GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 10237/1

File Number: DWERVT12884

Duration of Permit: From 23 July 2025 to 23 July 2033

ADVICE NOTE

Revegetation and rehabilitation offset.

The *revegetation* and *rehabilitation* referred to in condition 6 of this permit is intended to facilitate the weed management and infill planting, where required, of a total of 7.34 hectares of native vegetation within Lot 3 on Deposited Plan 63916, Leeming (Bush forever site 245), including *revegetation* and *rehabilitation* of 1.63 hectares within this area to improve the overall vegetation condition to excellent (Keighery 1994). The offset site comprises of suitable habitat for *black cockatoo species*, contains native vegetation that represents the Banksia Woodland of the Swan Coastal Plain threatened ecological community, and is a significant remnant of native vegetation in an extensively cleared landscape.

PERMIT HOLDER

Leeming Spartan Cricket Club Inc

LAND ON WHICH CLEARING IS TO BE DONE

Lot 753 on Deposited Plan 220336, Leeming

Lot 300 on Deposited Plan 301022, Leeming

Unnamed Road Reserve (PIN 1184386), Leeming

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.68 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 23 July 2027.

2. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the

permit holder must apply the following principles, set out in descending order of preference:

(a) avoid the clearing of *native vegetation*;

(b) minimise the amount of *native vegetation* to be cleared; and

(c) reduce the impact of clearing on any environmental value.

3. Weed and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known *dieback* or *weed*-affected soil, *mulch, fill*, or other material is brought into the area to be cleared; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

4. Wind erosion management

The permit holder must commence construction activities no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion

5. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner in a single direction towards adjacent native vegetation to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

6. Offset – Revegetation and rehabilitation

The permit holder must, within 12 months of the commencement of clearing authorised under this permit and no later than 23 July 2028, implement and adhere to the *Ken Hurst Revegetation Management Plan* (dated 27 February 2025) by *revegetating and rehabilitating* the combined areas cross-hatched red and cross-hatched green on Figure 2 of Schedule 1, including but not limited to the following actions:

(a) removal of current fencing and upgrading the fencing as specified in the *Ken Hurst Revegetation Management Plan* (dated 27 February 2025);

(b) deliberately *planting* and/or *direct seeding* of *native vegetation*, at an *optimal time*, using species representative of the Banksia woodlands threatened ecological community and that provides foraging habitat for *black cockatoo species*;

(c) ensure only *local provenance* propagating material is used to *revegetate* and *rehabilitate*;

(d) undertake *weed* control activities bi-annually;

(e) implementing hygiene protocols by cleaning earth-moving machinery of soil and vegetation prior to entering and leaving the site;

(f) establishing five 5m by 5m monitoring quadrats within the *revegetation* areas.

(g) achieving the *completion criteria* in Table 1 of Schedule 2 of this permit after the four-year monitoring period for the areas *rehabilitated* and *revegetated* within the combined areas cross hatched red and green in Figure 2 of Schedule 1;

(h) undertake remedial actions for areas *revegetated* and *rehabilitated* where monitoring indicates that *rehabilitation*, weed management and *revegetation* has not met the completion criteria, including:

(i) *revegetate* the area by deliberately *planting* native vegetation and/or *direct seeding native vegetation* that will result in the minimum target outlined in Table 1 of Schedule 2 and ensuring only *local provenance* propagating material are used;

(ii) undertake further *weed* control activities;

(iii) annual monitoring of the *rehabilitation*, weed management, and *revegetated* areas, by an *environmental specialist*, until the *completion criteria* outlined in Table 1 of Schedule 2 are met.

(i) where an *environmental specialist* determines that the completion criteria outlined in Table 1 of Schedule 2 have been met, a report shall be submitted to the *CEO* within three months of the determination being made.

7. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept.

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 3. (g) actions taken in accordance with conditions 4 and 5.
2.	In relation to revegetation	(h) the size of the area *revegetated*; (i) the date(s) on which the *revegetation* and weed

No.	Relevant matter	Specifications
	pursuant to condition 6.	management was undertaken; (j) the boundaries of the area revgeteted amd rehabilitated (recorded digitally as a shapefiles unsing a GPS unit set to GDA2020, expressing the geological coordinates in Eastings and Northings; (k) the boundaries of the area *revegetated* (recorded digitally as a shapefile); (l) a description of the *revegetation* and weed management activities undertaken; (m) remedial actions undertaken; (n) photographic evidence of areas revegetated; and (o) monitoring and determination reports made by the *environmental specialist.*

8. Reporting

(a) The permit holder must provide to the *CEO,* On or before the 30 June of each Calander year, a written report containing:

(i) the records required under condition 7; and

(ii) records of activities done by the permit holder under this permit between 1 January and 31 December of the preceding calendar year.

(b) If no clearing authorised under this permit has been undertaken, a written report confirming that no clearing under this permit has been undertaken, must be provided to the *CEO* on or before 30 June of each calendar year.

(c) The permit holder must provide to the *CEO*, no later than 90 calendar days prior to the expiry date of the permit, a written report of records required under condition 7, where these records have not already been provided under condition 8(a).

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
black cockatoo species	means one or more of the following species: (a) Zanda latirostris (Carnaby's cockatoo); (b) Zanda baudinii (Baudin's cockatoo); and/or (c) Calyptorhynchus banksii naso (forest red-tailed black cockatoo).
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.

Term	Definition
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
dieback	means the effect of *Phytophthora* species on native vegetation.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent and has a minimum of 2 years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the CEO as a suitable environmental specialist.
EP Act	*Environmental Protection Act 1986* (WA)
fill	means material used to increase the ground level, or to fill a depression
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same IBRA subregion of the area cleared.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
optimal time	means the period from May to October for undertaking planting and seeding.
planted/ing	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species.
rehabilitate/ed/ing/ion	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
remedial action/s	means any activity that is required to ensure successful reestablishment of vegetation to its pre-clearing composition, structure and density, and may include a combination of soil treatments and revegetation
revegetate/ed/ing/ion	means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

Term	Definition
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Jessica Burton
MANAGER
Officer delegated under Section 20
of the Environmental Protection Act 1986

30 June 2025

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

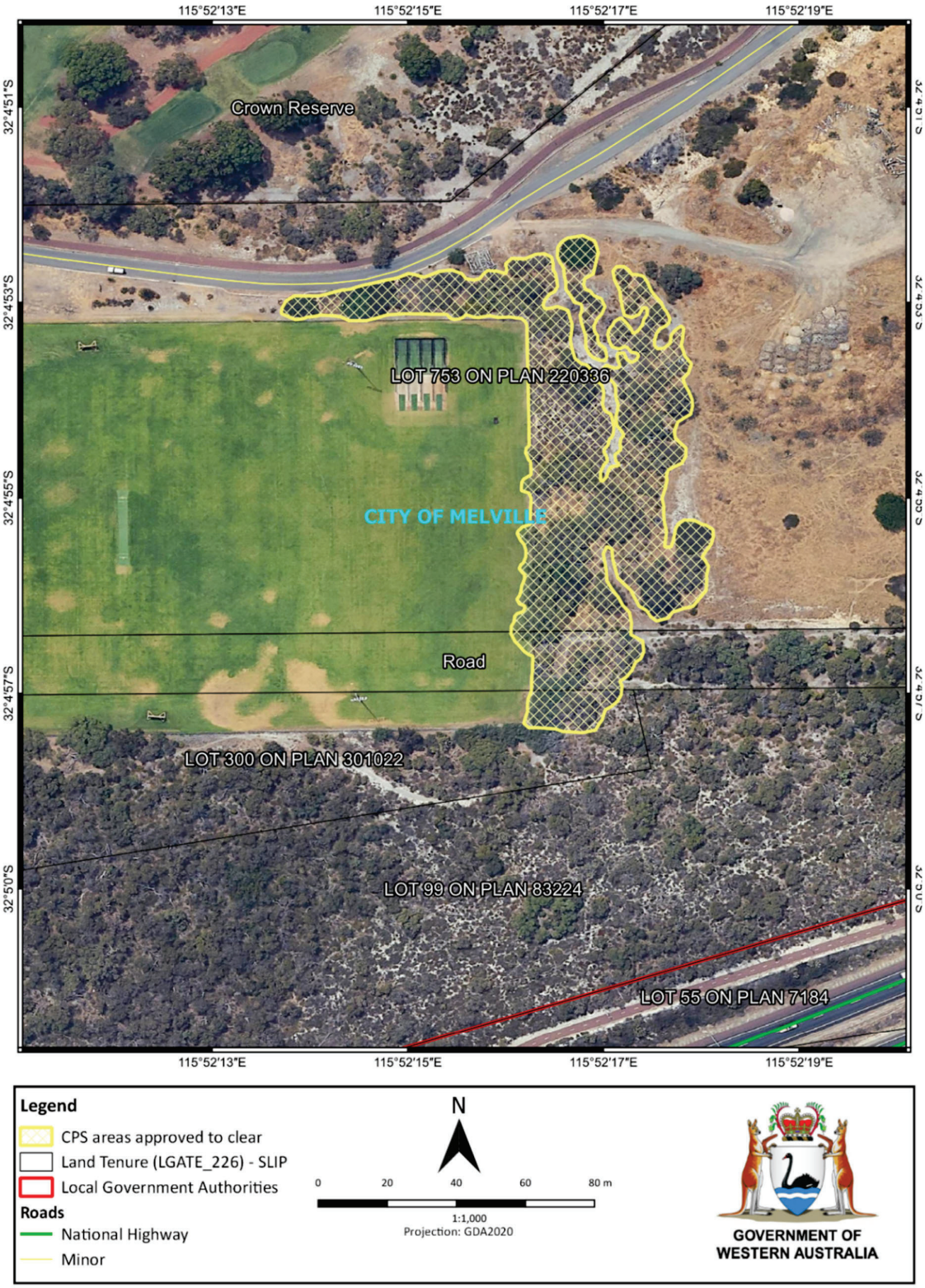

Figure 1: Map of the boundary of the area within which clearing may occur.

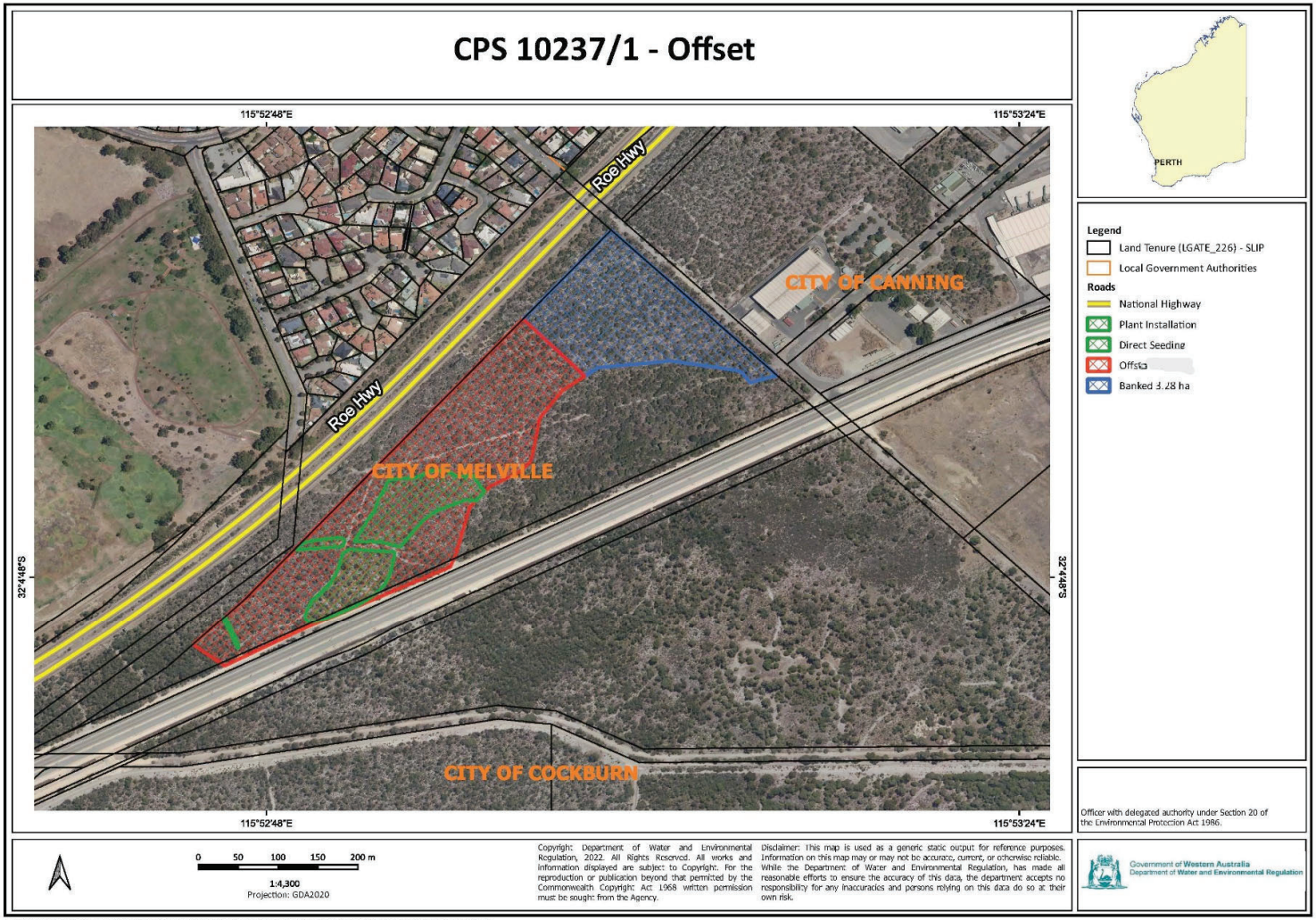

Figure 2: Map of the boundary of the area subject to offset condition 6.

