphosate/Biactive Glyphosate)	Annual and perennial grass and broadleaf weeds	Spot spray target species
2	Grass selective (e.g. Fusilade)	Annual and perennial grasses	Spot spray - selective grass spray (will affect native grass species)
3	Selective (Metsulfuron)	Annual broadleaf weeds and bulbs	Spot spray – semi selective
4	Wick wipe (Glyphosate & Metsulfuron wipe)	One-leaf Cape Tulip	Wipe leaves with sponge prior to or just on flowering
5	Woody weeds (Triclopyr, Picloram, or Glyphosate)	Woody weeds and trees	Cut and paint, basal bark or drill and fill (method is species dependant as some are prone to suckering e.g. *Schinus terebinthifolia*)

Treatment Number	Treatment Type	Targeted Species	Application Method and Comments
6	Manual removal/hand weeding	Carnation weeds (*Euphorbia* sp.), Fleabane (*Erigeron* sp.) and other similar species including woody weed seedlings when small	Gloves required due to caustic sap of Carnation weeds. Manual removal can also include slashing
7	Selective (Triasulfuron)	Carnation weeds (*Euphorbia* sp.), Fleabane (*Erigeron* sp.) and other similar species including woody weed seedlings when small	Spot spray target species

(Source: Brown and Brooks, 2002; WA Herbarium, 1998-)

Metsulfuron application should only occur once a year at the recommended dose to reduce the potential for residual effect in soils, which can lead to some species becoming resistant and death of non-target species. Herbicide application should always occur as per the manufacturer's usage and safety specifications as detailed on labels and Safety Data Sheets (SDS), which can be provided by the manufacturer or accessed online. Herbicide application works can enable the targeting and treatment of several species during the same management event.

5.6.2 Watering

It is recommended that watering is undertaken within the warmer months (November to February) of the first year of revegetation to aid in the successful establishment of planted areas. Each infill planting event should be followed by a watering event during the November to February period, to aid in the successful establishment of infill planting. In order to increase efficiency and provide support to the revegetation only when it will be of benefit, watering should be undertaken if rainfall in the month prior has been minimal (less than 10 mm) or if the tubestock is exhibiting signs of water stress (e.g., shrivelling, yellowing and loss of leaves). Watering requirements will be determined monthly during watering works as per the process outlined in Figure 11. If required, watering will be applied at a rate of 2 L per plant for tubestock; if plants are suffering drought stress, additional watering may be required. Watering schedules are to be determined in collaboration with the City's guidelines and best practice of watering principle in an drying climate.

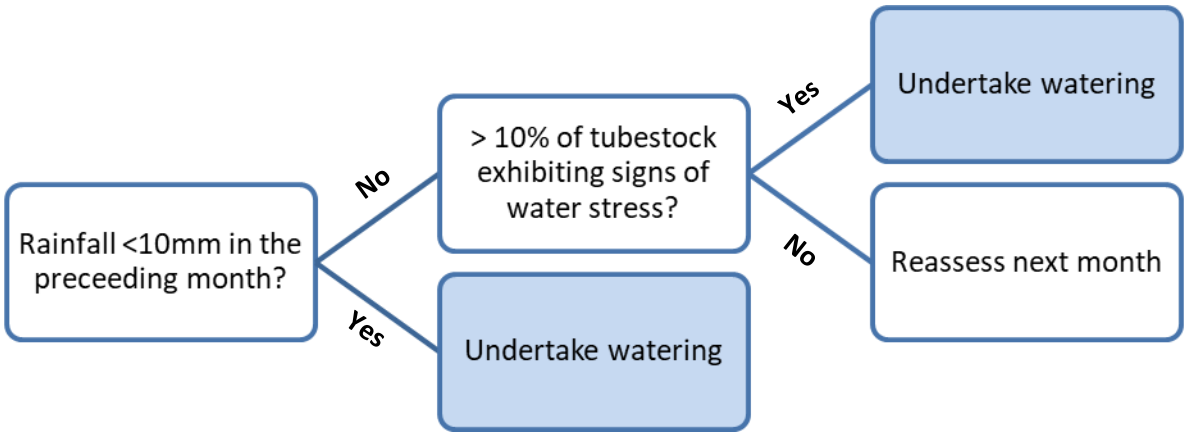


Figure 11: Decision making process to determine the necessity of watering.

5.6.3 Maintenance

Ongoing maintenance may be required to meet the completion criteria and is based on the outcomes from the revegetation monitoring and observations on site. Maintenance should be carried out by environmental specialists with experience in adaptive management and identifying threats and opportunities to revegetation outcomes. Maintenance tasks include:

- regular weed control events (minimum of autumn and spring)
- rubbish collection (on an as-needed basis)
- removal of tree guards once plants have become established
- monthly watering (including wetting agent) at rate of 2L per plant per watering event during warmer months (November to February) for the first year of establishment (if required, depending on time of plant installation, seasonal variations and establishment success)
- infill planting (if required).

5.6.4 Fauna Management

5.6.4.1 Kangaroo Monitoring and Population Survey

The herbivory from kangaroos will affect both the revegetation efforts and the overall condition of Ken Hurst Park. The train line going through the centre of the reserve has recently been upgraded including a fence line that has restricted the movement of fauna from moving from Ken Hurst Park North to the surrounding reserves. If a decline in vegetation condition via grazing or trampling is seen, a kangaroo population survey should be considered to determine if the kangaroo population exceeds the 0.1-1 kangaroo per hectare (Environment, Planning and Sustainable Development Directorate (EPSDD), 2024). The natural carrying capacity according Short *et al.* (1983) is 0.0086 animals per ha. Issues related to kangaroos can be summarised as follows:

- Degradation of native vegetation in bushland (weeds, trampling).
- Negative impacts on other fauna due to vegetation degradation (Bamford *et al.,* 2019).

The kangaroo population survey can utilise distance sampling to estimate current kangaroo population density on site. The survey will consist of equally spaced predetermined transect lines for uniform sampling. The survey will be carried out a minimum of three separate occasions to collect sufficient sampling data. Trigger thresholds to determine if kangaroo population management needs to occur should be provided by the contractor carrying out the survey within a report.

5.6.4.2 Feral Animal Management

Feral animals impact the environment and ecosystem, they can compete for food and shelter, predate on native fauna and place a risk on the survival of native fauna including threatened species.

In southwest Western Australia, Rabbit (**Oryctolagus cuniculus*) populations impact the environment by competing with native fauna, overgrazing, preventing regeneration and plant succession, altering ecological communities, and changing soil structure and nutrient cycles leading to erosion (Commonwealth of Australia, 2016). A threat abatement plan for competition and land degradation by rabbits was created by the Commonwealth of Australia which outlines the research, management and other actions needed to ensure the long-term survival of native species and ecological communities. The objectives of this threat abatement plant include:

- Strategically manage rabbits at the landscape scale and suppress rabbit populations to densities below threshold levels in identified priority areas.
- Improve knowledge and understanding of the impact of rabbits and their interactions with other species and ecological processes.
- Improve the effectiveness of rabbit control programs.
- Increase engagement of, and awareness by, the community of the environmental impacts of rabbits and the need for integrated control.

Red Foxes (**Vulpes vulpes*) were first introduced to Australia in the 1860s and are currently widely distributed throughout Australia, covering a wide range of habitats including urban environments. Due to its adaptability, broad habitat requirements, reproductive success and predatory instincts, this vertebrate pest species poses a serious threat to native biodiversity. Predation of native fauna species by foxes is listed as a key threatening process under the EPBC Act. As such, a threat abatement plan (DEWHA, 2008) was stablished to guide and coordinate a national response to impacts caused by foxes. The threat abatement plan highlights five key objectives:

- Prevent foxes occupying new areas in Australia and eradicate foxes from high-conservation-value
- areas.
- Promote the maintenance and recovery of native species and ecological communities that are affected by fox predation.
- Improve knowledge and understanding of fox impacts and interactions with other species and other ecological processes.
- Improve the effectiveness, target specificity, integration and humaneness of control options for foxes.
- Increase awareness of all stakeholders of the objectives and actions of the Threat Abatement Plan, and of the need to control and manage foxes.

Feral animal control can be undertaken through a variety of methods including exclusion fencing, trapping, baiting, den/warren fumigation and/or destruction, and shooting. Feral animal control is to be undertaken by licenced Pest Management Technicians. Adaptive management should be undertaken until the populations are controlled and the detrimental environmental impacts are reduced.

It is recommended that an integrated pest management approach to pest animals on site is taken. Providing as many control techniques as possible will allow the most effective management of detrimental effects

from herbivory and predation. Rabbit and fox control should be undertaken in tandem to limit prey switching from rabbits to native fauna. Integrated pest management strategies should be ongoing and adaptively managed throughout the period of the management plan.

