



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 9454/1
<b>Permit Holder:</b>	Department of Biodiversity Conservation and Attractions
<b>Duration of Permit:</b>	From 25 April 2022 to 25 April 2030

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

### **PART I – CLEARING AUTHORISED**

#### **1. Clearing authorised (purpose)**

The permit holder is authorised to clear *native vegetation* for the purpose of creating a cycling trail.

#### **2. Land on which clearing is to be done**

Lot 501 on Plan 60582 (Crown Reserve 13773), Sandpatch  
Lot 7793 on Plan 240420 (Crown Reserve 4732), Elleker  
Road Reserve (PIN 11086523), Elleker

#### **3. Clearing authorised**

The permit holder must not clear more than 0.747 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 and Figure 2 of Schedule 1.

### **PART II – MANAGEMENT CONDITIONS**

#### **4. Period during which clearing is authorised**

The permit holder must not clear any *native vegetation* after 25 April 2027.

#### **5. 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.

## 6. 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) where dieback or weed-affected soil, mulch, fill, or other material is to be removed from the area to be cleared, ensure it is transferred to areas of comparable soil disease status;
- (d) at least once in each 12-month period, the permit holder must remove or kill any weeds growing within areas cleared under this permit.

## 7. Revegetation and rehabilitation – retention of vegetative material and topsoil

The permit holder must:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this permit and stockpile the vegetative material and topsoil in an area that has already been cleared;
- (b) within one year following clearing authorised under this permit, *revegetate* and *rehabilitate* the area(s) that are no longer required for a cycling trail by:
  - (i) re-shaping the surface of the land so that it is consistent with the surrounding five metres of uncleared land;
  - (ii) laying the vegetative material and topsoil retained under condition 7(a) on the cleared area(s); and
  - (iii) undertake *weed* control activities on an ‘as needed’ basis to reduce *weed* cover within the cleared areas to no greater than the *weed* cover within the surrounding five metres of uncleared land.

## **PART III - RECORD KEEPING AND REPORTING**

### 8. 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	<ul style="list-style-type: none"> <li>(a) the species composition, structure, and density of the cleared area;</li> <li>(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric</li> </ul>

No.	Relevant matter	Specifications
		<p>Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;</p> <p>(c) the date that the area was cleared;</p> <p>(d) the size of the area cleared (in hectares);</p> <p>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5;</p> <p>(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 6; and</p> <p>(g) actions taken to <i>revegetate</i> and <i>rehabilitate</i> in accordance with condition 7.</p>

## 9. Reporting

The permit holder must provide to the *CEO* the records required under condition 8 of this permit when requested by the *CEO*.

## DEFINITIONS

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

**Table 2: Definitions**

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
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.
fill	means material used to increase the ground level, or to fill a depression.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
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.
rehabilitate / rehabilitated / rehabilitation	means actively managing an area containing native vegetation in order to improve the ecological function of that area.

Term	Definition
revegetate / vegetated / revegetation	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.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; 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.

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**END OF CONDITIONS**




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**Meenu Vitarana**  
**A/MANAGER**  
 NATIVE VEGETATION REGULATION