Schedule 2

Table 1: Completion criteria for the revegetation, rehabilitation and weed management areas subject to condition 6.

Aspect	Completion Criteria	Monitoring
Survival rate to be achieved	A survival rate of at least 70 per cent of the seedlings initially planted to survive by the end of the four-year monitoring period.	The stems of species in the *revegetation* area, within the monitoring quadrants to be counted bi-annually by an *environmental specialist* in winter and summer for a minimum of four years following the last year plants were established.
Vegetation structure	Vegetation in the *revegetation* site to be broadly representative of the two reference sites within the Ken Hurst Park and the John Connell Reserve as denoted within the *Ken Hurst Park Revegetation Management Plan 2025*. • 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.	The structure within the monitoring quadrats is to be assessed bi-annually by an *environmental specialist* in in winter and summer for a minimum of four years following the last year plants were established.
Species density	Vegetation in the *revegetation* site contains a target density of 4 native plants per metre squared.	Assessed within the monitoring quadrants bi-annually by an *environmental specialist* in winter and summer for a minimum of four years following the last year plants were established.
Percentage of weeds present	*Weed* coverage within the *revegetation* site to have no more than <5 per cent.	Monitor the *revegetation* site for weeds by quadrates bi-annually in winter and spring for a minimum of four years following the last year plants were established.
Declared *weeds*	No Declared *Weeds* under the *Biosecurity and Agricultural Management Act 2007* present.	Monitor the *revegetation* site for Declared weeds by quadrats bi-annually in winter and spring for a minimum of four years following the last year plants were established.
Percentage of bare ground	Bare ground coverage within the *revegetation* area is no more than 10 per cent coverage.	The patch size of bare ground is to be assessed bi-annually by an *environmental specialist* in winter and spring for a minimum of four years following the last year plants were established.
Erosion within revegetation area	Erosion within the *revegetation* area is not to be present.	Evidence of erosion is to be assessed bi-annually by an *environmental specialist in* winter and spring for a minimum of four years.

As per the *Ken Hurst Revegetation Management Plan* (dated 27 February 2025).

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10237/1
Permit type:	Area permit
Applicant name:	Leeming Spartan Cricket Club Inc acting on behalf of the City of Melville
Application received:	16 June 2023
Application area:	0.68 hectares of native vegetation
Purpose of clearing:	Recreational
Method of clearing:	Mechanical
Property:	Lot 753 on Deposited plan 220336 Lot 300 on Deposited plan 301022 Unnamed Road Reserve (PIN 1184386)
Location (LGA area/s):	Leeming
Localities (suburb/s):	City of Melville

1.2. Description of clearing activities

Leeming Spartan Cricket Club Inc., acting on behalf of the City of Melville, proposes to clear 0.68 hectares of native vegetation in the intensive land use zone of Western Australia (see Figure 1, Section 1.5). The proposed clearing will allow for the construction of a multipurpose recreation field.

1.3. Decision on application

Decision:	Granted
Decision date:	30 June 2025
Decision area:	0.68 hectares of native vegetation.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and three submissions were received. Consideration of matters raised in the public submissions are summarised in Appendix A.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix H.1), the findings of a flora and fauna survey (Natural Area, 2020a) a Threatened Ecological Community (TEC) survey (Natural Area, 2020b), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the purpose of the clearing to provide an expansion to an existing cricket field and public open space and is consistent with the current planning framework for the site.

The assessment identified that the proposed clearing will result in:

- the loss of 0.68 hectares of native vegetation that is considered significant foraging habitat for *Zanda latirostris* (Carnaby's cockatoo), *Zanda baudinii* (Baudin's cockatoo) and *Calyptorhynchus banksia naso* (forest red-tailed black cockatoo) (collectively referred to as black cockatoos),
- the loss of 0.68 hectares of native vegetation that is significant as a remnant of native vegetation in an area that has been extensively cleared,
- the loss of 0.68 hectares of native vegetation that represents the Banksia Woodlands of the Swan Coastal Plain Ecological Community Threatened Ecological Community (Banksia woodlands TEC).
- potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values, and
- potential land degradation in the form of wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined that some of the potential impacts of the proposed clearing, including potential land degradation through wind erosion and the potential spread of weeds, can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values through appropriate conditions on the clearing permit. However, the impacts to native vegetation that provides significant foraging habitat for black cockatoo species, vegetation representative of the Banksia woodlands TEC, and vegetation that represents a significant remnant of native vegetation in an area that has been extensively cleared, are considered significant residual impacts even after the application of minimisation and mitigation measures.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), the Delegated Officer determined that an environmental offset, consisting of the improvement and management of 7.34 hectares of native vegetation, including the revegetation of 1.63 hectares of bare areas within Lot 3 on Plan 63916 (bush forever site 245) that includes significant foraging habitat for black cockatoo species, vegetation representative of the Banksia woodlands TEC, and vegetation that represents a significant remnant of native vegetation, is required to address the significant residual impacts of the proposed clearing (See Section 4).

The Delegated Officer decided to grant a clearing permit subject to the following conditions:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- commence field construction no later than three months after undertaking clearing activities to reduce the potential for soil erosion;
- undertake slow, progressive, one-directional clearing to allow terrestrial fauna to move into adjacent habitats ahead of the clearing activity; and
- implement an environmental offset, as outlined above.

1.5. Site maps

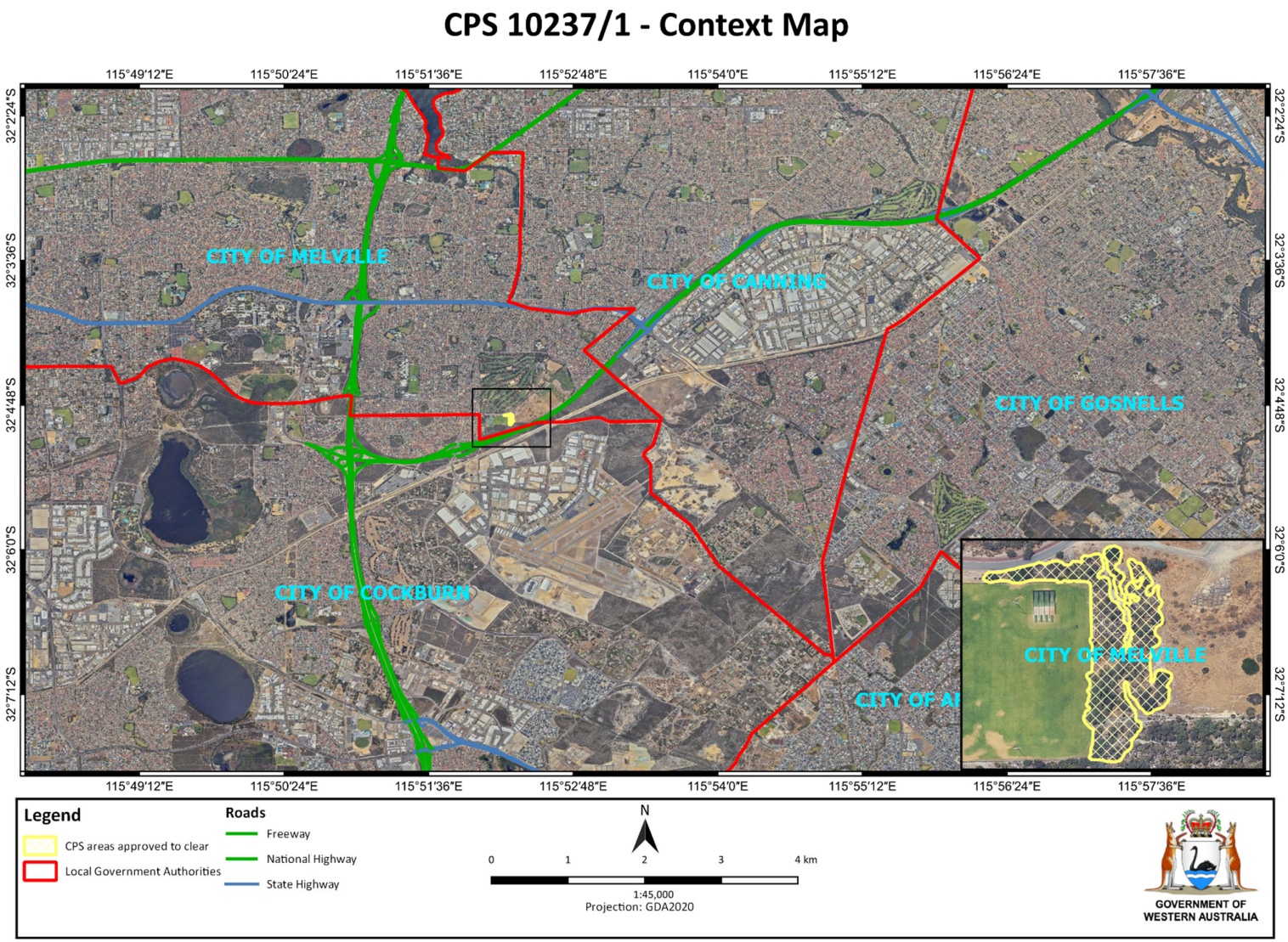

Figure 1: Context Map of the application area. The area cross-hatched yellow indicates the areas authorised to be cleared under the granted clearing permit.