Pest management can mitigate herbivory on site and increase the survival rates of vegetation. Pest management works are to be undertaken during the establishment period of the revegetation, with further management to be determined during monitoring events. The suggested management actions and rationalisation are provided in Table 12. All pest management works are to be conducted in conjunction with DBCA and surrounding landholders (if applicable).

Table 12: Integrated Pest Management Actions and Rationalisation

Target	Management Action	Rationalisation
Rabbits	Implement biological control	The recommended control of rabbits is to undertake bait delivery of Rabbit Haemorrhagic Disease Virus (RHDV1). It is recommended to undertake Rabbit Haemorrhagic Disease Virus (RHDV1) release rather than Pindone baiting due to the potential off-target impact of Pindone to native fauna species, including Quendas and Common Brushtail Possums (DPIRD, 2018). Additionally, lethal baiting with 1080 is not appropriate due to the proximity of rural residences. Biannual releases of Rabbit Haemorrhagic Disease Virus (RHDV1) should be undertaken from November to December, and February to March. Release of Rabbit Haemorrhagic Disease is to be undertaken by a Licenced Pest Management Technician. Warrern fumigation or diffusion fumigation using phosphine gas may be carried out in a strategic manner as park of a co-ordinated program using a combination of the above control methods. Fumigation is best carried out prior to rabbit breeding season. Fumigants must be used according to instructions on approved labels and guidelines issues by relevant state legislation.
	Cage trapping	Cage trapping as a supplementary control should be undertaken in conjunction with targeted ground shooting following biological control. Cage trapping is an effective method in targeting known locations of rabbit populations and to remove RHDV1 resistant individuals within the population.
	Targeted ground shooting	Targeted ground shooting as a supplementary control should be undertaken along with cage trapping following biological control.

Target	Management Action	Rationalisation
		Targeted ground shooting should be undertaken at night to coincide with the crepuscular and nocturnal habits of rabbits. Ground shooting can target rabbits which may have built up a resistance to RHDV1. Targeted ground shooting is to be undertaken by a Licenced Pest Management Technician with the appropriate Firearm Licence and is subject to approval by Western Australia Police.
Foxes	Targeted ground shooting	Foxes can predate on native animal species and can deplete populations of fauna and alter ecosystem processes. Fox control should be undertaken in tandem with rabbit control to prevent prey switching to native fauna. Targeted ground shooting for foxes should be undertaken in conjunction with targeted ground shooting for rabbits. It is recommended that targeted ground shooting for foxes is undertaken between December to February (to target cubs) and May to June (to disrupt breeding cycle). Targeted ground shooting should be undertaken at night and due to the rural setting of the site is a suitable management tool to manage pests. Targeted ground shooting is to be undertaken by a Licenced Pest Management Technician and is subject to approval by Western Australia Police. Den fumigation is undertaken using carbon monoxide depleting oxygen within the den causing an unconsciousness and death without pain or discernible discomfort. Den fumigation should be carried out when active dens containing young containing young cubs older than 4 weeks of age can be located usually between August and October (Pest Smart, 2017)

5.6.5 Ongoing Management Recommendations

It is recommended that the vegetation area is subjected to ongoing weed control events to reduce competition with the native tubestock installed. The frequency of events will be on an as required basis to ensure natural regeneration of the native vegetation occurs.

The vegetation area should be monitored following events such as a drought or fire which may result in a decline in native vegetation. The decline of native vegetation cover will allow for colonising weed species to establish and outcompete the regeneration of native species. This can be managed by implementing further maintenance activities post drought or fire.

5.7 Hygiene Management

Hygiene management is an important component of any successful revegetation project as it can affect site compliance with success criteria. Hygiene management in terms of weeds and Dieback are discussed within this section.

5.7.1 Weed Hygiene

The introduction of weeds into a site can have negative effects on revegetation establishment. Weed seeds can be spread in a variety of ways, including on tools, vehicles, equipment, and footwear. The following procedures should be implemented to mitigate the spread of weed seed as a result of revegetation activities:

- Ensure vehicle tyres/tracks are clean and free of weed seed when entering and exiting the site.
- Ensure equipment, tools and footwear are clean and free of weed seed when entering and exiting the site.
- Any weed material removed from site should be transported in a manner that prevents the spread of weed seed during transit.
- Any weed material that has not seeded or are able to reproduce vegetatively through suckers or bulbs can be removed from site and disposed of at an appropriate green waste disposal facility.
- Ensuring a clear vehicle accessway to limit the spread of weeds.

5.7.2 Dieback (Phytophthora) Hygiene

Best management practices for Dieback (*Phytophthora*) are recommended to be followed. *Phytophthora cinnamomi* or Dieback is an introduced fungal pathogen with a widespread distribution in areas of south-west Western Australia. The fungus acts by infecting the roots, absorbing the carbohydrates and nutrients from the plants and causing the roots to rot. Dieback spreads quickly down slopes in surface and sub-surface water flow as well as uphill via root-to-root contact. Human activities cause the greatest spread of Dieback through the natural landscape. The pathogen can enter bushland sites via infected soil on footwear, vehicles and equipment.

Currently no method of completely eradicating *Phytophthora* has been discovered; as such management methods and objectives are geared toward minimising the spread into uninfected areas and to mitigate the impacts of the fungi where infections are present. Hygiene management at the site should be carried out in a manner that reduces the risk of moving infected material from one location to another.

The following precautions should be followed:

- Vehicles are to remain on designated vehicle tracks unless it is necessary for management purposes.
- All vehicles, equipment and footwear are to be free of soil/mud before entering and departing the project area.
- All personnel working at the site to wash down equipment and shoes prior to working on the site with a disinfectant solution, 70 % disinfectant (methylated spirits) to 30 % water. Cleaning of all tools, footwear and vehicle tyres should be conducted before and after working at the site (Figure 12).

Figure 12: Example washdown procedures of shoes and vehicles.

5.8 Monitoring and Reporting

Monitoring will be conducted over the course of the management plan to determine and measure the environmental values on site. Monitoring allows evidence to be gathered that effectively demonstrates progress towards attainment and maintenance of ecological benefits with the site. The monitoring program provides measurable performance indicators to trigger values for corrective actions, in order to achieve the completion criteria as outlined in Section 4.0. The monitoring events include an assessment of revegetation, remnant bushland (condition monitoring) and weed mapping.

Indicative monitoring locations are provided in Figure 13. If the proposed monitoring sites are not suitable for monitoring over the course of the monitoring program (e.g. recent fire, tree fall), alternative sites can be established. The alternate monitoring sites must be as close to the proposed monitoring sites as possible. The location of the alternate monitoring site must be recorded, and data recorded should match the data collected for the existing quadrats.

5.8.1 Revegetation Monitoring

Monitoring of the revegetation activities of the site will occur biannually in winter and summer. Summer monitoring events will allow assessment of plants which are likely to persist through the drier months and allow enough time to adjust plant orders to meet infill requirements. Winter monitoring events will allow for an assessment for annual species and give an accurate representation of the weeds present across the site. This will allow for adaptive management processes to be put in place.

Monitoring of revegetation success within the revegetation areas is to occur for four consecutive years after the initial planting. Monitoring will involve:

- Installation of a total of five permanent 5 x 5 m quadrats placed evenly across the rehabilitation site to monitor species survival, vegetation health, native species coverage and composition, weed species present and their density with photographs taken from the north-west corner.
- Installation of a total of five permanent photo monitoring points after initial planting has occurred, with photos taken in the same direction to enable comparison of plant growth and establishment over time.
- A general assessment of the revegetation areas considering maintenance issues, identification of potential success inhibiting factors, fauna presences and other relevant information.

5.8.2 Condition Monitoring

Monitoring of the management area is to be undertaken in spring for a period of four consecutive years after initial planting. This monitoring is to be conducted in addition to revegetation monitoring as it served

to monitor the vegetation condition of the entire management site. Monitoring of the management area will include:

- Grid mapping of bare ground at 30 m x 30 m intervals. Bare ground will be given a category of:
  - 0 %
  - < 5 %
  - 5% - 10 %
  - 10 % - 25 %
  - > 25 %
- Establishing five 10 m x 10 m quadrats to monitor vegetation health, native species coverage and composition, weed species present and their density.
- A general assessment of the entire site, considering maintenance issues, identification of potential success inhibiting factors, fauna presences and other relevant information.

5.8.3 Weed Mapping

Weed mapping of revegetation and management areas should occur biennially and will be conducted across set 30 m gridlines tailored to the site conditions. Data is to be recorded using a GPS mapping software to allow for the survey methodology to be replicated. At each grid point weed species present will be recorded including the cover density. Areas of cover are classified into three density categories, <5 %, 6-75 %, >75 %, as outlined in the DBCA Standard Operating Procedure *Techniques for mapping weed distribution and covering bushlands and wetlands* (DEC, 2011). DPs and WoNS will be recorded as individual point data.