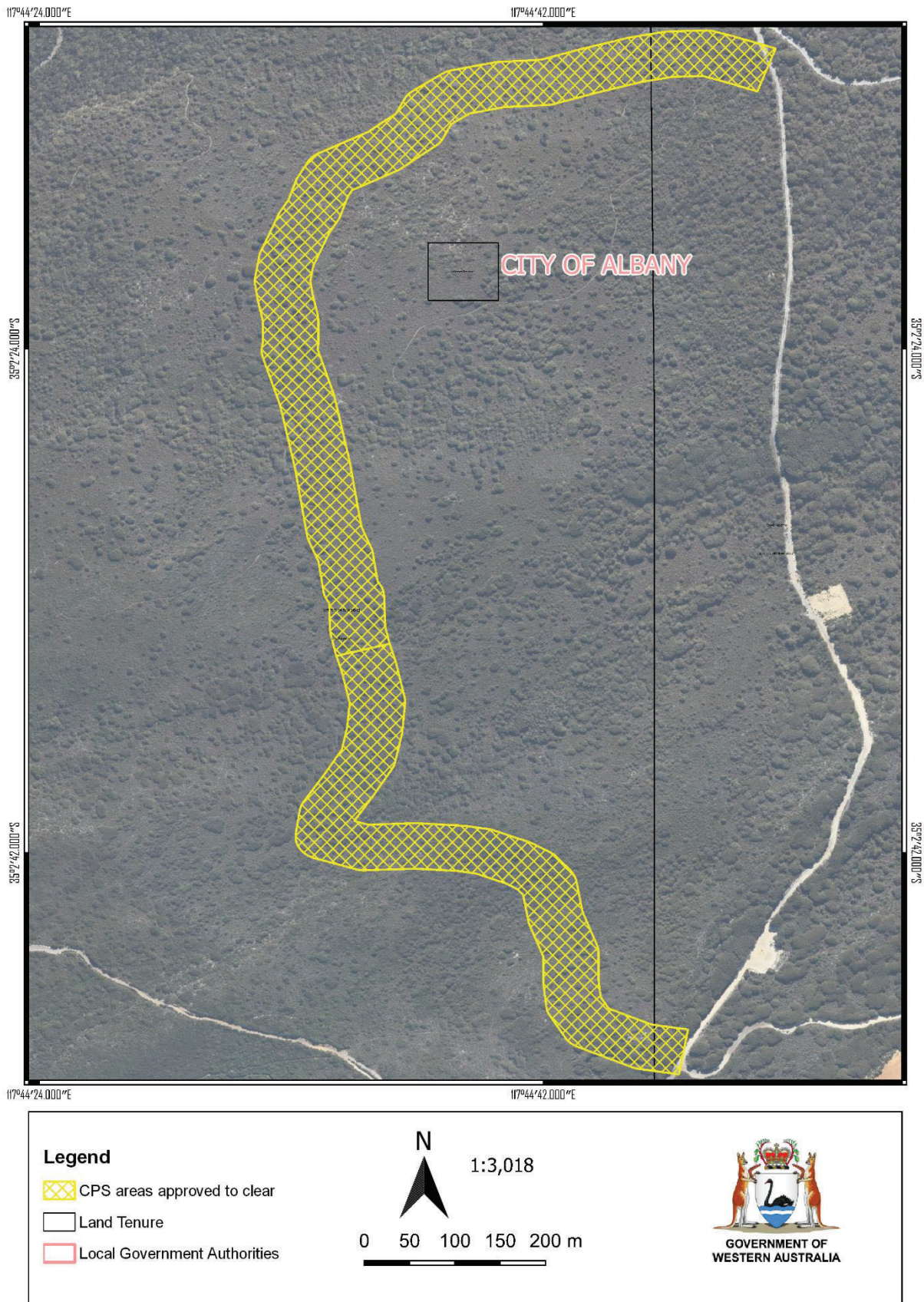
*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

31 March 2022

# Schedule 1



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



**Figure 2: Map of the boundary of the area within which clearing may occur**



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9454/1
<b>Permit type:</b>	Purpose permit
<b>Applicant name:</b>	Department of Biodiversity, Conservation and Attractions
<b>Application received:</b>	11 October 2021
<b>Application area:</b>	0.747 hectares of native vegetation
<b>Purpose of clearing:</b>	Cycling trail
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Lot 501 on Plan 60582 (Crown Reserve 13773) Lot 7793 on Plan 240420 (Crown Reserve 4732) Road Reserve (PIN 11086523)
<b>Location (LGA area/s):</b>	City of Albany
<b>Localities (suburb/s):</b>	Sandpatch and Elleker

### 1.2. Description of clearing activities

The vegetation proposed to be cleared comprises up to 0.747 hectares to be undertaken within two separate areas that have a combined area of 15.07 hectares (see Figure 1 and Figure 2, Section 1.5). The proposed clearing is to allow for the creation of a new section of the Munda Biddi Trail, a long-distance off-road cycling trail. While the final trail alignment is subject to detailed design to be undertaken by a trail building contractor, clearing for the trail will be up to 2 metres wide and approximately 3.5 kilometres long, with the final trail width to be approximately 1 to 1.2 metres. The 15.07 hectare area in which the trail will be constructed represents a 50 metre wide corridor, surrounding an originally proposed trail alignment, in which surveys were undertaken (refer to Figure 3). Some areas of the trail are likely to be constructed as a boardwalk (refer to Section 3.1 for further details). The clearing will be undertaken using a combination of hand clearing (chainsaw) and small machinery (small excavator, bobcat and/or slasher).