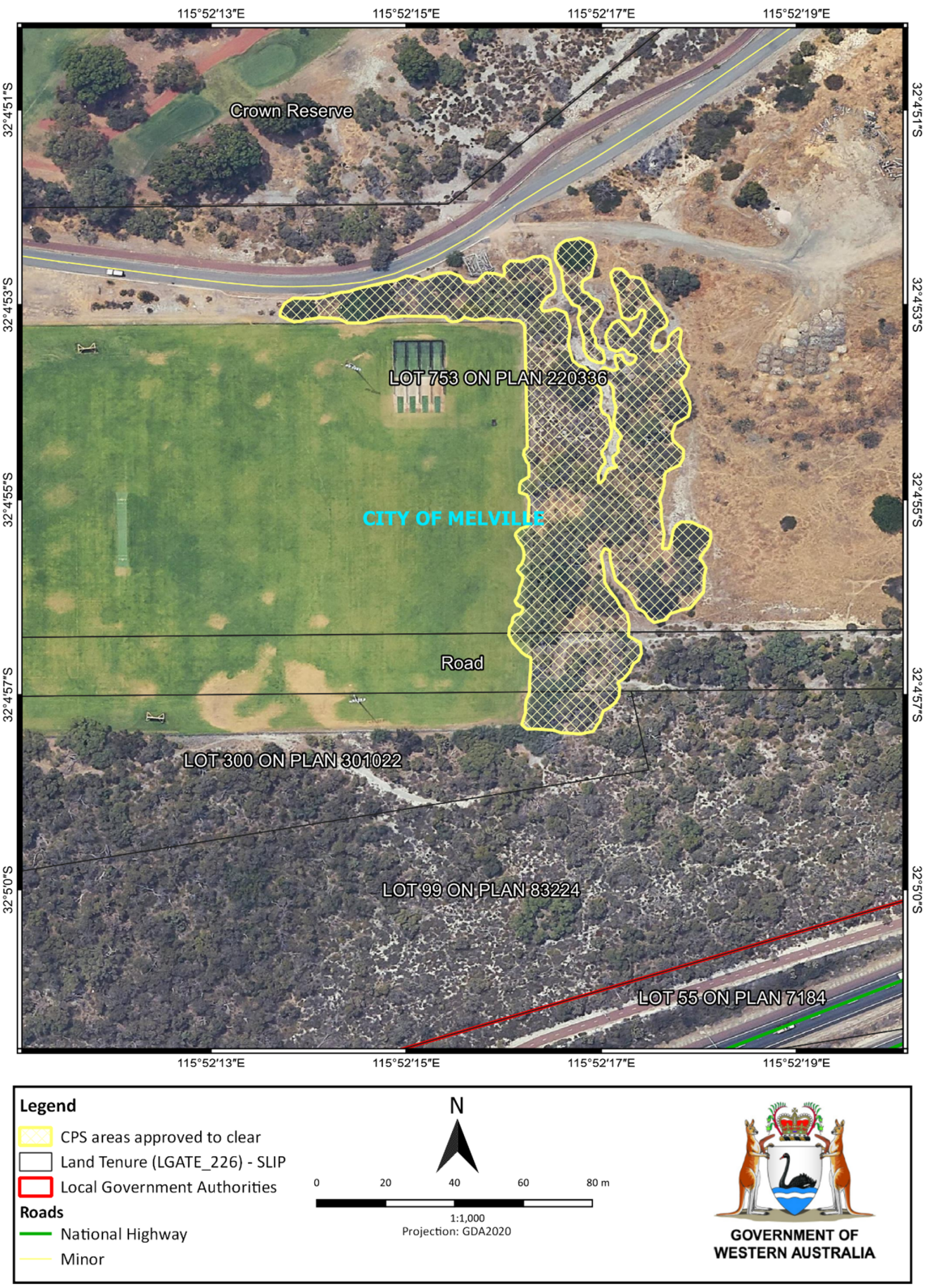

Figure 2: Map of the application area. The area cross-hatched yellow indicates the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Soil and Land Conservation Act 1945* (WA)

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- *Environmental Offsets Guidelines* (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

LSCC, on behalf of the City, provided the following as the avoidance and mitigation measures:

- the shape of the area to be cleared was modified from a straight-line, rectangular area to a purpose design to maximise the area to be cleared,
- the purpose design shape reduced clearing while also avoiding areas that contained “excellent quality” native vegetation.

Further avoidance and mitigation measures proposed by the applicant was also provided (City of Melville, 2024b):

- the City investigated avoiding the clearing altogether by placing the playing fields on top of the already cleared area east of the application area. However, the following issues were found:
  - the existing vegetation and topography across the site would require large amounts of infill or the removal of material, potentially contaminated from the former landfill site under the cleared area,
  - the City’s existing water allocation would not sustain the watering requirements for new playing surfaces and their surroundings,
  - the new playing surface would be required to be elevated and be impacted by wind, reducing the effectiveness of new irrigation systems further increasing the amount of water required for the plain surface.
  - the challenges that the City currently face in managing ovals that are constructed on former landfill sites, in particular, the breakdown of materials creating undulation which Require ongoing maintenance and safety concerns being raised by supporting groups.
  - costs associated with constructing new playing surfaces and severe competing priorities require funding across the City in the upcoming financial year.
  - the John Connell Reserve master plan (JCRMP) had a community vote for the potential location of the playing field and community centre. The community voted 65% to add an additional circlet oval to the already existing ovals where the proposed clearing is to take place.

Reduction in the cleared area was accomplished by positioning the clearing on the eastern side of the already existing fields rather than the southern side. This design avoided the clearing of areas that are better quality habitats by placing them within vegetation having a lower quality that has evidence of disturbance.

The Delegated Officer was satisfied that the applicant had made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values. However, it was determined that offsets to counterbalance the remaining significant residual impacts to foraging habitat for black cockatoo species, vegetation representative of the Banksia woodlands TEC and vegetation that is significant in an extensively clear landscape were necessary.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the permit. The nature and suitability of the offset provided are summarised in Section 4.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see section D) identified that the impacts of the proposed clearing present a risk to biological values (Biodiversity, Fauna, and Threatened Ecological Communities) and significant remnant vegetation. The consideration of these impacts and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, are set out below.

3.2.1. Biological values (*High level of biodiversity and significant habitat for fauna*) - Clearing Principles (a) and (b)

Assessment

A flora and fauna survey supplied by the City (Natural Area, 2020a) indicates the application area consists of *Banksia attenuata*, *Banksia menziesii* and *Eucalyptus todtiana* Woodland habitat type. According to the available database, 64 conservation significant fauna species have been recorded within the local area (10-kilometre radius from the centre of the area proposed to be cleared). In forming a view on the likelihood of each species occurring in the application area, the following was considered:

- the preferred habitat and vegetation types of the species;
- their recorded proximity to the application; and
- the characteristics of the vegetation proposed to be cleared.

The likelihood analysis identified nine conservation significant fauna species which may occur in the application area (see Appendix C.4):

- *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo) (Vulnerable)
- *Isoodon fusciventer* (Quenda) (Priority 4)
- *Lerista lineata* (Perth slider, lined skink) (Priority 3)
- *Myrmecobius fasciatus* (Numbat) (Endangered)
- *Neelaps calonotos* (Black-striped snake, black-striped burrowing snake) (Priority 3)
- *Notamacropus Irma* (Western brush wallaby) (Priority 4)
- *Tyto novaehollandiae* (Masked owl (southwest)) (Priority 3)
- *Zanda baudinii* (Baudin's cockatoo) (Endangered)
- *Zanda latirostris* (Carnaby's cockatoo) (Endangered)

Black cockatoo Species

Black Cockatoos habitat can be categorized into three distinct groups: foraging, breeding, and roosting. Black Cockatoos typically forage within a 12-kilometre radius of their active breeding site (Commonwealth of Australia, 2022). Following breeding, they will flock in search of food sources within six kilometres of their night roost (Commonwealth of Australia, 2022). However, they may travel up to 20 kilometres or more (Commonwealth of Australia, 2022). To maintain their populations, it is crucial to have an abundance of food resources within the range of their breeding and roosting sites. Consequently, foraging resources are evaluated based on known breeding and night roosting sites, primarily within 12 kilometres of a breeding or roosting site (Commonwealth of Australia, 2022). The application area is located within the modelled breeding range of Carnaby's Cockatoo and the Forest Red-tailed Black-cockatoo distribution zone.

The application area is within the mapped distribution range of the Carnaby's and FRBC and is approximately four kilometres from the occurrence range of Baudin's cockatoo, with the closest record of all three species listed in (Appendix C.4).

Breeding habitat

Black cockatoo species are known to nest in hollows of live and dead trees, including *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), *Eucalyptus diversicolor* (karri), and other *Eucalyptus spp*. (Commonwealth of Australia, 2022). 'Breeding habitat' for black cockatoos includes trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow, where suitable DBH for nest hollows is ≥ 50 centimetres for most tree species (Commonwealth of Australia, 2022). Black cockatoos generally breed and forage within a 6-to-12-kilometre radius of their nesting site (Commonwealth of Australia, 2022).

According to spatial data, there are 20 records of White-tailed black cockatoo breeding hollows within 12 kilometres of the application area, with the closest record being approximately 5.00 kilometres from the application area. According to the detailed flora, vegetation and fauna assessment (Natural Area, 2020a) no black cockatoo hollows occur within the area proposed to be cleared.

Foraging habitat

Carnaby's and Baudin's cockatoos forage on a variety of seeds, nuts, and flowers, and plants, including Proteaceous species (*Banksia* spp., *Hakea* spp., and *Grevillea* spp.), as well as *Allocasuarina* and *Eucalyptus* species, marri, and a range of introduced species (Valentine and Stock, 2008). FRBC feed predominantly on the seeds of marri and jarrah, which comprise approximately 90 per cent of their diet (DEC, 2008).

The detailed flora, vegetation and fauna assessment (2020a) determined that the application area contains multiple species of *Banksia, Xanthorrhoea, Acacia, and Eucalyptus* that are primary and secondary foraging habitat for all three black cockatoo species. Furthermore, the fauna assessment identified foraging evidence from Carnaby cockatoos within the application area.

Roosts

Black cockatoo species will utilise a wide range of native and non-native trees situated within a variety of land-use types. Black cockatoos will usually roost in tall (average of >25 metres) trees species that have a relatively thick trunk (DBH of 1 metre) and medium foliage density (average of 50%) (Le Roux, 2017).

According to available databases, there are 74 roosting sites within a 12-kilometre radius of the application area. The closest known roost site for black cockatoo species being approximately 0.49 kilometres from the application area. Roosting typically occurs within suitable trees that are in close proximity to an important water source and within an area of quality foraging habitat (Commonwealth of Australia, 2022). The proposed application area does not intersect any perennial watercourses and the surrounding area, furthermore, Natural Area's, detailed flora, vegetation and fauna assessment (2020a) did not identify any roosts within the application area.

Given the above, it is considered that the proposed clearing will impact on 0.68 hectares of suitable foraging habitat that may support nearby roosting and breeding populations of black cockatoo species.

Quenda

In their natural habitat, Quenda live in dense understories in swampland areas, Banksia and Jarrah woodlands. However, Quendas have adapted to urban and suburban habitats in recent years (DEC, 2012a). According to available databases, the closest Quenda record is 0.09 kilometres from the application area, as the application area is predominantly a Banksia woodland with low woodland of melaleuca species and shrubs. It is likely that Quenda can be found within the application area as they move through the landscape. However, given the extent of the clearing proposed, the application area is not considered a significant habitat for Quenda.

Numbat

This species is primarily found in Jarrah forests and woodlands, as well as in the Wheatbelt region. The Numbat spends most of its day searching for termites and will dig up underground galleries or scratch bark and decayed wood rather than directly digging termite mounds (DBCA, 2021). When the Numbat is foraging, it seeks the cover of shrubs, hollows, and burrows to avoid predators (DBCA, 2021). Within the local area, there have been eight sightings of the Numbat in similar environments. Spatial data indicated that the closest recording of a Numbat is 1.63 kilometres from the application area. However, due to the extensively cleared surrounding landscape, and the most recent record of the Numbat within the area being 1983, it is unlikely that the Numbat is still found within the area.

Other Fauna

The Black-striped snake, Perth slider, Masked owl, and Western brush wallaby may utilise the application area as transient habitat. However, the proposed clearing is considered unlikely to have a significant effect on habitat for these species, given:

- the small extent of the application area;
- the presence of abundant areas of adjacent vegetation providing suitable habitat;
- the vegetation types within the application area are not considered to comprise significant habitat values for these species; and
- the proposed clearing will not result in a loss of habitat connectivity.

Conclusion

Based on the above assessment, the application area is not likely to comprise significant habitat for Black-striped snakes, Perth sliders, Masked owls, and Western brush wallabies, Numbats, or Quendas nor be significant for the continued survival of these species. However, individuals may be present at the time of clearing whilst they traverse the landscape. Slow, directional clearing will mitigate the risk to individuals. In addition, the clearing activities have the potential to impact the quality of the surrounding fauna habitat by facilitating the spread of weeds and dieback, which can be managed through hygiene practices conditioned on the permit.

The clearing is considered to constitute a significant residual impact due to the loss of black cockatoo foraging habitat. In accordance with the Government of Western Australia's Environmental Offsets Policy (2011) and Environmental Offsets Guidelines (2014), these significant residual impacts are addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- take hygiene steps to minimise the risk of the introduction and spread of weeds,
- undertake slow, progressive one, directional clearing to allow terrestrial fauna to move into adjacent habitats ahead of the clearing activity,
- implement an offset involving the rehabilitation of 7.32 hectares of native vegetation, including revegetation of 1.63 hectares of bare areas within Lot 3 on Plan 63916 (bush forever site 245) that represents significant foraging habitat for black cockatoo species. The offset site is within 1 km of the area proposed to be cleared.

3.2.2. Biological values (*Threatened flora and threatened ecological community*) - Clearing Principles (c) and (d)

Assessment

According to the available database, 68 conservation-significant flora species have been recovered within the local area. In forming a view of the likelihood of each species occurring in the application area, the following was considered:

- flora species preferred soil type;
- proximity to the application area; and
- the characteristics of the vegetation proposed to be cleared.