Weed mapping should be replicated to ensure a quantitative comparison of weed density and species present across the site. The weed management program for the revegetation and management areas should be updated and reviewed following monitoring events.

5.8.4 Reporting

Provision of a yearly report to the City to determine any required management actions or requirements for infill planting and ongoing management. Monitoring should be carried out by personnel with botanical knowledge and experience, either by the City or through use of a consultant and/or contractor.

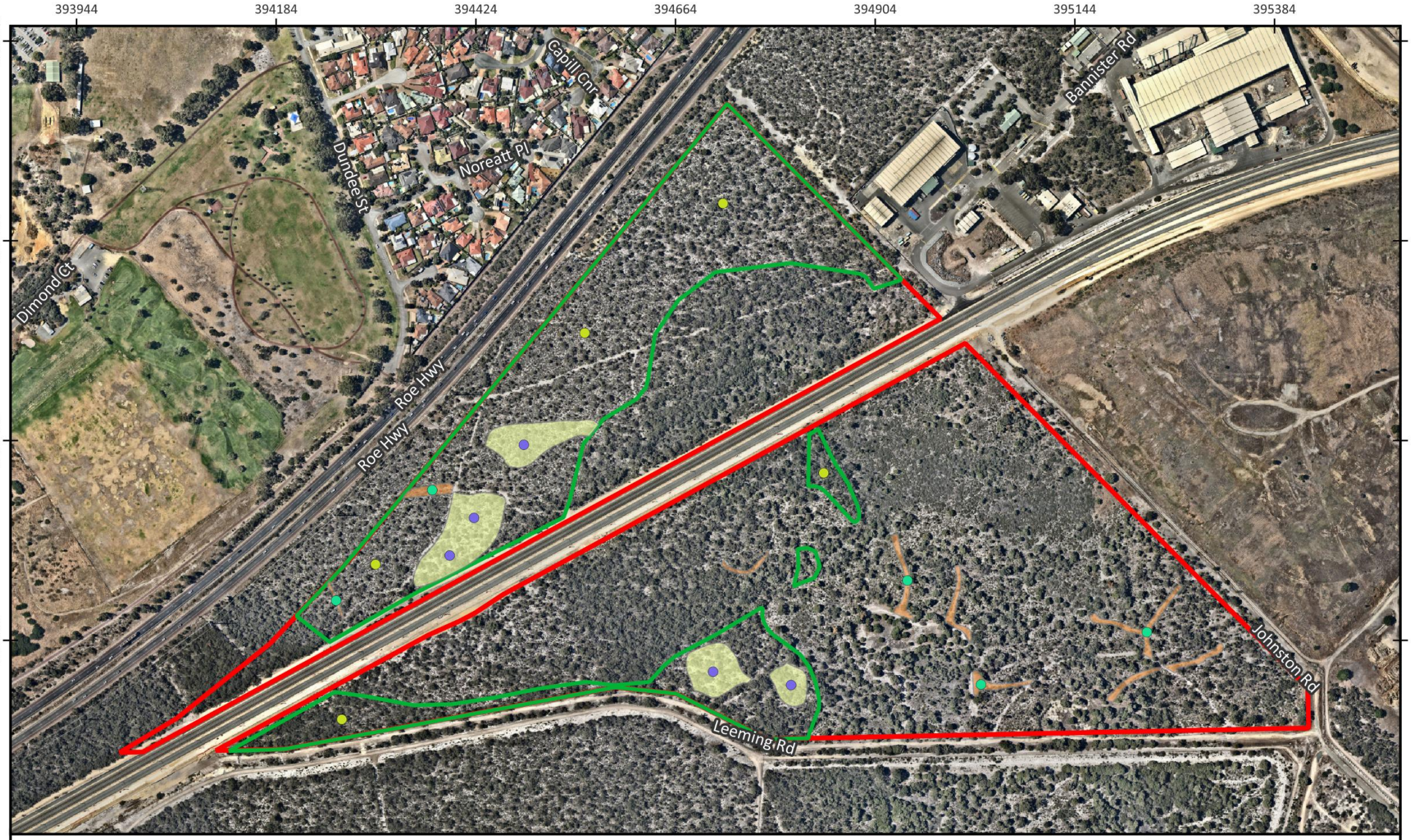


Figure 13:
Ken Hurst Park
Proposed Monitoring Locations

Leeming, City of Melville

Legend

- Site Boundary
- Management Boundary
- Direct Seeding and Plant Installation
- Plant Installation

Proposed Monitoring Locations

- 10 x 10 m
- 5 x 5 m
- Photo Point

Client:	City of Melville
Date:	13/02/2025
Created by:	K.Evans
Image Source:	Nearmap, 2025
Datum:	GDA2020 / MGA zone 50
Scale:	1: 6000

0 50 100 m

N

5.9 Implementation Schedule

The proposed implementation schedule has been outlined in Table 13 below, outlining the optimal timing for the initial and infill planting, weed control, watering and maintenance visits.

Table 13: Implementation of Revegetation

Year/s	Timing	Task	Comments
Years 1-3	September to April annually	Revegetation consultant to commence seed collection for direct seeding and propagation	▪ Seed will be sourced from a RIAWA accredited contractor and collected, processed and handled under RIAWA standards. ▪ Seed to be stored in 15 % relative humidity and 10 °C minimum to maximise longevity. ▪ Seed collection contractor should ideally be the same contractor implementing the revegetation plan to allow for flexibility to adapt the species mix and densities required against the completion criteria, depending on what is presenting on site over that seed collection period. ▪ Annual seed report submitted to the city.
Years 1-5	June - September	Conduct weed control to the management site	▪ Carry out weed control to the revegetation area to reduce weed burden. ▪ Non-selective herbicide (Glyphosate) and marker dye with no pre-emergent herbicides to be applied. ▪ A Licenced Pest Management Technician (LPMT) with experience working in bushland and revegetation sites is to be used for all weed control. ▪ To conduct targeted weed control events for DPs and/or WoNS
Year 1	Prior to September	Place plant order with nursery	▪ All plants are to be produced from seed sourced from the same provenance as Ken Hurst Park or within Ken Hurst Park itself. If seed is not available for Year 1, this may be delayed until seed collection has been completed. ▪ Plants to be sourced from a NIASA facility which undertake dieback testing and can propagate the majority of stock from seed. ▪ All plant stock and seed to be free from pest and diseases. ▪ Only healthy, true to form nursery stock from provenance specific seed is to be supplied. ▪ Plant stock to have a healthy root system with no evidence of having been restricted or damaged and the root ball of the plant shall remain intact with only minor amount of loose soil present.

Year/s	Timing	Task	Comments
Years 1-2	January to March	Removal of current fencing and upgrading of fencing at Ken Hurst Park South	▪ Purchase materials. ▪ Confirm alignment of fence installation. ▪ Install fence line surrounding Ken Hurst Park South and across closed tracks.
Year 1	January to December	Upgrading tracks	▪ Purchase materials ▪ Confirm alignment of tracks that will impact least amount of encroaching vegetation ▪ Install bitumen stabilised limestone tracks
Year 2	May - June	Conduct pre-revegetation weed control to the revegetation areas	▪ Conducted at least two weeks prior to revegetation works occurring. ▪ No pre-emergent herbicides to be applied. ▪ A LPMT with experience working in bushland and revegetation sites is to be used for all weed control.
Year 2	May - June	Direct seeding	▪ It is crucial for the success of direct seeding that seed is handled and treated with the correct methodology to alleviate dormancy prior to broadcasting. ▪ Site to be scarified prior to distribution and then rolled following distribution to settle seed and any ground disturbance. ▪ It is preferential that seed equipment is able to direct drill seed as appropriate to a depth of 25- 30 mm.
Year 2	June	Plant Installation (tubestock)	▪ Plant installation to occur immediately following seeding as to not disturb emerging seedlings. ▪ Plants to be installed using a suitable handheld earth auger. ▪ Hard digging conditions should be considered prior to installation and the appropriate time and equipment allowed for to complete the planting. ▪ Plants to be installed with the root ball no less than 5 mm below the surface of the soil.
Years 3 - 5	June	Plant Installation (Tubestock)	▪ Plant installation to occur immediately following seeding as to not disturb emerging seedlings. ▪ Plants to be installed using a suitable handheld earth auger. ▪ Hard digging conditions should be considered prior to installation and the appropriate time and equipment allowed for to complete the planting. ▪ Plants to be installed with the root ball no less than 5 mm below the surface of the soil.