The application was originally advertised as proposed clearing of 0.81 hectares but was subsequently revised to 0.747 hectares within a 15.07 hectare footprint following the application of avoidance and mitigation measures (refer to Section 3.1).

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	31 March 2022
<b>Decision area:</b>	0.747 hectares of native vegetation within the area depicted in Figures 1 and 2, Section 1.5

## 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 original application for 21 days, and again for 7 days following the revision of the application area as described in Section 1.1. No submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets and references (see Appendix E), the findings of a flora and fauna surveys and other information provided by the applicant (see Appendix A), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C) and relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing:

- May impact upon habitat for Main's assassin spider, however noting the applicant's avoidance and mitigation measures and a condition placed on the permit to rehabilitate and revegetate cleared areas no longer required for the cycling trail, the impacts are not likely to be significant;
- May impact upon foraging habitat for Baudin's black cockatoo, Carnaby's black cockatoo, forest red-tailed black cockatoo, however impacts are not likely to be significant;
- May impact upon habitat for short-nosed snake, chuditch, quenda, western brush wallaby and peregrine falcon, however impacts are not likely to be significant;
- Is unlikely to be within areas inhabited by the dibbler, western pill millipede, western whipbird and woolybush bee, but should these species be present, the clearing is not likely to have a significant impact upon their habitat;
- Is unlikely to impact upon the western ringtail possum, noting that the applicant has advised they will not be clearing large trees or any peppermint canopy;
- Is unlikely to impact upon any flora species of conservation significance;
- May result in minor erosion which may impact water quality in a wetland present within the application area, however these impacts are expected to be temporary and minor, and will not significantly impact the wetland in the long-term.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on environmental values of adjacent or nearby conservation areas or on conservation significant flora, fauna or ecological communities. The Delegated Officer considered that the impacts of the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to the environment.

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

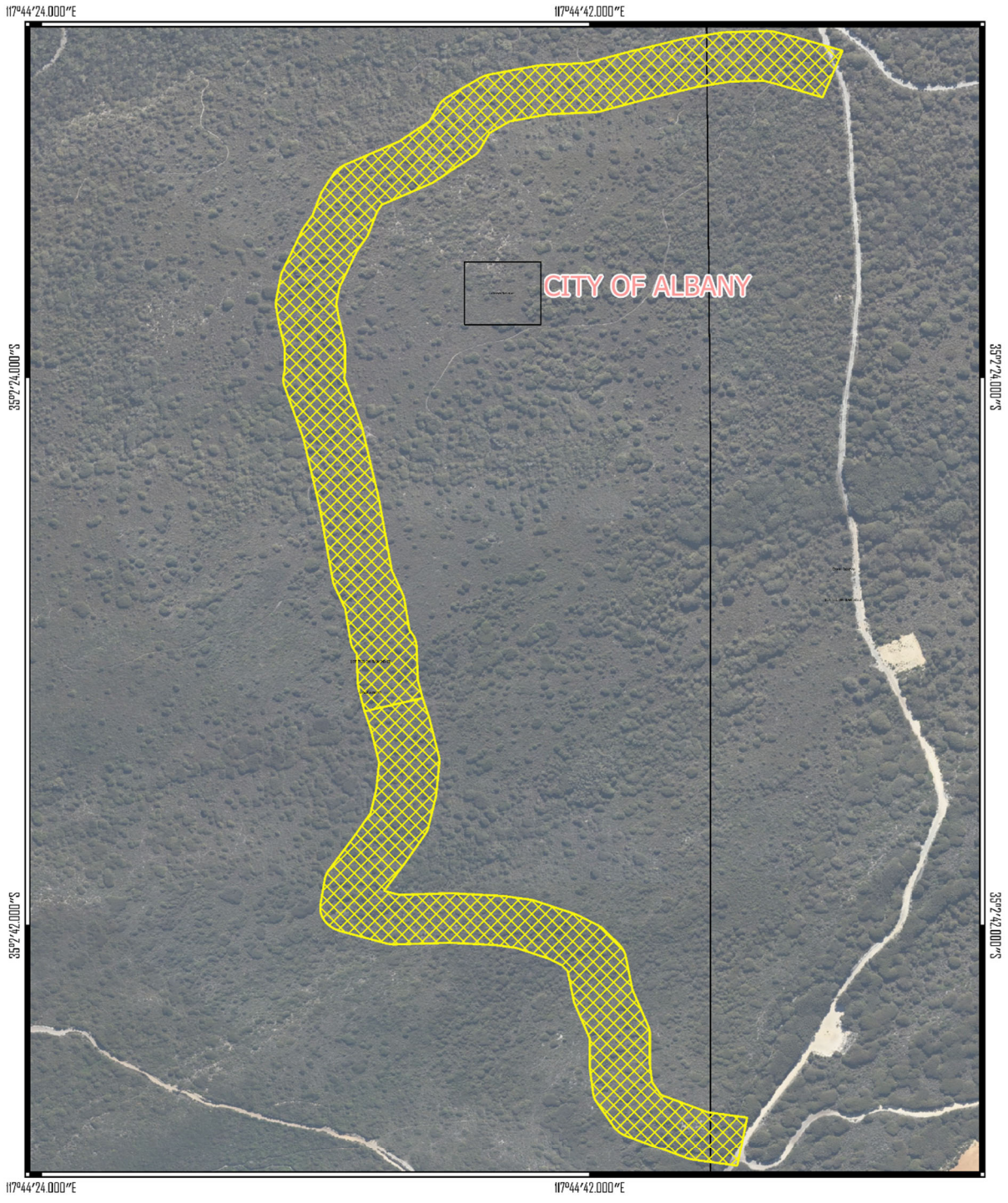
- Avoid, minimise to reduce the impacts and extent of clearing;
- Take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback; and
- Rehabilitation and revegetation of cleared areas no longer required for the cycling trail to minimise impacts to fauna habitat.