The likelihood analysis identified seven conservation significant flora species that may be found within the application area (see Appendix C.3). Of these, three were considered likely to be within the application area including: *Caladenia huegelii* (Threatened), *Drakaea elastica* (Threatened), and *Styphelia filifolia* (Priority 3).

Natural Area (2020a) detailed flora and fauna survey over the application area, did not identify any threatened or priority flora species occurring within the application area. Given this finding and the poor quality of the understory present, it is not considered likely for the application area to provide suable habitat for priority or threatened flora.

Threatened ecological communities (TECs)

According to Spatial data, the application area is mapped as an occurrence of the Federally listed Banksia woodlands TEC. The key diagnostic characteristics for the Banksia Woodlands TEC include a canopy dominated or co-dominated by one of the four diagnostic Banksia species (Department of the Environment and Energy, 2016). The buffer zone around a TEC patch acts as a barrier to protect the integrity of the patch. For the Banksia Woodlands

TEC, a minimum buffer zone of 20 to 50 metres from the outer edge of the patch is recommended (Department of the Environment and Energy, 2016).

The flora and fauna survey (Natural Area, 2020a) created a resemblance matrix within the application area and determined that the vegetation represents 20% similarity to the Banksia woodland TEC (see Figure 18 in Appendix G). The flora survey did not conclude that the application area represents a TEC. The majority of the vegetation under application occurs in a degraded to good condition with only a small amount in the southern end occurring in excellent condition. The assessment determined that 20% similarity was significant enough to classify the vegetation within the application area as representative of the Banksia woodlands TEC, with vegetation also acting as a buffer for the mapped Banksia woodlands TEC to the south of the clearing area.

Given this finding, the vegetation within the application area is considered necessary for the maintenance of the Banksia woodlands patch and is representative of Banksia woodlands TEC, however, occurs mostly in a degraded to good condition.

Conclusion

Given the above, the proposed clearing is considered to not impact any threatened or priority flora species. However, the proposed clearing is considered to impact native vegetation that is representative of the Banksia woodlands TEC.

The clearing is considered to constitute a significant residual impact due to the loss of vegetation that is representative of the Banksia Woodland TEC. In accordance with the Government of Western Australia's Environmental Offsets Policy (2011) and Environmental Offsets Guidelines (2014), these significant residual impacts are addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- avoidance and minimisation to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback to adjacent vegetation;
- demarcation of clearing area to avoid inadvertent clearing of adjacent native vegetation;
- manage erosion by appropriately stabilising and maintaining the stockpiled material through water, fencing, applying soil stabilisers and installing bunding.
- implement an offset involving the rehabilitation of 7.34 hectares of native vegetation and revegetation of 1.63 hectares of bare areas within Lot 3 on Plan 63916 (bush forever site 245), that represents Banksia Woodland TEC.

3.2.3. Environmental value (*Significant remnant of native vegetation)* - Clearing Principles (e)

Assessment

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750 (i.e., pre-European settlement), below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The application area is in the Swan Coastal Plain IBRA Bioregion which retains about 39 per cent of the pre-European vegetation extent (Government of Western Australia, 2019). According to available databases, the vegetation extent in the local area falls below national targets, with about 15.3 per cent of the pre-European vegetation remaining (see Appendix C.2). However, the Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region to be a constrained area, in which a minimum 10 per cent representation threshold for ecological communities is recommended (EPA, 2008). The current vegetation extent for the Swan Coastal Plain IBRA Bioregion and the local area are above the 10 per cent threshold for constrained areas.

Considering the above, the proposed clearing will result in the loss of 0.68 hectares of native vegetation which is considered significant as a remnant of native vegetation in a fragmented and extensively cleared landscape.

Conclusion

The clearing is considered to constitute a significant residual impact due to the loss of vegetation that is significant as a remnant of native vegetation in an area that has been extensively cleared. In accordance with the Government of Western Australia's Environmental Offsets Policy (2011) and Environmental Offsets Guidelines (2014), these significant residual impacts are addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Implement an offset involving the rehabilitation of 7.34 hectares of native vegetation within Lot 3 on Plan 63916 (bush forever site 245) which occurs 1 km from the area proposed to be cleared and involves the improvement of values of significant bushland.

3.3. Relevant planning instruments and other matters

John Connell Reserve Master Plan (JCRMP) Community Vote

The proposed clearing area is a small section of a larger development plan, the JCRMP, that encompasses Lot 453 on plan 211122 and Lot 753 on plan 220336 which covers approximately 112.5 hectares. Development approval under the *Planning and Development Act 2005* are tied to the JCRMP.

During the assessment of the clearing permit application, the City conducted a community vote as part of the development of the JCRMP, which has been underway since 2021. The vote, held in late 2023, sought community input on the preferred location for the proposed playing field, community centre, and other amenities within the reserve.

The results of the vote were received on 25 February 2024, with 65 per cent of participants supporting Option B for the playing field (see Figure 4, in Appendix G) (City of Melville, 2024). This option is located within the area of native vegetation, subject to the clearing permit application.

Contaminated lands

Advice provided by Contaminated sites (DWER, 2023), identified two contaminated locations over the clearing area: one was classified as a possible contaminated site, while the other was confirmed as contaminated with required remediation. Contaminated Sites recommended that Site Management Plans (SMP) be prepared for the proposed works which included provisions for the managements of asbestos containing material (ACM) in surface soils that may be encountered during clearing and associated activities.
The Site Management Plan requires the following:

1. **pre-work inspection**: All work areas must be inspected for ACM prior to any earthworks, particularly in locations where ACM has been previously identified or is suspected.
2. **layered excavation**: Soils containing or suspected to contain ACM must be excavated to prevent contamination of large volumes of soil.
3. **material stockpiling**: Each excavated layer or material type should be temporarily stockpiled for inspection to avoid potentially distribution ACM impacted soils to other locations
4. **ACM management**: Soils confirmed to contain ACM must be managed in accordance with the SMP. Typically, this involves relocating the material into the intended containment area.
5. **post-removal inspection**: After ACM-impacted soils are removed, the underlying soil must be inspected to ensure no residual ACM remains before further excavation, reuse, or stockpiling soils.

Aboriginal Sites

No Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

4 Suitability of offsets

Avoidance and Mitigation

The Delegated Officer is satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values (Section 3.1).

Assessment of Impacts

Through the detailed assessment outlined in Section 3.2 above, the Delegated Officer has determined that the following significant residual impacts (SRI) remain after the application of the avoidance and mitigation measures:

- the loss of 0.68 hectares of vegetation that is representative of the Bankisa Woodlands of the Swan Coastal Plain ecological community (Banksia woodlands TEC);
- the loss of 0.68 hectares of significant foraging habitat for Baudin's cockatoo, Carnaby's cockatoo, and forest red-tailed black cockatoo (black cockatoo species); and
- the loss of 0.68 hectares of significant remnant vegetation within an extensively cleared landscape.

In accordance with the WA State Government's Environmental Offsets Policy and Environmental Offsets Guidelines, the Offset calculations (see Appendix F) indicate to counterbalance the SRIs associated with the proposed clearing, the applicant is required to implement an offset comprising the rehabilitation and management of the following:

- 5.07 hectares of vegetation that is representative of the Banksia Woodlands of the Swan Coastal Plain ecological community (Banksia woodlands TEC);
- 7.34 hectares of significant foraging habitat for Baudin's cockatoo, Carnaby's cockatoo, and forest red-tailed black cockatoo (black cockatoo species); and
- 4.80 hectares of significant remnant vegetation within an extensively cleared landscape

Offset

To counterbalance the SRI, the applicant proposed an offset consisting of two actions within the Ken Hurst Park, Lot 3 on Diagram 63916, Leeming (Bush Forever Site 245) located within 1 km of the application area (see Figure 3):

1. the rehabilitation and management (weed management, infill planting) of 7.34 hectares of Banksia woodlands vegetation in Very Good (Keighery, 1994) condition within (Lot 3 on Diagram 63916, Bush Forever Site 245).
2. the revegetation, rehabilitation and management of 1.63 hectares across four areas within the broader 7.34 hectares of Banksia woodlands that have low vegetation coverage within Lot 3 on Diagram 63916, Bush Forever Site 245. The condition of this vegetation will be improved from good to very good (Keighery, 1994) condition and will improve the quality and quantity of black cockatoo foraging habitat and the occurrence of the Banksia Woodland TEC.

Ken Hurst Park is located approximately 0.8 kilometers southeast of the application area and has been managed by the City under strategic management plans since 2000 (City of Melville, 2003). Subsequent management plans have been implemented for the periods 2003–2008 (City of Melville, 2003), 2014–2019 (Waters, 2014), and 2021–2026 (City of Melville, 2021).

Biological information submitted in Ken Hurst revegeation plan (City of Melville, 2025) indication that the propose offset area contain native vegeation predominantly in very good (Keighery, 1994) condition (see Figure 20 in Appendix G). The vegetation has also been confirmed to provide significant habitat for black cockatoo species, and has been mapped as Banksia woodlands TEC.

The Delegated Officer understands that the rehabilitation and management offset is proposed to improve the condition of the vegetation within the offset area from 'Very Good' to 'Excellent' (Keighery, 1994) condition through infill planting in a total of 1.63 hectares across two areas and weed management and monitoring (with contingencies for further weed management and infill planting) of the remaining 7.34 hectares. The Delegated officer also understands that repairs and upgrades to fencing within the offset site will be conducted and maintained to discourages illegal dumping.

The Delegated Officer notes a further, 3.28 hectares of the offset site will be banked, for future offsets that may be required by the applicant City (see Figure 3).

Suitability of Offset

The Delegated Officer considers that the proposed offset adequately counterbalances the significant residual impacts listed above. The justification for the values used in the offset calculation is provided in Appendix F.

The proposed offset is considered consistent with the WA State Government's Environmental Offsets Policy and Environmental Offsets Guidelines.

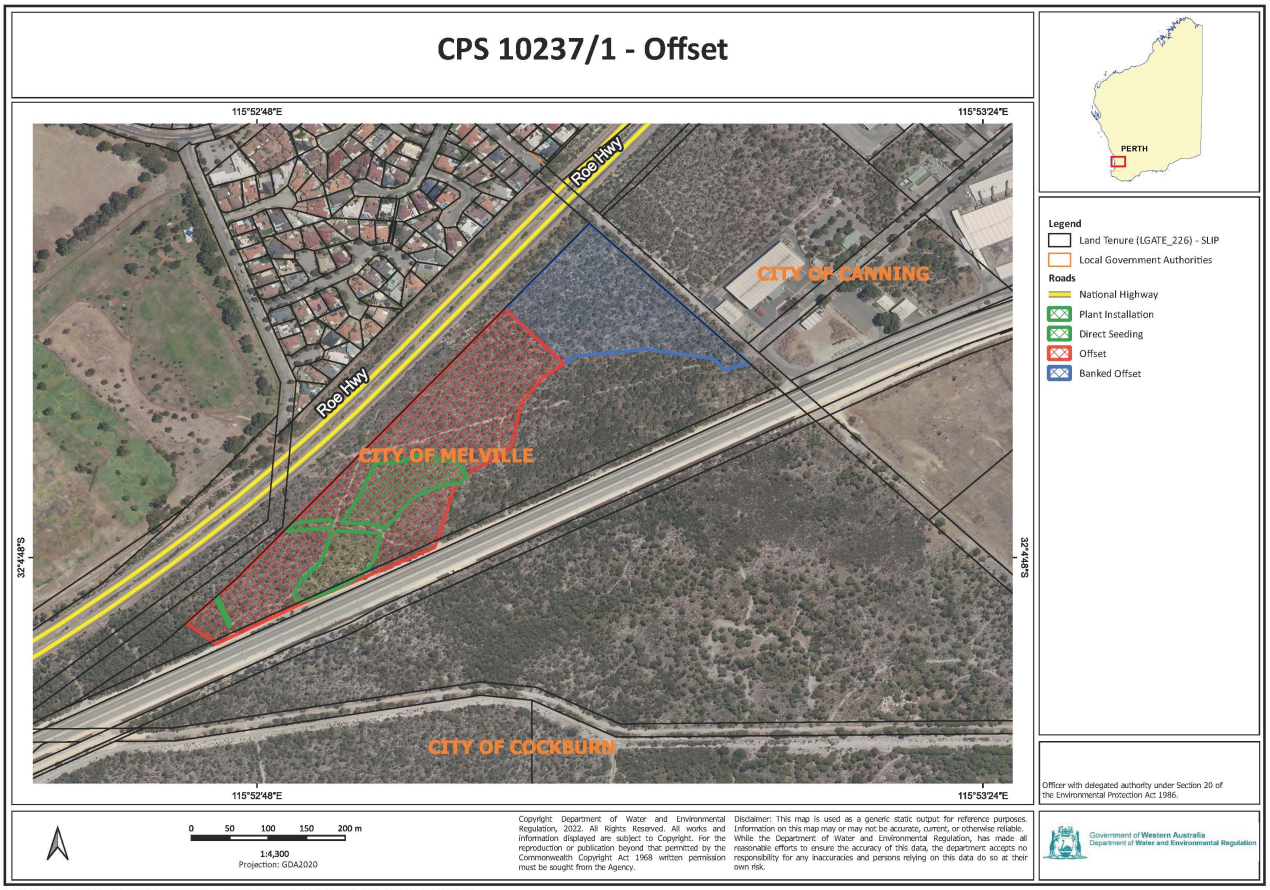

Figure 3: Map of the offset area. The area crosshatched red indicates the area subject to weed management and monitoring as part of the offset for CPS 10237/1. The area crosshatched green indicates the area to be revegetated under the offset for CPS 10237/1. The area crosshatched blue indicates the offset area to be banked by the City of Melville.