Year/s	Timing	Task	Comments
Years 2 - 5	June, September & March	Conduct maintenance weed control during establishment period.	▪ Three weed control events per year to ensure seasonal weeds are treated. ▪ Weed control frequency to be adjusted based on monitoring and/or weed mapping. ▪ Spot spraying and manual removal as required.
Years 2 - 5	Summer & Winter	Undertake revegetation monitoring during establishment period	▪ Monitor revegetation to assess if success criteria have been met. ▪ Infill plantings and adaptive management as required to achieve completion criteria
Years 2 - 5	Spring	Undertake condition monitoring	▪ Monitor condition of management area to assess if success criteria have been met ▪ Consider increasing vegetation areas to where bare ground is present, and vegetation structure is poor.
Years 2 - 5	Winter	Undertake Weed Mapping	▪ To be undertaken in Years 2 and 4 to monitor change in weed species coverage and determine ongoing weed management actions.
Years 2 - 4	March	Monitoring report submission	▪ A monitoring report to be submitted to the city. ▪ Apply adaptive management to ensure success criteria are met. ▪ Ensure plants are ordered if stem density/cover is not being achieved.
Year 5	January	Final monitoring	▪ Final monitoring and report submitted. ▪ If completion criteria are not met continue to implement contingency actions for a minimum of 24 months or until completion criteria have been met.

6.0 References

Bamford, M., Shepherd, B. and K. Chuk. (2019). The western grey kangaroo Macropus fuliginosus in Whiteman Park. Kindsley, W.A

Brown, K., & Brooks, B. (2002). Bushland Weeds –A practical guide to their management. Greenwood, W.A: Environmental Weeds Action Network (Inc.).

Commonwealth of Australia. (2016). Threat abatement plan for competition and land degradation by rabbits, Commonwealth of Australia.

Department of Biodiversity, Conservation and Attractions (DBCA). (2016) *Swan Impact and Invasiveness Ratings.* Retrieved from https://www.dbca.wa.gov.au/management/threat-management/weeds

Department of Biodiversity, Conservation and Attractions (DBCA). (2020). *Conservation Codes.* Retrieved from https://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/Listings/Conservation%20code%20definitions.pdf.

Department of Environment and Conservation (DEC). (2011). Techniques for Mapping Weed Distribution and Cover in Bushland and Wetlands. Retrieved from https://www.dpaw.wa.gov.au/images/documents/plants-animals/monitoring/sop/sop221_weed_mapping.pdf

Department of the Environment, Water, Heritage and the Arts (DEWHA) (2008). Threat abatement plan for predation by the European red fox, DEWHA, Canberra.

Department of Primary Industries and Regional Development (DPIRD). (2024). Western Australian Organism List. Retrieved from https://www.agric.wa.gov.au/bam/western-australian-organism-list-waol

Department of Primary Industries and Regional Development (DPIRD). (2024). Declared plant requirements. Retrieved from https://www.agric.wa.gov.au/declared-plants/declared-plant-requirements

Department of Water and Environmental Regulation (DWER). (2018). *A Guide to Preparing Revegetation Plans for Clearing Permits.* Retrieved from https://www.wa.gov.au/government/publications/guide-preparing-revegetation-plans-clearing-permits

Environment, Planning and Sustainable Development Directorate (EPSDD). (2024). Eastern grey Kangaroo Conservation Management Advice 2024. Retrieved from https://www.act.gov.au/environment/animals-and-plants/animals/wildlife-management/eastern-grey-kangaroo/how-we-calculate-sustainable-kangaroo-populations

Environmental Protection Authority. (2016). *Technical Guidance: Flora and Vegetation survey for Environmental Impact Assessment*. Retrieved from

http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf.

Glevan Consulting. (2023). *Ken Hurst Park Dieback Assessment.* Unpublished report prepared for the City of Melville

Government of Western Australia. (2000). *Bush Forever (Vol. 2).* Department of Environmental Protection, Perth, Western Australia.

Natural Area Consulting Management Services. (2020a). *John Connell Reserve Threatened Ecological Community Assessment.* Unpublished report prepared for the City of Melville

Natural Area Consulting Management Services. (2020b). *John Connell Reserve Detailed Flora, Vegetation and Fauna Assessment.* Unpublished report prepared for the City of Melville

Natural Area Consulting Management Services. (2021). *Ken Hurst Strategic Management Plan 2021-2026.* Unpublished report prepared for the City of Melville

Natural Area Consulting Management Services. (2025). *Ken Hurst Park Environmental Surveys.* Unpublished report prepared for the City of Melville

Pest Smart. (2017). *NATSOP-FOX004 National Standard Operating Procedure: Fumigation of Fox Dens Using Carbon Monoxide.* Retrieved from NATSOP-FOX004 National Standard Operating Procedure: Fumigation of fox dens using carbon monoxide - PestSmart

Short, J., Caughley, G., Grice, D. and Brown, B. (1983). The distribution and abundance of kangaroos in relation to environment in Western Australia. *Aust. Wildl. Res.* 10: 435-51.

Western Australian (WA) Herbarium. (1998-). *FloraBase – The Western Australian Flora.* Retrieved from https://florabase.dpaw.wa.gov.au/.

Appendix 1: Conservation Codes

Western Australia

Conservation Code	Name	Description
T	Threatened	Flora or fauna that is rare or likely to become extinct, ranked according to their level of threat using IUCN Red List criteria (Schedules 1-3 of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice)
CR	Critically endangered	Species considered to be facing an extremely high risk of extinction within the wild in the immediate future
EN	Endangered	Species considered to be facing a very high risk of extinction in the wild in the near future
VU	Vulnerable	Species considered to be facing a high risk of extinction in the wild in the medium-term future
EX	Extinct Species	Species where 'there is no reasonable doubt that the last member of the species has died (Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice)
EW	Extinct in the Wild	Species that are known to only survive in cultivation, in captivity, or as a naturalised population well outside its past range; and it has not been recorded in its known or expected habitat at appropriate seasons anywhere in its past range, despite surveys over a timeframe appropriate to its life cycle and form
MI	Migratory Species	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth (Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice)
CD	Conservation Dependent	Species of special conservation interest (conservation dependent fauna), being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened (Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice)
OS	Specially Protected	Fauna otherwise in need of special protection to ensure their conservation (Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice)
P	Priority Species	Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or

Conservation Code	Name	Description
		flora. Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.
P1	Priority One	Poorly known species – Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either very small or on lands not managed for conservation, such as road verges, urban areas, farmland, active mineral lease and under threat of habitat destruction or degradation.
2	Priority Two	Poorly known species – Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, such as national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves and similar.
3	Priority Three	Poorly known species – Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat
4	Priority Four	Rare or near threatened and other species in need of monitoring.

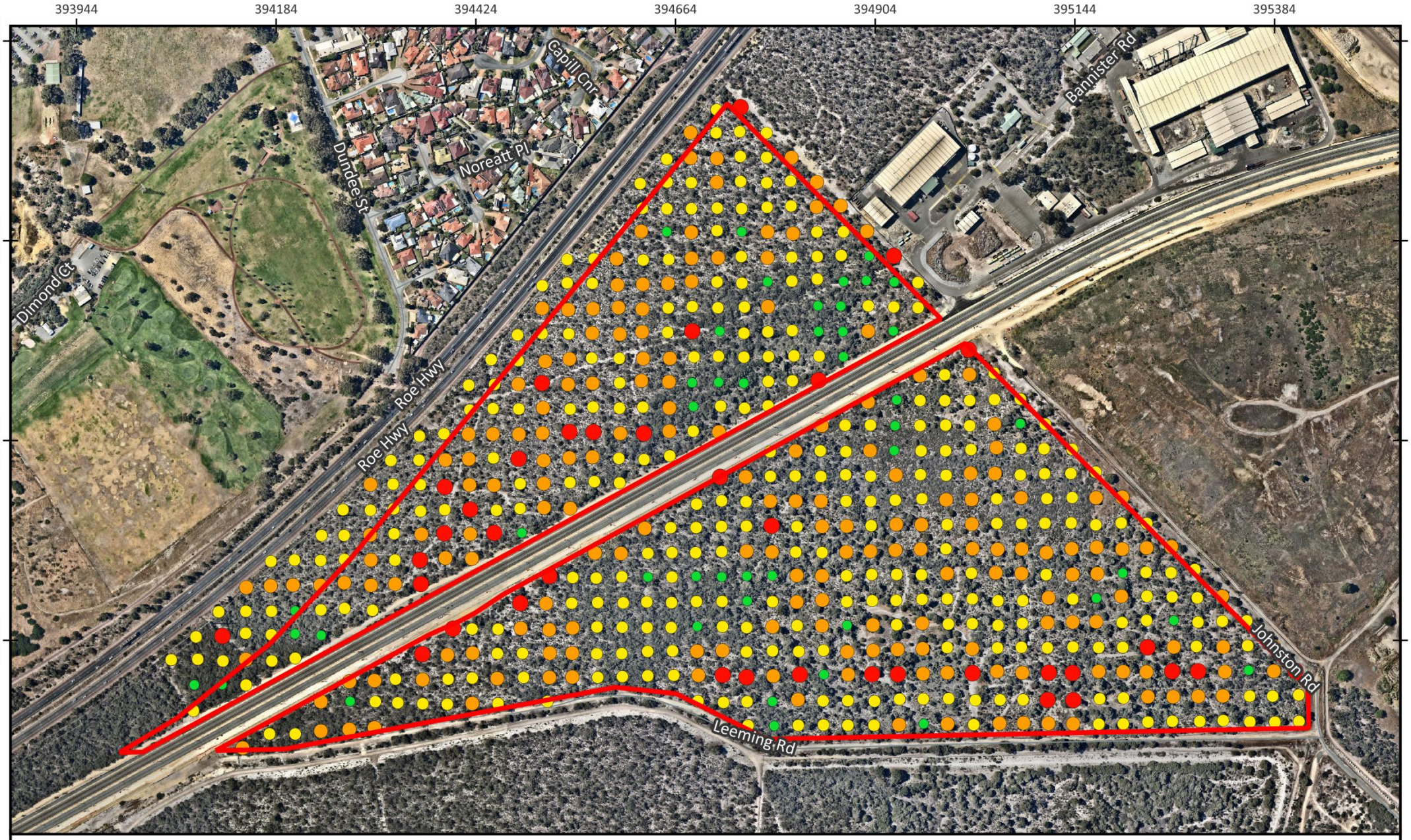
Source: DBCA, 2020

Commonwealth

Category	Description
Critically Endangered	Species facing an extremely high risk of extinction in the wild in the immediate future
Endangered	Species facing a very high risk of extinction in the wild in the near future
Vulnerable	Species facing a high risk of extinction in the wild in the medium term

Source: DBCA, 2020

Appendix 2: Bare Ground 2024



Appendix 2:

Ken Hurst Park

Bare Gound Coverage 2024

Leeming, City of Melville

Legend

- Site Boundary
- 0 %
- < 5 %
- 5 - 25 %
- > 25 %

Client:	City of Melville
Date:	10/02/2025
Created by:	K.Evans
Image Source:	Nearmap, 2025
Datum:	GDA2020 / MGA zone 50
Scale:	1: 6000

0 50 100 m

N

Appendix 3: Reference Site Quadrat Data

Quadrat No.:	KEN01
Survey Date:	12/09/2024
Personnel:	BD TC
Northing:	6450079
Easting:	394704
Topography:	Plain
Aspect:	N/A
Slope:	< 1 %
Soil:	Grey sand
Gravel:	0 %
Rock:	0 %
Leaf Litter:	80 %
Bare Ground:	0 %
Drainage:	Well
Condition:	Excellent

Notes: A woodland of *Banksia attenuata* and *Banksia menziesii* over mixed native shrubland and heathland.

Species	Cover (%)	Height (m)
**Briza maxima*	0.1	0.1
**Ehrharta longiflora*	0.1	0.2
**Medicago polymorpha*	0.1	0.1
**Sonchus oleraceus*	0.1	0.2
**Urospermum picroides*	0.1	0.1
Allocasuarina fraseriana	5	6
Banksia attenuata	60	8
Banksia menziesii	45	7
Bossiaea eriocarpa	0.2	0.1
Caladenia flava	0.2	0.2
Caladenia longicauda	0.1	0.1
Centrolepis glabra	0.1	0.1
Chaetospora curvifolia	0.1	0.3
Chamaescilla corymbosa	0.2	0.1

Species	Cover (%)	Height (m)
Conostylis juncea	0.2	0.3
Dasypogon bromeliifolius	15	0.2
Drosera menziesii	0.1	0.4
Eriochilus dilatatus	0.1	0.2
Eryngium pinnatifidum	0.2	0.2
Hibbertia subvaginata	1	0.3
Hovea trisperma	0.2	0.1
Lagenophora huegelii	0.1	0.2
Lepidosperma squamatum	0.5	0.3
Lomandra caespitosa	0.1	0.15
Lomandra hermaphrodita	0.2	0.1
Lomandra micrantha	1	0.3
Lyginia imberbis	2	0.3
Patersonia occidentalis	5	3
Petrophile linearis	0.2	0.2
Phlebocarya ciliata	1	0.1
Platysace filiformis	1	0.2
Poranthera microphylla	0.1	0.1
Schoenus caespititius	2	0.2
Scholtzia involucrata	2	0.4
Senecio multicaulis	0.1	0.3
Thysanotus sparteus	0.5	0.2
Trachymene pilosa	0.1	0.1
Trachymene pilosa	0.1	0.1
Tricoryne elatior	0.5	0.2
Wahlenbergia preissii	0.1	0.1
Xanthorrhoea brunonis	6	1
Xanthorrhoea preissii	10	2

Note: *denotes introduced species.

Quadrat No.:	KEN02
Survey Date:	12/09/2024
Personnel:	KE BD
Northing:	6450389
Easting:	394609
Topography:	Plain
Aspect:	N/A
Slope:	< 1 %
Soil:	Grey sand
Gravel:	0 %
Rock:	0 %
Leaf Litter:	15 %
Bare Ground:	20 %
Drainage:	Well
Condition:	Very Good

Notes: A woodland of *Banksia attenuata* and *Banksia menziesii* with emergent *Eucalyptus todtiana* over mixed native shrubland and heathland.

Species	Cover (%)	Height (m)
**Briza maxima*	2	0.4
**Gladiolus caryophyllaceus*	0.5	0.4
**Hypochaeris glabra*	0.5	0.5
**Ursinia anthemoides*	2	0.5
Acacia willdenowiana	0.1	0.5
Allocasuarina fraseriana	1	2
Allocasuarina humilis	6	1.5
Austrostipa compressa	0.1	0.2
Banksia attenuata	3	4
Banksia dallanneyi	1	0.2
Banksia menziesii	40	6
Bossiaea eriocarpa	1	0.4
Burchardia congesta	0.1	0.5
Caladenia flava	1	0.2
Chamaescilla corymbosa	2	0.1
Conostephium pendulum	1	0.4

Species	Cover (%)	Height (m)
Daviesia triflora	1	0.4
Desmocladus asper	0.1	0.1
Desmocladus flexuosus	1	0.2
Drosera drummondii	0.1	0.3
Ehrharta calycina	0.5	0.5
Eremaea pauciflora	2	1
Eriochilus dilatatus	0.1	0.2
Eucalyptus todtiana	2	2
Gompholobium tomentosum	1	0.4
Hibbertia huegelii	0.1	0.2
Hibbertia racemosa	3	0.4
Hypocalymma robustum	1	0.5
Jacksonia furcellata	2	1.5
Lyginia imberbis	0.1	0.4
Melaleuca thymoides	2	2
Myriocephalus occidentalis	0.5	0.1
Patersonia occidentalis	1	0.4
Podotheca angustifolia	0.5	0.1
Scholtzia involucrata	10	0.3
Senecio multicaulis	0.1	0.2
Stylidium piliferum	0.1	0.3
Stylidium schoenoides	0.1	0.5
Styphelia conostephioides	0.5	0.3
Thysanotus manglesianus	0.5	0.3
Trachymene pilosa	2	0.4
Waitzia suaveolens	2	0.1
Xanthorrhoea brunonis	3	1.2
Xanthorrhoea preissii	5	2.5

Note: *denotes introduced species.

Quadrat No.:	KEN03
Survey Date:	12/09/2024
Personnel:	KE BD
Northing:	6450152
Easting:	394357
Topography:	Midslope
Aspect:	Northwest
Slope:	< 1 %
Soil:	Brown sandy loam
Gravel:	0 %
Rock:	0 %
Leaf Litter:	60 %
Bare Ground:	15 %
Drainage:	Well
Condition:	Very Good

Notes: A woodland of *Banksia attenuata* and *Banksia menziesii* with emergent *Allocasuarina fraseriana* over mixed native shrubland and heathland.