End

Appendix A. Additional information provided by applicant

Summary of Comments	Consideration of Comments
The applicant provided the following additional supporting information on 22 December 2023, in response to a formal Request for Further Information issued by DWER: • John Connell Reserve Proposed offset proposal.	The additional information provided was considered as follows: • the John Connel Reserve proposed offset proposal, and accompanying documents were considered in section 4, suitability of offset.
The applicant provided the following additional supporting information on 25 January 2024, in response to a formal Request for Further Information issued by DWER: • targeted Flora Survey from within the clearing area, • feedback on the community preference for the John Connell Masterplan options.	The additional information provided was considered as follows: • the targeted Flora Survey was considered under section 3.2.1., • the feedback on the community preference was considered under section.
The applicant provided the following additional information on 29 April 2024, in response to the meeting held with the department regarding the mitigation hierarchy not being met:	The additional information provided was considered as follows: • the letter of the additional measures to avoid the proposed clearing was considered under section 3.1.

• letter of additional information on the avoidance of clearing.	
The applicant provided the following additional information on 4 September 2024, in response to a formal Request for Further Information issued by DWER: • Ken Hurst Park revegetation plan V2, • Ken Hurst Park management plan 2003, • Ken Hurst Park management plan 2014-2019, • Ken Hurst Park management plan 2021-2026, • Ken Hurst Park management plan flora assessment report 2012.	The additional information provided was considered as follows: • the additional Ken Hurst Park management plan 2003, 2014-2019, and 2021-2026 were considered in section 4, suitability of offset, • the Ken Hurst Park revegetation plan V2 was considered in section 4, suitability of offset, • the Ken Hurst Park management plan flora assessment report 2012 was considered in section 4, suitability of offset.

Appendix B. Details of public submission

Summary of Comments	Consideration of Comments
The proposed clearing will significantly impact: • fauna habitat, including feeding areas for Threatened Black Cockatoos. • TECs, particularly the Banksia woodlands of the Swan Coastal Plain. • potentially threatened flora, such as *Caladenia huegelii*. There are opportunities to explore alternate location for the proposed clearing. As such the submission Implores the Department to refuse the application.	DWER's assessment determined that the proposed clearing is at variance to clearing principle (a) (b) (d), and (e), and will impact native vegetation that comprises a high level of biodiversity. DWER's assessment of these impacts of the proposed clearing on biodiversity is outlined in assessment of impacts on environmental values (see Section 3.2).

Appendix C. Site characteristics

C.1. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to the department at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B.

Characteristic	Details
Local context	The application area is an expansive tract of native vegetation in the intensive land use zone of Western Australia. The application area is surrounded by urban and industrial development, with Melville Glades golf course approximately 14.0 metres north of the application area. Spatial data indicates the local area retains approximately15.38 per cent of the original native vegetation cover.
Ecological linkage	The application area is not mapped within or a part of any ecological linkages. Within the surrounding area, the closest ecological linkage to the application area is Perth's regional ecological linkage (48), approximately 0.84 kilometres southwest of the application area.
Conservation areas	The application area does not overlap with any reserves or conservation areas. The closest conservation areas are:

Conservation area type	Name/ID	Approximate Distance from application area (km)	Direction from application area
Bush Forever area	245	0.55	East
Bush Forever area	388	0.27	Southeast
Bush Forever area (Water catchment)	0	0.81	Southwest
Beeliar regional park	131	2.07	West

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td>Vegetation description</td><td>The Vegetation and Fauna assessment (Natural areas, 2020) and photos provided by the applicant indicate the vegetation within the proposed clearing area consists of Banksia attenuata, Banksia menziesii and Eucalyptus todtiana Woodland. Photos are available in Appendix G.

This is consistent with the mapped vegetation type Swan Coastal Plain 31 described as a vegetation range from woodland of Eucalyptus marginata (Jarrah) - Allocasuarina fraseriana (Sheoak) - Banksia species to low woodland of Melaleuca species, and sedgelands on the moister sites. This area includes the transition of Eucalyptus marginata (Jarrah) to Eucalyptus todtiana (Pricklybark) in the vicinity of Perth.

The mapped vegetation types retain approximately 29.37 per cent of the original extent (Government of Western Australia, 2019a).</td></tr>
<tr><td>Vegetation condition</td><td>The Vegetation and Fauna assessment (Natural areas, 2020) and photos provided by the applicant indicate the vegetation within the proposed clearing area is in Good to Very Good (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in Appendix G.</td></tr>
<tr><td>Climate and landform</td><td>The climate experienced in the application is Mediterranean, characterized by hot and dry summers and cool and wet winters. According to the Bureau of Meteorology (2021), The proposed clearing area occurs within a Mediterranean climate, with an average annual rainfall of 757 millimetres, an average annual evapotranspiration rate of 700 millimetres, and average monthly maximum temperatures ranging from 19.2°C to 34.6°C. data gathered from the closes open Metalogical site 009172.

The elevation of the application area is relative level with the surrounding area, ranging from 30 to 25 meters Isohyet.</td></tr>
<tr><td>Soil description</td><td>The soil type across the application area is mapped as the following:
<table>
<tr><td>Name</td><td>Perth Metro Region Environmental Geology</td></tr>
<tr><td>Soils</td><td>212Bs__S8</td></tr>
<tr><td>Description</td><td>Sand - very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted of eolian origin.</td></tr>
</table></td></tr>
<tr><td>Land degradation risk</td><td>The application are rests upon a former landfill site (site 753 – former 458), the degradation risk factors mapped over the application area are detailed below:
<table>
<tr><th></th><th>Perth Metro Region Environmental Geology</th></tr>
<tr><td>Wind erosion</td><td>H1 50-70% of the map has a high to extreme risk</td></tr>
<tr><td>Water erosion</td><td>L1 <3% of the map has a high to extreme risk</td></tr>
<tr><td>Salinity risk</td><td>L1 <3% of the map has a high to extreme risk</td></tr>
<tr><td>Phosphorous export</td><td>M2 >70% of the map has a high to extreme risk</td></tr>
<tr><td>Waterlogging</td><td>L2 3-10% of the map has a high to extreme risk</td></tr>
<tr><td>Subsurface acidification</td><td>H2 >70% of the map has a high to extreme risk</td></tr>
<tr><td>Acid sulphate soils</td><td>Moderate to low ASS</td></tr>
<tr><td>Flooding</td><td>-</td></tr>
<tr><td>Floodplains</td><td>L1<3% of the map has a high to extreme risk</td></tr>
</table></td></tr>
<tr><td>Waterbodies</td><td>The desktop assessment and aerial imagery indicated that no wetlands or watercourses transect the area proposed to be cleared. The closest wetlands of importance area The Swan-canning Estuary is located approximately 4.43 kilometres north of the application area.</td></tr>
<tr><td>Hydrogeography</td><td>
<table>
<tr><td>Hydrological Zone</td><td>Dandaragan Plateau</td></tr>
<tr><td>Basin</td><td>Swan Coastal (616)</td></tr>
<tr><td>Hydrographic Catchment</td><td>SwanAvon_Lower Swan</td></tr>
</table></td></tr>
</table>

Characteristic	Details
	<table><tr><td>RIWI Act Surface Water and Irrigation District</td><td>No</td><td></td></tr><tr><td>RIWI Act Rivers</td><td>No</td><td></td></tr><tr><td>RIWI Act Groundwater Areas</td><td>Yes</td><td>Perth Groundwater Area</td></tr><tr><td>CAWS Act Clearing Control Catchment</td><td>No</td><td></td></tr><tr><td>Public Drinking Water Source Areas</td><td>No</td><td></td></tr><tr><td>Wellhead Protection Zone</td><td>No</td><td></td></tr><tr><td>Reservoir Protection Zone</td><td>No</td><td></td></tr></table> The salinity of the application area is mapped at <500 total dissolved solids milligrams per litre (marginal).
Flora	According to available database, 68 conservation significant flora species have been recovered within the local area. Comprising nine Priority 1, 10 Priority 2, 23 Priority 3, 13 Priority 4, and 13 threatened flora taxa. Based on the similarities between the application area and the flora species preferred soil type, vegetation types in habitats, three species listed as Threatened may be found within the application area.
Ecological communities	According to spatial data, there are eight different ecological community within the local area, with 1348 records of Banksia woodland TEC within the local area. A portion of the application area is mapped as the Banksia woodlands TEC.
Fauna	According to the available database, 64 conservation significant fauna species have been recorded within the local area comprising of one Priority 1, seven Priority 3, 12 Priority 4, eight Endangered, nine Vulnerable, four critically endangered, 21 migratory, one specially protected species (OS), and one conservation dependent fauna taxon.

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Swan Coastal Plain	1,501,221.93	479,813.47	38.62	222,916.97	14.85
Vegetation complex					
BASSENDEAN_1001	53,283.54	11,394.19	21.38	1,790.74	3.36
Local area					
10-kilometre radius	29,876.97	4,597.66	15.38	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix H.1), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features	Suitable vegetation type	Suitable soil type	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify
Amanita drummondii	P3	Y	Y	Y	3.40	2	Y
Amanita fibrillopes	P3	Y	Y	Y	3.11	7	Y

Species name	Conservation status	Suitable habitat features	Suitable vegetation type	Suitable soil type	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify
Caladenia huegelii	T	Y	Y	Y	0.26	70	Y
Drakaea elastica	T	Y	Y	Y	0.79	3	Y
Drakaea micrantha	T	Y	Y	Y	4.84	4	Y
Styphelia filifolia	P3	Y	Y	Y	0.52	8	Y
Thelymitra variegata	P2	N	Y	Y	5.10	7	Y
Verticordia lindleyi Schauer subsp. *lindleyi*	P4	Y	Y	Y	6.69	13	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

C.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features	Suitable vegetation type	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify
Calyptorhynchus banksii naso (Forest red-tailed black cockatoo)	VU	Y	Y	0.49	151	Y
Tyto novaehollandiae (masked owl (southwest))	P3	Y	Y	8.73	3	N
Zanda baudinii (Baudin's cockatoo)	EN	Y	Y	5.21	5	Y
Zanda latirostris (Carnaby's cockatoo)	EN	Y	Y	0.29	1738	Y
Isoodon fusciventer (Quenda)	P4	Y	Y	0.09	1115	Y
Myrmecobius fasciatus (numbat)	EN	Y	Y	1.63	8	Y
Notamacropus Irma (Western brush wallaby)	P4	Y	Y	0.40	44	Y
Lerista lineata (Perth slider, lined skink)	P3	Y	Y	1.02	233	N
Neelaps calonotos (Black-striped snake, black-striped burrowing snake)	P3	Y	Y	2.87	13	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