Species	Cover (%)	Height (m)
**Aira caryophyllea*	0.1	0.1
**Briza maxima*	0.5	0.2
**Gladiolus caryophyllaceus*	0.1	0.4
**Hypochaeris glabra*	0.5	0.1
**Sonchus oleraceus*	0.1	0.2
**Urospermum picroides*	1	0.15
**Ursinia anthemoides*	2	0.3
Allocasuarina fraseriana	10	5
Allocasuarina humilis	4	1.2
Banksia attenuata	30	8
Banksia menziesii	20	7
Bossiaea eriocarpa	2	0.4
Burchardia congesta	0.1	0.3
Caladenia flava	0.2	0.2
Caladenia longicauda	0.1	0.3

Species	Cover (%)	Height (m)
Calytrix fraseri	2	1
Chamaescilla corymbosa	0.5	0.1
Conostephium pendulum	0.5	0.2
Conostephium pendulum	0.5	0.2
Conostylis aculeata	1	0.2
Conostylis juncea	0.3	0.1
Dasypogon bromeliifolius	3	0.4
Daviesia triflora	1	0.5
Desmocladus flexuosus	1	0.1
Desmocladus flexuosus	1.5	0.1
Drosera drummondii	0.1	0.2
Drosera erythrorhiza	1	0.1
Ehrharta calycina	0.5	0.2
Eriochilus dilatatus	0.1	0.2
Eucalyptus todtiana	10	6
Haemodorum paniculatum	0.1	0.2
Hibbertia huegelii	0.2	0.2
Hibbertia hypericoides	4	0.5
Hibbertia subvaginata	0.2	0.3
Hibbertia subvaginata	0.2	0.3
Hypocalymma angustifolium	1	0.2
Jacksonia furcellata	2	2.5
Lomandra hermaphrodita	0.1	0.1
Lyginia barbata	2	0.5
Microlaena stipoides	0.1	0.1
Microtis media	0.1	0.2
Patersonia occidentalis	8	0.4
Petrophile linearis	1	0.3
Philotheca spicata	0.1	0.3
Pimelea sulphurea	0.5	0.3
Quinetia urvillei	0.1	0.05
Scaevola thesioides	1	0.15

Species	Cover (%)	Height (m)
Scholtzia involucrata	2	0.2
Stirlingia latifolia	2	0.6
Stylidium neurophyllum	0.1	0.15
Stylidium piliferum	0.1	0.2
Thysanotus manglesianus	0.1	0.3
Trachymene pilosa	0.5	0.3
Waitzia suaveolens	1	0.15

Note: *denotes introduced species.

Quadrat No.:	JC01
Survey Date:	11/11/2020
Personnel:	KS, MG
Northing:	6449840.3973
Easting:	393561.3179
Topography:	Mid Slope
Aspect:	North
Slope:	0-3 %
Soil:	Grey Sand
Gravel:	None
Rock:	None
Leaf Litter:	10 %
Bare Ground:	1 %
Drainage:	Well
Condition:	Excellent

Notes: *Banksia attenuata* and *B. menziesii* Woodland

Species	Cover (%)	Height (m)
**Asparagus asparagoides*	0.5	0.2
**Briza maxima*	5	0.3
**Ehrharta calycina*	2	1
**Gladiolus caryophyllaceus*	0.5	0.5
**Pelargonium capitatum*	1	0.2
**Sonchus oleraceus*	0.1	0.2
**Urospermum picroides*	0.1	0.2
**Ursinia anthemoides*	3	0.2
**Wahlenbergia capensis*	0.1	0.1
Acacia applanata	1	0.2
Acacia pulchella	0.5	0.3
Banksia attenuata	15	8
Banksia menziesii	10	6
Bossiaea eriocarpa	2	0.5
Burchardia congesta	1	0.5

Species	Cover (%)	Height (m)
Conostephium pendulum	3	0.3
Dampiera linearis	0.5	0.2
Dasypogon bromeliifolius	1	0.3
Desmocladus flexuosus	8	0.3
Gastrolobium capitatum	0.5	0.3
Gompholobium tomentosum	2	0.3
Hibbertia cuneiformis	1	0.5
Hovea trisperma	1	0.3
Jacksonia furcellata	1	2.5
Lagenophora huegelii	0.1	0.1
Lomandra caespitosa	0.1	0.3
Lomandra hermaphrodita	0.1	0.3
Lomandra micrantha subsp. micrantha	0.1	0.2
Lyginia barbata	60	0.5
Melaleuca seriata	2	0.5
Melaleuca thymoides	1	0.5
Mesomelaena pseudostygia	0.1	0.1
Microtis media	0.5	0.2
Nuytsia floribunda	0.5	0.5
Patersonia occidentalis	5	0.5
Phlebocarya ciliata	4	0.2
Schoenus pedicellatus	2	0.3
Scholtzia involucrata	8	0.3
Styphelia conostephioides	1	0.2
Xanthorrhoea brunonis	3	1
Xanthorrhoea preissii	10	2

Note: *denotes introduced species.

Quadrat No.:	**JC02**
Survey Date:	12/11/2020
Personnel:	KS, MG
Northing:	6449743.4873
Easting:	393350.3662
Topography:	Mid Slope
Aspect:	Northeast
Slope:	0-3 %
Soil:	Grey Sand
Gravel:	None
Rock:	None
Leaf Litter:	30 %
Bare Ground:	0 %
Drainage:	Well
Condition:	Excellent

Notes: *Banksia attenuata* and *B. menziesii* Woodland

Species	**Cover (%)**	**Height (m)**
**Briza maxima*	2	0.2
**Ehrharta calycina*	1	0.5
**Gladiolus caryophyllaceous*	0.5	0.3
**Sonchus oleraceus*	0.1	0.1
Acacia pulchella	4	1
Allocasuarina humilis	8	1
Arnocrinum preissii	0.1	0.2
Banksia attenuata	35	8
Banksia menziesii	50	8
Bossiaea eriocarpa	2	0.4
Burchardia congesta	1	0.4
Caesia occidentalis	0.5	0.4
Cassytha racemosa	5	0.4
Conostylis juncea	0.1	0.2
Dampiera linearis	0.5	0.2
Dasypogon bromeliifolius	3	0.3

Species	Cover (%)	Height (m)
Desmocladus fasciculatus	1	0.2
Desmocladus flexuosus	6	0.3
Eremaea pauciflora	10	0.5
Eucalyptus todtiana	5	3
Gompholobium tomentosum	5	0.5
Hibbertia cuneiformis	2	0.3
Hibbertia huegelii	0.5	0.3
Hovea trisperma	1	0.3
Hypolaena exsulca	3	0.3
Lechenaultia floribunda	10	0.3
Lepidosperma scabrum	0.1	0.3
Lomandra hermaphrodita	0.1	0.2
Lyginia barbata	0.5	0.4
Melaleuca seriata	15	1
Melaleuca thymoides	1	1
Microtis media	0.1	0.1
Patersonia occidentalis	5	0.3
Phlebocarya ciliata	5	0.3
Platysace filiformis	0.3	0.2
Pterostylis vittata	0.1	0.1
Schoenus pedicellatus	10	0.2
Scholtzia involucrata	3	0.4
Xanthorrhoea brunonis	4	0.5

Note: *denotes introduced species.

Quadrat No.:	**JC03**
Survey Date:	12/11/2020
Personnel:	KS, MG
Northing:	6449674.2291
Easting:	393163.8118
Topography:	Plain
Aspect:	Flat
Slope:	0 %
Soil:	Grey Sand
Gravel:	None
Rock:	None
Leaf Litter:	5 %
Bare Ground:	1 %
Drainage:	Well
Condition:	Excellent

Notes: *Banksia attenuata* and *B. menziesii* Woodland

Species	**Cover (%)**	**Height (m)**
**Briza maxima*	0.5	0.2
**Ehrharta calycina*	1	0.5
**Gladiolus caryophyllaceous*	1	0.5
**Sonchus oleraceus*	0.1	0.2
**Ursinia anthemoides*	0.3	0.2
Acacia pulchella	0.1	0.3
Acacia stenoptera	0.1	0.2
Allocasuarina humilis	20	1.5
Amphipogon turbinatus	3	0.2
Anigozanthos manglesii	0.5	0.4
Austrostipa compressa	0.1	0.5
Banksia attenuata	20	8
Banksia menziesii	10	2
Bossiaea eriocarpa	10	0.3
Burchardia congesta	0.5	0.2
Calectasia narragara	0.5	0.2

Species	Cover (%)	Height (m)
Calytrix flavescens	0.1	0.2
Chaetospora curvifolia	3	0.2
Conostephium pendulum	8	0.5
Conostylis setigera	1	0.2
Dampiera linearis	0.3	0.2
Dasypogon bromeliifolius	4	0.3
Desmocladus fasciculatus	15	0.3
Eremaea pauciflora	10	0.5
Gompholobium tomentosum	0.1	0.2
Hensmania turbinata	0.1	0.3
Hibbertia cuneiformis	2	0.5
Hibbertia huegelii	0.5	0.2
Hibbertia hypericoides	10	0.4
Hovea trisperma	1	0.3
Lobelia tenuior	0.1	0.2
Lomandra caespitosa	0.1	0.2
Lomandra hermaphrodita	0.5	0.3
Lomandra preissii	0.1	0.3
Lomandra suaveolens	0.1	0.2
Lyginia barbata	6	0.5
Melaleuca seriata	5	1
Melaleuca thymoides	3	0.5
Microtis media	0.1	0.3
Patersonia occidentalis	5	0.3
Persoonia saccata	0.1	0.2
Petrophile linearis	0.5	0.2
Philotheca spicata	0.5	0.5
Phlebocarya filifolia	0.5	0.2
Pimelea sulphurea	0.1	0.2
Pterostylis vittata	0.1	0.2
Scholtzia involucrata	5	0.5
Stirlingia latifolia	1	0.3

Species	Cover (%)	Height (m)
Stylidium brunonianum	0.1	0.3
Stylidium repens	0.5	0.1
Stylidium schoenoides	0.5	0.2
Styphelia conostephioides	10	0.2
Thysanotus sparteus	0.1	0.2
Tricoryne elatior	0.2	0.2
Waitzia suaveolens	0.1	0.1
Xanthosia huegelii	0.1	0.1

Note: *denotes introduced species.