C.5. Ecological community analysis table

Community name	Conservation status (State)	Suitable habitat features	Suitable vegetation type	Suitable soil type	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify
Banksia Woodlands of the Swan Coastal Plain ecological community	Threatened	Y	Y	Y	0.00	1348	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The vegetation within the application area is good to very good (Keighery, 1994) and is likely to contain locally or regionally significant flora and fauna or significant habitat types for conservation listed fauna.	At variance	Yes *Refer to Section 3.2.1, above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The area proposed to be cleared may contain habitat for conservation significant fauna. The habitat is likely to be significant to a critically endangered fauna species.	At variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is not necessary for the continued existence of threatened flora species doe to Natural Area's Flora and fauna survey findings.	Not at variance	Yes *Refer to Section 3.2.2, above.*
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared is mapped as Banksia woodlands TEC.	At variance	Yes *Refer to Section 3.2.2, above.*
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30% of that present prior to the year 1750, below which species loss appears to accelerate exponentially at an ecosystem level. However, the Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region to be a constrained area, within which a minimum 10% representation threshold for ecological communities is recommended (EPA, 2008). However, the application area is considered a significant remnant within an area that has 15% of remanent vegetation remaining and therefore the proposed clearing is at variance to this principle.	Not likely to be at variance	Yes *Refer to Section 3.2.3, above.*
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the distance to the nearest conservation area (55 meters away), the nature of the proposed clearing and the small extent of clearing, the proposed clearing is not likely to have an impact on the environmental values of adjacent or nearby conservation areas.	Not at variance	No
Environmental value: land and water resources		

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Given no water courses or wetlands are recorded within 1.34 kilometres of the application area, the proposed clearing is unlikely to impact on vegetation associated with a wetland or watercourse.	Not at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils within the application area are highly susceptible to wind erosion, Phosphorus export and sub surface acidification. Noting the extent of the application area, the intended purposes of the clearing, the vegetation condition, and the clearing purpose. The clearing is not likely to have an appreciable impact on land degradation, subject to a wind management condition, which will be included on the clearing permit to address the small risk of wind erosion.	May be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Although the application area is on top of the Perth Groundwater Area recorded within the application area, the application does not intend to clear the native vegetation at depth due to the purpose of clearing being the insulation of turf for a shared sports oval. Therefore, the proposed clearing is unlikely impact surface or groundwater quality.	Not at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Noting the small extent of clearing and the mapped soils and topographic contours in the surrounding area. The proposed clearing is unlikely to contribute to increased incidence or intensity of flooding.	Not at variance	No

Appendix E. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the Southwest and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.

Condition	Description
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Offset calculator value justification

Offset Calculation and justification for significant residual impact to Black cockatoo habitat.

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Native vegetation that provides significant foraging habitat for black cockatoo species	The proposed clearing will impact 0.68 hectares of native vegetation that is significant as the primary foraging habitat for all three black cockatoo species
Type of environmental value	Species (Flora/Fauna)	Baudin's cockatoo, Carnaby's cockatoo and forest red-tailed black cockatoo are listed as threatened fauna species under the Commonwealth EPBC Act and state BC Act.
Conservation significance of environmental value	Rare/Threatened Species – critically endangered	Baudin's cockatoo and Carnaby's cockatoo are listed as Endangered under both the EPBC Act and the BC Act. The forest red-tailed black cockatoo is listed as Vulnerable. The highest level of threat has been used for this value.
Landscape level value impacted	Yes	The impact is to an area of foraging habitat in hectares.
Significant impact		
Description	Clearing of native vegetation that is significant foraging habitat for black cockatoos	Native vegetation that provides significant foraging habitat for black cockatoo species is proposed to be cleared for the purpose of recreation as a playing field and public open space.
Significant impact (hectares)	0.68	Based on the available information from site photos and spatial data, the entire application area of 0.68 hectares consists of Banksia woodlands vegetation and is considered to provide significant foraging habitat for black cockatoos.
Quality (scale)	8	Based on the available information from site photos and spatial data, the vegetation within the application area is in a Good to Very Good (Keighery, 1994) condition and includes primary foraging species (e.g., *Banksia attenuata, B. menziesii*). There are approximately 74 black cockatoo roosts within a 10-kilometre radius of the application area. The closest black cockatoo roost Is approximately 0.49 kilometres from the application area. Therefore, the application area is likely to support foraging by birds frequenting the area and roosting locally. The application is also located within an extensively modified part of the species' range (Swan Coastal Plain) and available foraging habitat in the region is limited.
Rehabilitation credit		

Calculation	Score (Area)	Rationale
N/A	N/A	Onsite revegetation will not be taking place
Offset		
Description	Rehabilitation and weed management of native vegetation that provides significant foraging habitat for black cockatoo species.	A single offset involving the rehabilitation and weed management of an offset site within John Hurst Park (Lot 3 on Diagram 63916, Bush Forever Site 245).
proposed offset (area in hectares)	7.34	The area of native vegetation that provides significant foraging habitat for black cockatoo species required to be rehabilitated and managed to offset the residual impacts to this environmental value by 100%.
Current quality of offset site	8	Based on the Ken Hurst Environmental Surveys (Natural Area, 2025), the proposed offset site is currently in Very Good (Keighery, 1994) condition and provides primary foraging habitat for black cockatoos. The proposed offset site is within proximity to roost sites (74 within a 12-kilometre radius) and located within an extensively modified part of the species' range (Swan Coastal Plain) where foraging habitat is limited. Therefore, the vegetation within the proposed offset site is likely to provide high-quality foraging habitat for black cockatoos at present.
Future quality WITHOUT offset	8	Although the Ken Hurst Environmental Surveys (Natural Area, 2025) indicate that the area is subject to some degrading factors such as weed invasion, the proposed offset site is within Bush Forever Site 245 and is intended to be managed for conservation of regionally significant bushland long-term. Therefore, it is unlikely that the quality of foraging habitat for black cockatoo species will change significantly in the absence of the offset.
Future quality WITH offset	9	The offset site is proposed to be subject to rehabilitation (1.63 hectares) and weed management (7.34ha) in accordance with the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025). Therefore, with best practice revegetation methodology, weed management, and remedial actions, it is assumed that the offset site will improve the quality of native vegetation that provides significant foraging habitat for black cockatoo species to an Excellent (Keighery, 1994) condition. This quality improvement is noting that the area is already of high quality in a Very Good (Keighery, 1994) condition and has high contextual value for black cockatoo species.
Time until ecological benefit (years)	12	Based on the species list identified in the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025), species to be planted include common Banksia woodlands canopy species that provide primary foraging habitat for black cockatoo species (e.g., B*anksia attenuata, B. menziesii, Eucalyptus marginata*). It is anticipated that the benefits of rehabilitation and weed management in establishing and improving the quality of black cockatoo foraging habitat will be available after 10 years. This is a conservative measure based on available literature (e.g., Lee et al. (2013) who identified evidence of foraging on marri and Banksia in rehabilitated mine pit areas, ranging from 8-14 years of age) and the understanding that proteaceous species are relatively fast maturing and have high calorific value at a relatively young age. An extra two years have been allowed to account for the delay in commencement of the revegetation (assumed to commence within 2 years of permit start date).
Confidence in offset result (%)	90	There is a high level of confidence that the offset will achieve the predicted result given revegetation and rehabilitation will be undertaken in accordance with the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025).

Calculation	Score (Area)	Rationale
Duration of offset implementation (maximum 20 years)	20	The offset site is located within Bush Forever Site 245 which is intended to be managed for conservation long-term. Therefore, the maximum of 20 years for this field is applied.
Time until offset site secured (years)	1	No change in land tenure or vesting is proposed. The revegetation offset area is already secure as a Bush Forever Site. Therefore, the minimum of one year for this field is applied.
Risk of future loss WITHOUT offset (%)	5%	The area is within Bush Forever Site 323 and managed for conservation of regionally significant bushland long-term. Therefore, there is a relatively low risk of future loss.
Risk of future loss WITH offset (%)	5%	No change in land tenure or vesting is proposed. Therefore, risk of loss remains the same with the offset.
Offset ratio (Conservation area only)	N/A	
Landscape level values of offset?	N/A	

Offset Calculation and justification for significant residual impact a Threatened ecological community.

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Threatened Ecological community	The proposed clearing will impact 0.68 hectares of native vegetation, which is mapped as a Threatened Ecological Community (the Banksia woodlands of the Swan Coastal Plain).
Type of environmental value	Ecological community	The Banksia woodlands ecological community is listed as a threatened ecological community under the Commonwealth EPBC Act and considered a priority ecological community by DBCA.
Conservation significance of environmental value	Threatened ecological community - Endangered	The Banksia woodlands TEC is listed as Endangered under the EPBC Act and is considered a Priority 3 ecological community in Western Australia by DBCA. Therefore, the highest level of threat has been applied for this field.
Landscape level value impacted	Yes	The impact is to an area of Banksia woodlands TEC in hectares.
Significant impact		
Description		Native vegetation that is representative of the Banksia woodlands TEC is proposed to be cleared for the purpose of recreation as a playing field and public open space
Significant impact (hectares)	0.68	Based on the available information from site photos and spatial data, the entire application area of 0.68 hectares is considered representative of the Banksia woodlands TEC.
Quality (scale)	7	Based on the available information from site photos and spatial data, the vegetation within the application area is in a Completely degraded to Very Good (Keighery, 1994) condition. The application area occurs on the Swan Coastal Plain, upon which the Banksia woodlands TEC has been extensively modified and remaining intact patches of the community are limited. The Banksia woodlands TEC within the application area also provides habitat for significant fauna.
Rehabilitation credit		
N/A	N/A	Onsite revegetation will not be taking place
Offset		

Calculation	Score (Area)	Rationale
Description	Rehabilitation	A single offset involving the rehabilitation and weed management of an offset site within John Hurst Park (Lot 3 on Diagram 63916, Bush Forever Site 245).
proposed offset (area in hectares)	5.07	The area of native vegetation that is representative of the Banksia woodlands TEC required to be rehabilitated and managed to offset the residual impacts to this environmental value by 100%.
Current quality of offset site	7	Based on the Ken Hurst Environmental Surveys (Natural Area, 2025), the proposed offset site is currently in Very Good (Keighery, 1994) condition. The offset occurs on the Swan Coastal Plain, upon which the Banksia woodlands TEC has been extensively modified and remaining intact patches of the community are limited.
Future quality WITHOUT offset	7	Although the Ken Hurst Environmental Surveys (Natural Area, 2025) indicate that the area is subject to some degrading factors such as weed invasion, the proposed offset site is within Bush Forever Site 245 and is intended to be managed for conservation of regionally significant bushland long-term. Therefore, it is unlikely that the quality of native vegetation that is representative of the Banksia woodlands TEC will change significantly in the absence of the offset.
Future quality WITH offset	8	The offset site is proposed to be subject to rehabilitation (1.63 hectares) and weed management in accordance with the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025). Therefore, with best practice revegetation methodology, weed management, and remedial actions, it is assumed that the offset site will improve the quality of native vegetation that is representative of the Banksia woodlands TEC to an Excellent (Keighery, 1994) condition. This quality improvement is noting that the area is already of high quality in a Very Good (Keighery, 1994) condition.
Time until ecological benefit (years)	5	Based on the species list identified in the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025), species to be planted include common Banksia woodlands canopy, mid-storey and understorey species (e.g., B*anksia attenuata, B. menziesii, Xanthorrhoea preissii, Lomandra spp*.). It is anticipated that the benefits of rehabilitation and weed management in establishing juveniles these species and improving vegetation condition will be available after 3 years. An extra two years have been allowed to account for the delay in commencement of the revegetation (assumed to commence within 2 years of permit start date).
Confidence in offset result (%)	90	There is a high level of confidence that the offset will achieve the predicted result given revegetation and rehabilitation will be undertaken in accordance with the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025).
Duration of offset implementation (maximum 20 years)	20	The offset site is located within Bush Forever Site 245 which is intended to be managed for conservation long-term. Therefore, the maximum of 20 years for this field is applied.
Time until offset site secured (years)	1	No change in land tenure or vesting is proposed. The revegetation offset area is already secure as a Bush Forever Site. Therefore, the minimum of one year for this field is applied.
Risk of future loss WITHOUT offset (%)	5%	The area is within Bush Forever Site 323 and managed for conservation of regionally significant bushland long-term. Therefore, there is a relatively low risk of future loss.
Risk of future loss WITH offset (%)	5%	No change in land tenure or vesting is proposed. Therefore, risk of loss remains the same with the offset.

Calculation	Score (Area)	Rationale
Offset ratio (Conservation area only)	N/A	
Landscape level values of offset?	N/A	

Offset Calculation and justification for significant residual impact to Extensively cleared landscape.