Appendix 4: Reference Site Species List

The complete flora list for the reference site is provided in the table below with flora listed by species, and vegetation type they occurred within indicated. *Denotes introduced species and # denotes species that are native to Western Australia but not to this local region (Natural Area, 2020; Natural Area, 2024).

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Anarthriaceae	*Lyginia barbata*		x	x
Anarthriaceae	*Lyginia imberbis*			x
Apiaceae	*Eryngium pinnatifidum*	Blue Devils		x
Apiaceae	*Platysace filiformis*		x	x
Apiaceae	*Xanthosia huegelii*		x	x
Araceae	**Zantedeschia aethiopica*	Arum lily		x
Araliaceae	*Trachymene pilosa*	Native Parsnip		x
Asparagaceae	**Asparagus asparagoides*	Bridal Creeper		x
Asparagaceae	**Lachenalia reflexa*			
Asparagaceae	*Dichopogon capillipes*		x	
Asparagaceae	*Laxmannia squarrosa*	Paper Lily	x	x
Asparagaceae	*Lomandra caespitosa*		x	x
Asparagaceae	*Lomandra hermaphrodita*		x	x
Asparagaceae	*Lomandra micrantha*			x
Asparagaceae	*Lomandra micrantha subsp. micrantha*		x	
Asparagaceae	*Lomandra nigricans*			x
Asparagaceae	*Lomandra preissii*		x	
Asparagaceae	*Lomandra suaveolens*		x	
Asparagaceae	*Thysanotus manglesianus*	Mangles' Fringed Lily		x
Asparagaceae	*Thysanotus sparteus*	Leafless Fringed Lily	x	x
Asparagaceae	*Thysanotus thyrsoideus*		x	x
Asphodelaceae	*Trachyandra divaricata*			x
Asteraceae	**Arctotheca calendula*			x
Asteraceae	**Hypochaeris glabra*			x
Asteraceae	**Hypochaeris radicata*			x

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Asteraceae	**Leontodon rhagadioloides*	Cretan Weed		
Asteraceae	**Pseudognaphalium luteoalbum*	Jersy Cudweed		
Asteraceae	**Senecio condylus*			
Asteraceae	**Sonchus asper*	Rough Sowthistle		
Asteraceae	**Sonchus oleraceus*	Common Sowthistle		
Asteraceae	**Urospermum picroides*	False Hawkbit		
Asteraceae	**Ursinia anthemoides*	Ursinia		
Asteraceae	*Asteridea pulverulenta*	Common Bristle Daisy		x
Asteraceae	*Cotula bipinnata*			x
Asteraceae	*Lagenophora huegelii*		x	x
Asteraceae	*Myriocephalus occidentalis*			x
Asteraceae	*Podotheca angustifolia*	Sticky Longheads	x	x
Asteraceae	*Podotheca gnaphalioides*	Golden Long-heads		x
Asteraceae	*Quinetia urvillei*			x
Asteraceae	*Senecio multicaulis*			x
Asteraceae	*Siloxerus filifolius*			x
Asteraceae	*Siloxerus humifusus*			x
Asteraceae	*Waitzia nitida*			
Asteraceae	*Waitzia suaveolens*	Fragrant Waitzia	x	x
Boraginaceae	**Echium plantagineum*	Paterson's Curse		x
Brassicaceae	**Brassica tournefortii*	Mediterranean Turnip		x
Campanulaceae	**Wahlenbergia capensis*			x
Campanulaceae	*Lobelia tenuior*	Slender lobelia	x	
Campanulaceae	*Wahlenbergia preissii*			x
Caprifoliaceae	**Centranthus macrosiphon*			x
Caryophyllaceae	**Petrorhagia dubia*			
Caryophyllaceae	**Silene gallica*			x
Casuarinaceae	*Allocasuarina fraseriana*	Sheoak	x	x
Casuarinaceae	*Allocasuarina humilis*	Dwarf Sheoak	x	x
Celastraceae	*Stackhousia huegelii*			x

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Centrolepidaceae	*Centrolepis aristata*	Pointed Centrolepis		x
Centrolepidaceae	*Centrolepis glabra*	Smooth Centrolepis		x
Chenopodiaceae	*Rhagodia baccata*	Berry Saltbush		x
Colchicaceae	*Burchardia congesta*	Milkmaids	x	x
Crassulaceae	*Crassula alata*			
Crassulaceae	*Crassula colorata*			x
Crassulaceae	*Crassula decumbens*			x
Cyperaceae	*Isolepis cernua*	Nodding club-rush		x
Cyperaceae	*Lepidosperma apricola*			x
Cyperaceae	*Lepidosperma pubisquameum*			x
Cyperaceae	*Lepidosperma scabrum*		x	
Cyperaceae	*Lepidosperma squamatum*			x
Cyperaceae	*Mesomelaena pseudostygia*	Smphore Sedge	x	
Cyperaceae	*Schoenus caespititius*			x
Cyperaceae	*Schoenus curvifolius*			x
Cyperaceae	*Schoenus pedicellatus*		x	x
Cyperaceae	*Chaetospora curvifolia*		x	
Dasypogonaceae	*Dasypogon bromeliifolius*	Pineapple Bush	x	x
Dilleniaceae	*Hibbertia cuneiformis*		x	
Dilleniaceae	*Hibbertia huegelii*			x
Dilleniaceae	*Hibbertia hypericoides*		x	x
Dilleniaceae	*Hibbertia racemosa*			x
Dilleniaceae	*Hibbertia subvaginata*			x
Droseraceae	*Drosera drummondii*			x
Droseraceae	*Drosera erythrorhiza*	Red Ink Sundew		x
Droseraceae	*Drosera glanduligera*	Pimpernel		x
Droseraceae	*Drosera macrantha*	Bridal Rainbow		x
Droseraceae	*Drosera menziesii*	Pink Rainbow		x
Droseraceae	*Drosera nitidula*			x
Droseraceae	*Drosera porrecta*	Leafy Sundew		x

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Ericaceae	*Conostephium pendulum*	Pearl Flower	x	x
Ericaceae	*Styphelia conostephioides*		x	x
Ericaceae	*Styphelia racemulosa*			x
Ericaceae	*Synaphea spinulosa*		x	x
Euphorbiaceae	**Euphorbia peplus*	Petty Spurge		
Euphorbiaceae	**Euphorbia terracina*	Geraldton Carnation Weed		
Fabaceae	**Retama raetam*			
Fabaceae	**Trifolium campestre*	Hop Clover		x
Fabaceae	*Euchilopsis linearis*	Swamp Pea	x	
Fabaceae	*Hovea trisperma*		x	x
Fabaceae	*Jacksonia furcellata*		x	x
Fabaceae	*Jacksonia sternbergiana*			x
Fabaceae	*Pultenaea reticulata*			x
Fabaceae	**Medicago polymorpha*			
Fabaceae	*Acacia applanata*		x	x
Fabaceae	*Acacia huegelii*	Huegel's Wattle	x	
Fabaceae	*Acacia pulchella*	Prickly Moses	x	x
Fabaceae	*Acacia pulchella* var. *glaberrima*			x
Fabaceae	*Acacia stenoptera*			x
Fabaceae	*Acacia willdenowiana*	Grass Wattle		x
Fabaceae	*Bossiaea eriocarpa*	Common Brown Pea	x	x
Fabaceae	*Daviesia decurrens*			
Fabaceae	*Daviesia divaricata*			x
Fabaceae	*Daviesia physodes*		x	
Fabaceae	*Daviesia triflora*		x	x
Fabaceae	*Gastrolobium capitatum*		x	x
Fabaceae	*Gompholobium confertum*			x
Fabaceae	*Gompholobium tomentosum*		x	x
Geraniaceae	**Pelargonium capitatum*	Rose Pelargonium		
Goodeniaceae	*Dampiera linearis*	Common Dampiera	x	x