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Extensively cleared landscape	The proposed clearing will impact 0.68 hectares of native vegetation, which is significant as a remnant of native vegetation in an extensively cleared landscape.
Type of environmental value	Vegetation/habitat	Significant habitat that is remnant vegetation in an extensively cleared area.
Conservation significance of environmental value	Terrestrial native vegetation complex - < 30% extent remaining in a constrained area	The local area retains approximately 15.38per cent of pre-European vegetation extent and falls+ below the 30% threshold for constrained areas (Perth Metropolitan Area).
Landscape level value impacted	Yes	The impact is to an area of significant remnant native vegetation in hectares.
Significant impact		
Description	Clearing of native vegetation that is significant as a remnant within an extensively cleared landscape	Native vegetation that is significant as a remnant within an extensively cleared landscape is proposed to be cleared for the purpose of recreation as a playing field and public open space.
Significant impact (hectares)	0.68	Based on the available information from site photos and spatial data, the entire application area of 0.68 hectares is considered significant remnant vegetation.
Quality (scale)	6	Based on the available information from site photos and spatial data, the vegetation within the application area is in a Completely Degraded to Very Good (Keighery, 1994) condition. The application area is representative of the Banksia woodlands TEC and provides habitat for significant fauna.
Rehabilitation credit		
N/A	N/A	Onsite revegetation will not be taking place
Offset		
Description	Rehabilitation and weed management of native vegetation that is significant as a remnant within an extensively cleared landscape.	A single offset involving the rehabilitation and weed management of an offset site within John Hurst Park (Lot 3 on Diagram 63916, Bush Forever Site 245).
proposed offset (area in hectares)	4.80	The area of native vegetation that is significant as a remnant within an extensively cleared landscape required to be rehabilitated and managed to offset the residual impacts to this environmental value by 100%.
Current quality of offset site	7	Based on the Ken Hurst Environmental Surveys (Natural Area, 2025), the proposed offset site is currently in Very Good (Keighery, 1994) condition and provides significant habitat values.

Calculation	Score (Area)	Rationale
Future quality WITHOUT offset	7	Although the Ken Hurst Environmental Surveys (Natural Area, 2025) indicate that the area is subject to some degrading factors such as weed invasion, the proposed offset site is within Bush Forever Site 245 and is intended to be managed for conservation of regionally significant bushland long-term. Therefore, it is unlikely that the quality of native vegetation will change significantly in the absence of the offset.
Future quality WITH offset	8	The offset site is proposed to be subject to rehabilitation (1.63 hectares) and weed management in accordance with the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025). Therefore, with best practice revegetation methodology, weed management, and remedial actions, it is assumed that the offset site will improve the quality of native vegetation to an Excellent (Keighery, 1994) condition. This quality improvement is noting that the area is already of high quality in a Very Good (Keighery, 1994) condition.
Time until ecological benefit (years)	5	Based on the species list identified in the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025), species to be planted include common Banksia woodland canopy, mid-storey and understorey species (e.g., *Banksia attenuata, B. menziesii, Xanthorrhoea preissii, Lomandra spp*.). It is anticipated that the benefits of rehabilitation and weed management in establishing juveniles these species and improving vegetation condition will be available after 3 years. An extra two years have been allowed to account for the delay in commencement of the revegetation (assumed to commence within 2 years of permit start date).
Confidence in offset result (%)	90	There is a high level of confidence that the offset will achieve the predicted result given revegetation and rehabilitation will be undertaken in accordance with the Ken Hurst Park Revegetation Management Plan (Natural Area, 2025).
Duration of offset implementation (maximum 20 years)	20	The offset site is located within Bush Forever Site 245 which is intended to be managed for conservation long-term. Therefore, the maximum of 20 years for this field is applied.
Time until offset site secured (years)	1	No change in land tenure or vesting is proposed. The revegetation offset area is already secure as a Bush Forever Site. Therefore, the minimum of one year for this field is applied.
Risk of future loss WITHOUT offset (%)	5%	The area is within Bush Forever Site 323 and managed for conservation of regionally significant bushland long-term. Therefore, there is a relatively low risk of future loss.
Risk of future loss WITH offset (%)	5%	No change in land tenure or vesting is proposed. Therefore, risk of loss remains the same with the offset.
Offset ratio (Conservation area only)	N/A	
Landscape level values of offset?	N/A	

Appendix G. Biological survey information excerpts / photographs of the vegetation

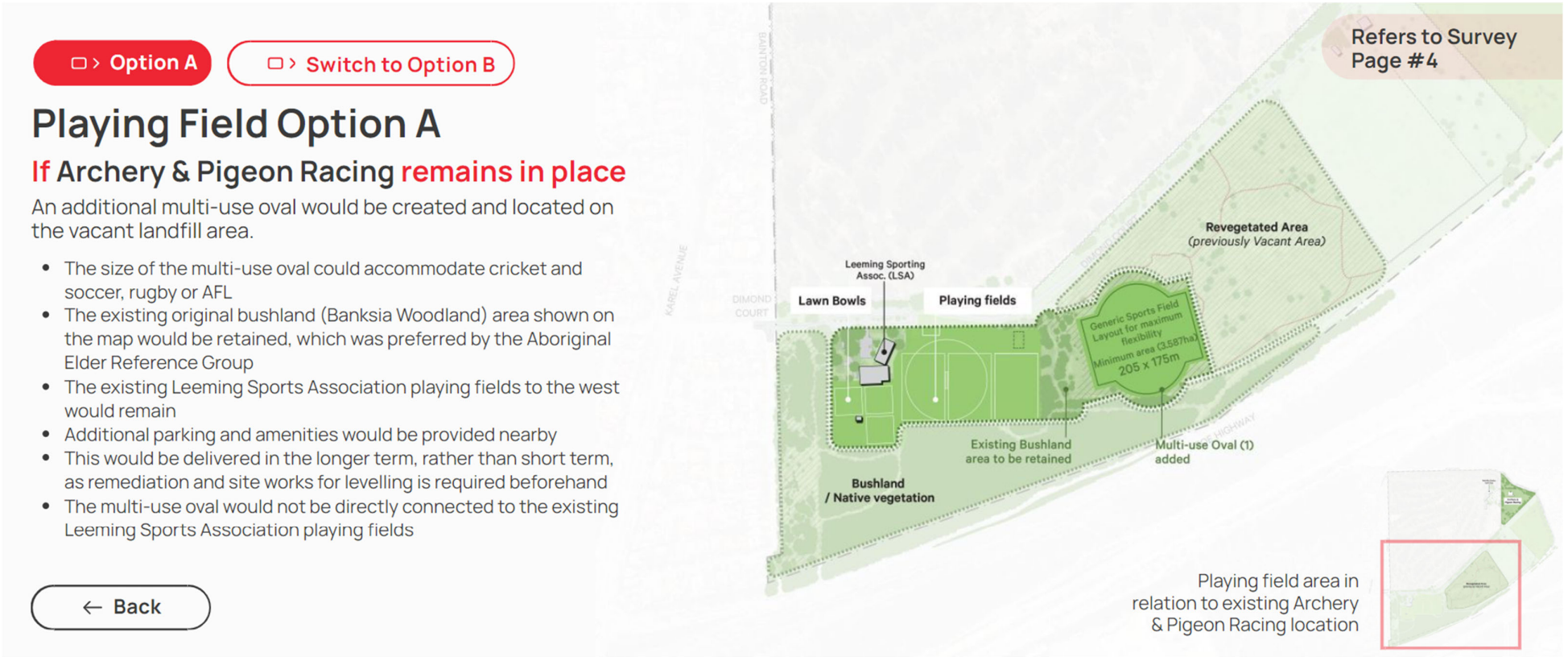

Figure 4: John Connor Reserve public vote information option for the location of the new playing field. (Option A)

Figure 5: John Connor Reserve public vote information option for the location of the new playing field. (Option B)

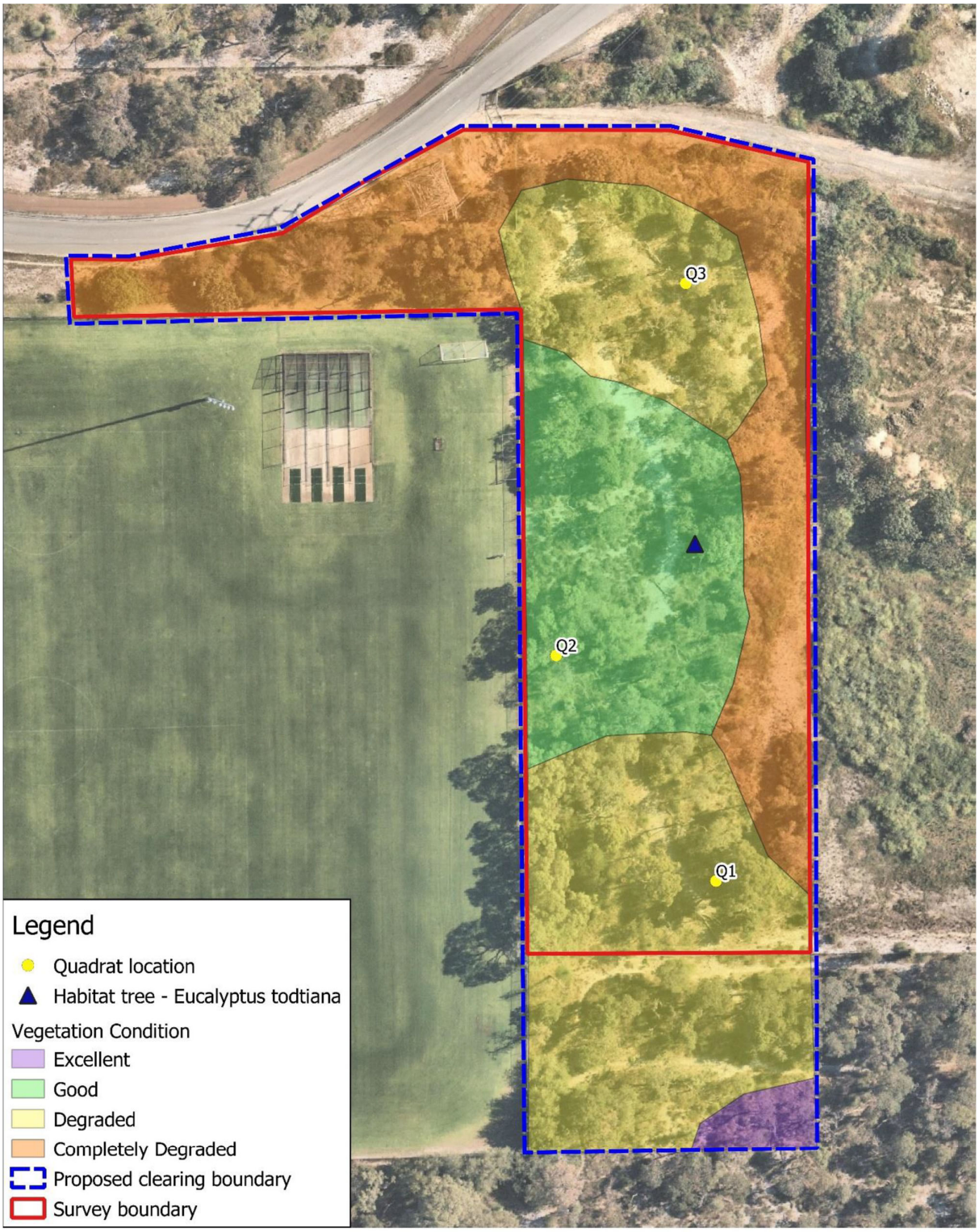

Figure 7:
Vegetation Condition, Quadrat Locations and Habitat Tree
John Connell Reserve

0 10 20 m

N

Client: City of Melville
Date: 26/11/2020
Created by: K. Sadgrove
Image Source: Nearmap 2020
Datum: GDA 94

Figure 6: Map off the application area with quality of the vegetation within the application area and location of quadrants (Natural Areas, 2023).

Figure 7: Q1 - Photo of banksia species and weed dominated understory.

Figure 8: Q2 - Photo of banksia species and weed dominated understory.

Figure 9: Q3 - Photo of banksia species and weed dominated understory.

Figure 10: banksia within the area. Good understory with some weed species.

Figure 11: Photo of the norther most part of the application area showing Banksia species.

Figure 12: Photo of the application area showing some Bankia species and a dominated weed understory.

Figure 13: degraded and bare understory with dead trees, banksia species.

Figure 14: degraded and bare understory with dead trees, banksia species.

Figure 15: degraded and bare understory with dead trees, banksia and Eucalyptus species. Signs of historical fire.

Figure 16: banksia dominated area with some Eucalyptus. Degraded and bare understory.