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Goodeniaceae	*Lechenaultia floribunda*	Free-Flowering Leschenaultia	x	x
Goodeniaceae	*Scaevola repens*		x	x
Goodeniaceae	*Scaevola thesioides*			x
Haemodoraceae	*Anigozanthos humilis*	Catspaw	x	x
Haemodoraceae	*Anigozanthos manglesii*	Mangles Kangaroo Paw	x	x
Haemodoraceae	*Phlebocarya ciliata*		x	x
Haemodoraceae	*Phlebocarya filifolia*		x	x
Haemodoraceae	*Conostylis aculeata*	Prickly Conostylis	x	x
Haemodoraceae	*Conostylis aculeata* subsp. *cygnorum*			x
Haemodoraceae	*Conostylis juncea*		x	x
Haemodoraceae	*Conostylis setigera*		x	
Haemodoraceae	*Haemodorum paniculatum*			x
Hemerocallidaceae	*Arnocrinum preissii*		x	x
Hemerocallidaceae	*Caesia occidentalis*		x	
Hemerocallidaceae	*Chamaescilla corymbosa*	Blue Squill	x	x
Hemerocallidaceae	*Dianella revoluta*	Blueberry Lily		x
Hemerocallidaceae	*Tricoryne elatior*	Yellow Autumn Lily	x	x
Iridaceae	**Freesia alba* subsp. *leichtlinii*			
Iridaceae	**Gladiolus caryophyllaceus*	Wild Gladiolus		
Iridaceae	**Romulea rosea*			
Iridaceae	*Patersonia occidentalis*	Purple Flag	x	x
Lamiaceae	*Hemiandra pungens*			x
Lamiaceae	*Hensmania turbinata*		x	x
Lauraceae	*Cassytha racemosa*	Dodder Laurel	x	
Loganiaceae	*Phyllangium paradoxum*			x
Loranthaceae	*Nuytsia floribunda*	Christmas Tree	x	x
Montiaceae	*Calandrinia corrigioloides*	Strap Purslane		x
Montiaceae	*Calandrinia granulifera*	Pygmy Purslane		x
Myrtaceae	*Aggreflorum longifolium*			

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Myrtaceae	*Calectasia narragara*	Star of Bethlehem		x
Myrtaceae	*Calytrix angulata*			x
Myrtaceae	*Calytrix flavescens*	Summer Starflower	x	x
Myrtaceae	*Calytrix fraseri*	Pink Summer Calytrix	x	x
Myrtaceae	*Eremaea asterocarpa* subsp. *asterocarpa*			x
Myrtaceae	*Eremaea astrocarpa*			x
Myrtaceae	*Eremaea pauciflora*		x	x
Myrtaceae	*Pericalymma ellipticum*	Swamp Teatree		x
Myrtaceae	*Astartea scoparia*			x
Myrtaceae	*Eucalyptus marginata*	Jarrah		x
Myrtaceae	*Eucalyptus todtiana*	Pricklybark	x	x
Myrtaceae	*Hypocalymma angustifolium*		x	x
Myrtaceae	*Hypocalymma robustum*			x
Myrtaceae	*Kunzea glabrescens*		x	x
Myrtaceae	*Melaleuca preissiana*		x	x
Myrtaceae	*Melaleuca seriata*		x	x
Myrtaceae	*Melaleuca thymoides*		x	x
Myrtaceae	*Regelia ciliata*			x
Myrtaceae	*Regelia inops*		x	x
Myrtaceae	*Scholtzia involucrata*	Spiked Scholtzia	x	x
Orchidaceae	**Disa bracteata*			x
Orchidaceae	*Caladenia arenicola*	Carousel Spider Orchid		x
Orchidaceae	*Caladenia flava*	Cowslip Orchid		x
Orchidaceae	*Caladenia huegelii*	Grand Spider Orchid	x	x
Orchidaceae	*Caladenia longicauda*	Common White Spider Orchid		x
Orchidaceae	*Cyanicula gemmata*			x
Orchidaceae	*Diuris corymbosa*			x
Orchidaceae	*Diuris magnifica*			x

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Orchidaceae	*Diuris* sp.			x
Orchidaceae	*Eriochilus dilatatus*			x
Orchidaceae	*Leporella fimbriata*	Hare Orchid		x
Orchidaceae	*Microtis media*	Tall Mignonette Orchid	x	x
Orchidaceae	*Pterostylis recurva*			x
Orchidaceae	*Pterostylis* sp.			x
Orchidaceae	*Pterostylis vittata*		x	x
Orchidaceae	*Pyrorchis nigricans*			x
Orchidaceae	*Thelymitra benthamiana*			x
Orchidaceae	*Thelymitra* sp.			x
Orobanchaceae	**Orobanche minor*	Lesser Broomrape		
Papaveraceae	**Fumaria capreolata*	Whiteflower fumitory		
Phyllanthaceae	*Poranthera microphylla*	Small Poranthera		x
Poaceae	**Aira caryophyllea*			
Poaceae	**Aira cupaniana*			x
Poaceae	**Avena barbata*			x
Poaceae	**Briza maxima*	Blowfly Grass		x
Poaceae	**Briza minor*	Shivery Grass		x
Poaceae	**Bromus diandrus*	Great Brome		x
Poaceae	**Cenchrus setaceus*	Fountain Grass		x
Poaceae	**Ehrharta calycina*	Perennial Veldt Grass		x
Poaceae	**Ehrharta longiflora*			x
Poaceae	*Amphipogon turbinatus*		x	
Poaceae	*Austrostipa compressa*		x	x
Poaceae	*Microlaena stipoides*	Weeping Grass		x
Polygalaceae	*Comesperma calymega*	Blue-Spike Milkwort		
Primulaceae	**Lysimachia arvensis*	Pimpernel		x
Proteaceae	*Adenanthos barbiger*			x

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Proteaceae	*Adenanthos cygnorum*	Common Woollybush	x	x
Proteaceae	*Adenanthos cygnorum* subsp. *cygnorum*			x
Proteaceae	*Adenanthos obovatus*	Basket Flower		x
Proteaceae	*Banksia attenuata*	Slender Banksia	x	x
Proteaceae	*Banksia dallanneyi*	Couch Honeypot		x
Proteaceae	*Banksia ilicifolia*	Holly-leaved Bankia	x	x
Proteaceae	*Banksia litoralis*			x
Proteaceae	*Banksia menziesii*	Firewood Banksia	x	x
Proteaceae	*Hakea prostrata*			x
Proteaceae	*Persoonia saccata*	Snottygobble	x	x
Proteaceae	*Petrophile linearis*	Pixie Mops	x	x
Proteaceae	*Stirlingia latifolia*	Blueboy	x	x
Ranunculaceae	*Clematis linearifolia*	Slender Clematis		x
Restionaceae	*Desmocladus asper*			x
Restionaceae	*Desmocladus fasciculatus*		x	x
Restionaceae	*Desmocladus flexuosus*		x	x
Restionaceae	*Hypolaena exsulca*		x	x
Rubiaceae	*Opercularia vaginata*	Dog Weed	x	x
Rutaceae	*Boronia crenulata*	Aniseed Boronia		x
Rutaceae	*Boronia dichotoma*			x
Rutaceae	*Philotheca spicata*	Pepper and Salt	x	x
Solanaceae	**Solanum nigrum*	Black Berry Nightshade		
Stylidiaceae	*Levenhookia pusilla*	Midget Stylewort		x
Stylidiaceae	*Stylidium brunonianum*		x	x
Stylidiaceae	*Stylidium neurophyllum*	Coastal Plain Triggerplant		x
Stylidiaceae	*Stylidium piliferum*	Common Butterfly Triggerplant		x
Stylidiaceae	*Stylidium repens*		x	x

Family	Species Name	Common Name	John Connell Reserve	Ken Hurst Park
Stylidiaceae	*Stylidium rigidulum*			x
Stylidiaceae	*Stylidium schoenoides*	Cow Kicks	x	x
Stylidiaceae	*Stylidium repens*			x
Thymelaeacea**e**	*Pimelea sulphurea*	Tyellow Banjine	x	x
Xanthorrhoeaceae	*Xanthorrhoea brunonis*		x	
Xanthorrhoeaceae	*Xanthorrhoea preissii*	Grass tree	x	x
Zamiaceae	*Macrozamia fraseri*	Sandplain Zamia		x
Zamiaceae	*Macrozamia riedlei*	Zamia	x	x

Appendix 5: Example Monitoring Recording Sheets

General Site Information

Site:	
Date:	
Assessors:	
Weather Conditions:	

Fauna sighted (list)

Maintenance issues present?
Describe

Potential success inhibiting factors present?
Describe

General Comments

Photo Monitoring

Photo Point	Location description	GPS location	Photo ID

Quadrat Monitoring

Site:	**Quadrat No:**
Date:	**Photo ID:**
Location Description:	**GPS:**
Native Vegetation	**Weeds**
Health (Rate 1-5; 1=Poor):	**Health (Rate 1-5; 1=Poor):**
Native Abundance (% Cover):	**Weed Abundance (% Cover):**
% Survival:	
Comments/Recommendations:	

Native Species Present		**Weed Species Present**	
Species	**No:**	**Species**	**No:**
Total:		**Total:**	
Species Diversity:		**Species Diversity:**	