Figure 17: Banksia dominated area with some Eucalyptus. Understory intact with some weed species.

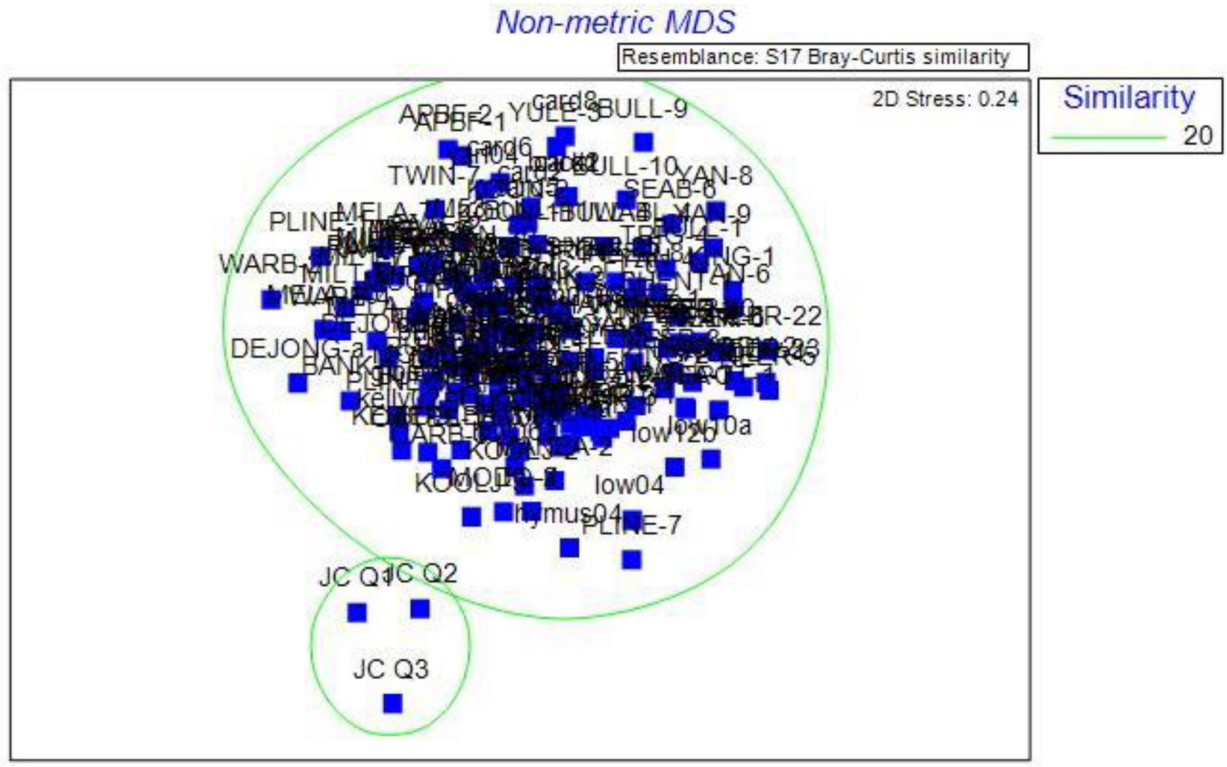

Figure 18: Resemblance graph of John Connell quadrats to the Banksia woodlands TEC quadrats from Gibson et al. (1994) Application area with data with a 20% similarity.

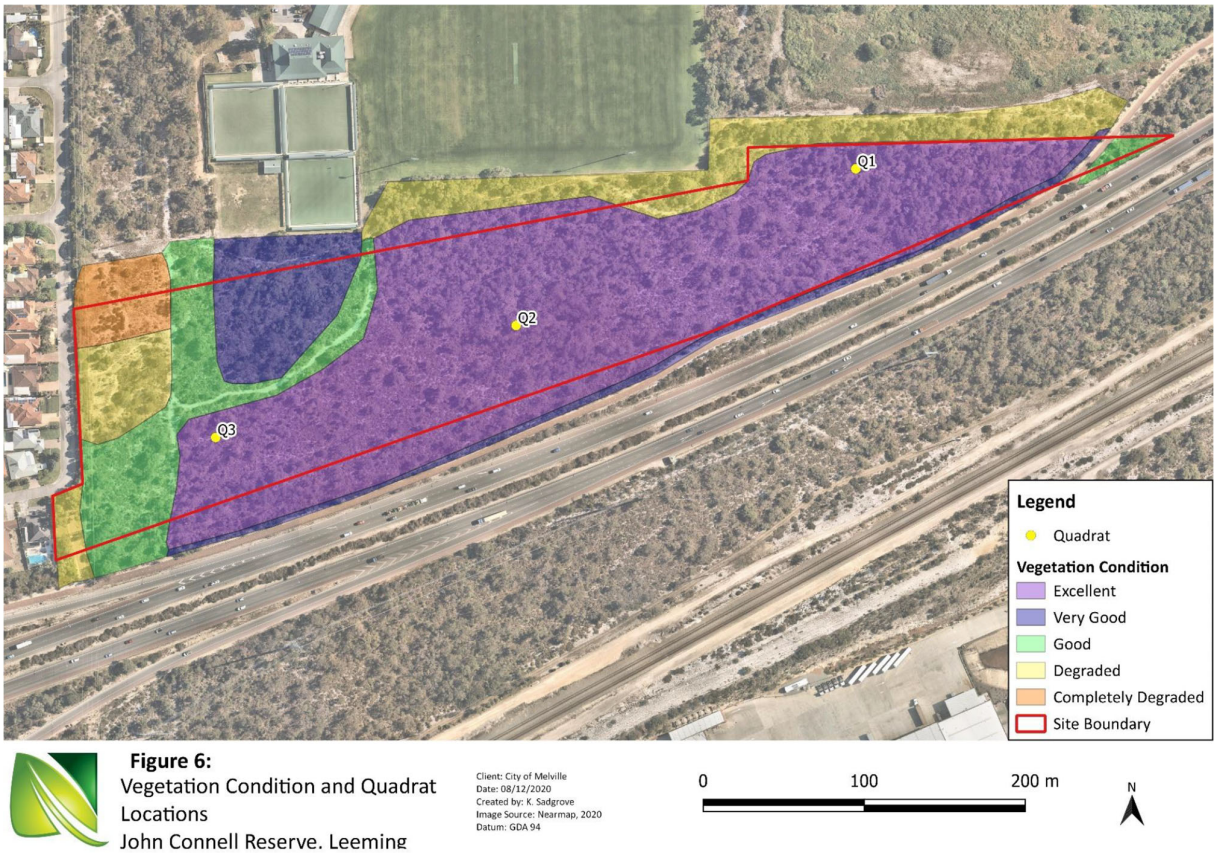

Figure 6:
Vegetation Condition and Quadrat Locations
John Connell Reserve, Leeming

Figure 19: Map of the vegetation quality of the adjacent vegetation to the application area (Natural Area, 2020b).

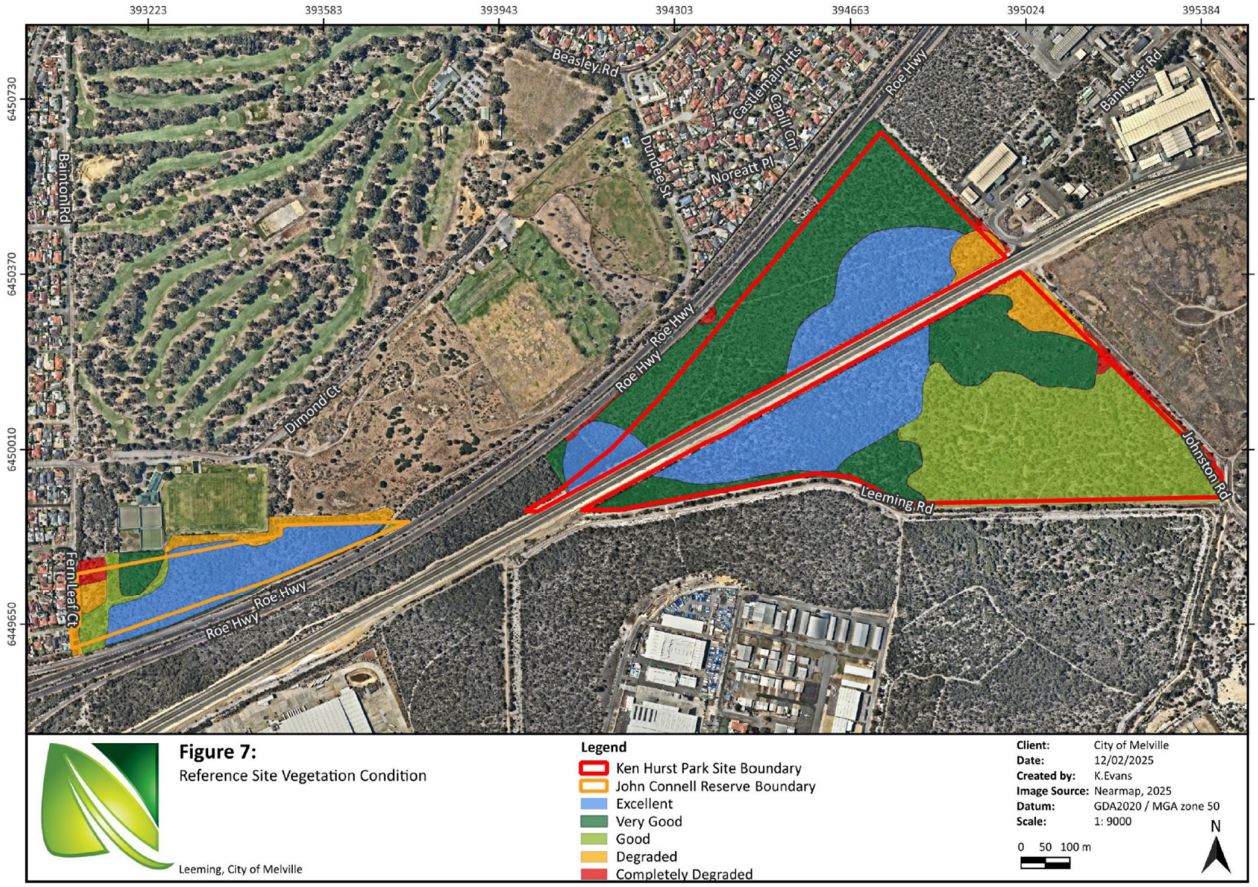

Figure 20: Map of the vegetation quality within the Ken Hurst Park - Offset site (City of Melville, 2025).

Appendix H. Sources of information

H.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas

- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

H.2. References

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City of Melville (2021) *Natural areas Ken Hurst Park Strategic Management Plan 2021-2026.* Received 4th September 2024 (DWER Ref: DWERDT1136210)

City of Melville (2023a) John Connell Reserve Master Plan. Available at: https://www.melvillecity.com.au/our-city/connect-with-us/melville-talks/community-engagements/john-connell-reserve-master-plan

City of Melville (2024a) John Connell Reserve Master Plan – survey results, received 25 February 2024 (DWER Ref: DWERDT1100865)

City of Melville (2024b) *Leeming spartan cricket club Inc – Mitigation hierarchy response*, received 29th April February 2024 (DWER Ref: DWERDT956720)

City of Melville (2025) *Natural areas Ken Hurst Park Revegetation Management Plan.* Received *2nd January 2025* (DWER Ref: DWERDT1117266)

Natural Area (2023) City of Melville Targeted Flora Survey – John Connel Reserve, received 20th February 2024 (DWER Ref: DWERDT1100849)

Natura Area (2020a) John Connell reserved - detailed flora, vegetation, and fauna assessment. received 22nd December 2023 (DWER Ref: DWERDT886043)

Natura Area (2020b) John Connell reserved – The threatened ecological community assessment. received 22nd December 2023 (DWER Ref: DWERDT886043)

Leeming Spartan Cricket Club Inc (2023) *Clearing permit application CPS 10237/1*, received 16th June 2023 (DWER Ref: DWERDT820225).

Leeming Spartan Cricket Club Inc (2023) *Supporting information – Photographs for clearing permit application CPS 10237/1,* received 16 June 2023 (DWER Ref: DWERDT820203).

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Public Submission (2023b) *Public submission in relation to clearing permit application CPS 10237/1,* received 17 September 2023 (DWER Ref: DWERDT837017).

Public Submission (2023c) *Public submission in relation to clearing permit application CPS 10237/1,* received 5 October 2023 (DWER Ref: DWERDT845253).

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