## 1.5. Site maps



Figure 1 - Map of the application area (north). The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.





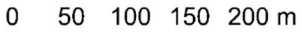


<b>Legend</b>	N ▲	1:3,018	
 CPS areas approved to clear			GOVERNMENT OF WESTERN AUSTRALIA
 Land Tenure			
 Local Government Authorities			

Figure 2 - Map of the application area (south). The area crosshatched yellow indicates the area 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 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

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)
- 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

The applicant advised the following in regard to avoidance and mitigation measures:

- Several alignment options were considered during planning to utilise existing tracks where possible, however new trail was required in some locations as existing tracks are too steep to be considered for the trail type (DBCA, 2021a);
- The trail proposal required approval under DWER policy 13 (recreation within public drinking water source areas on Crown land), as the area is in a groundwater catchment, and avoidance of a groundwater production bore was required. This necessitated a longer trail which deviated outside the 500 meter buffer zone of the bore (DBCA, 2021a);
- Flora and fauna surveys were undertaken within an area 25 metres either side of a proposed trail alignment (i.e. within a 50 metre corridor). A reconnaissance survey identified areas of potential Main's assassin spider habitat within this corridor, and a modified trail alignment was proposed to avoid most of the potential Main's assassin spider habitat areas (refer to Figure 3 below) (DBCA, 2021c). The applicant also considered that potential habitat for the Western Australian pill millipede and short-nosed snake would also be avoided by avoiding Main's assassin spider habitat (DBCA, 2022). While the final trail alignment is still subject to detailed design, it will be based upon the proposed alignment in the figure below to avoid habitat for these species.
- A seasonally inundated wetland area was identified within the northern portion of the proposed trail alignment. While the final trail alignment is still subject to detailed design, the final trail alignment will minimise impacts to this wetland area by creating a boardwalk over the wetland area, which will largely follow an existing cleared area along the fenceline, except where required to deviate around a large paperbark on the fenceline (DBCA, 2022a) (refer to Figure 4 below);
- North of the wetland area, the trail will utilise an existing area cleared firebreak area alongside the western side of the road reserve (DBCA, 2022a) (refer to Figure 4 below); and
- No large trees or peppermint canopy will be removed to construct the trail. Only understorey to mid-storey vegetation will be removed, noting that in areas of coastal heath, removal of small-medium sized bushes that form the upper stratum would be required (DBCA, 2022a).

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

Munda Biddi Windfarm realignment

(Original realignment with buffer, and revised alignment)

Legend

- MB-Windfarm-Spider Realignment tracks
- Windfarm realign-new only
- 25m Buffer

NOTES : flora survey conducted within the '25m buffer' area (25m either side of original alignment). The 'MB-windfarm-spider realignment' line indicates revised alignment to avoid Assassin spider habitat. Revised alignment is within the 25m buffer area.

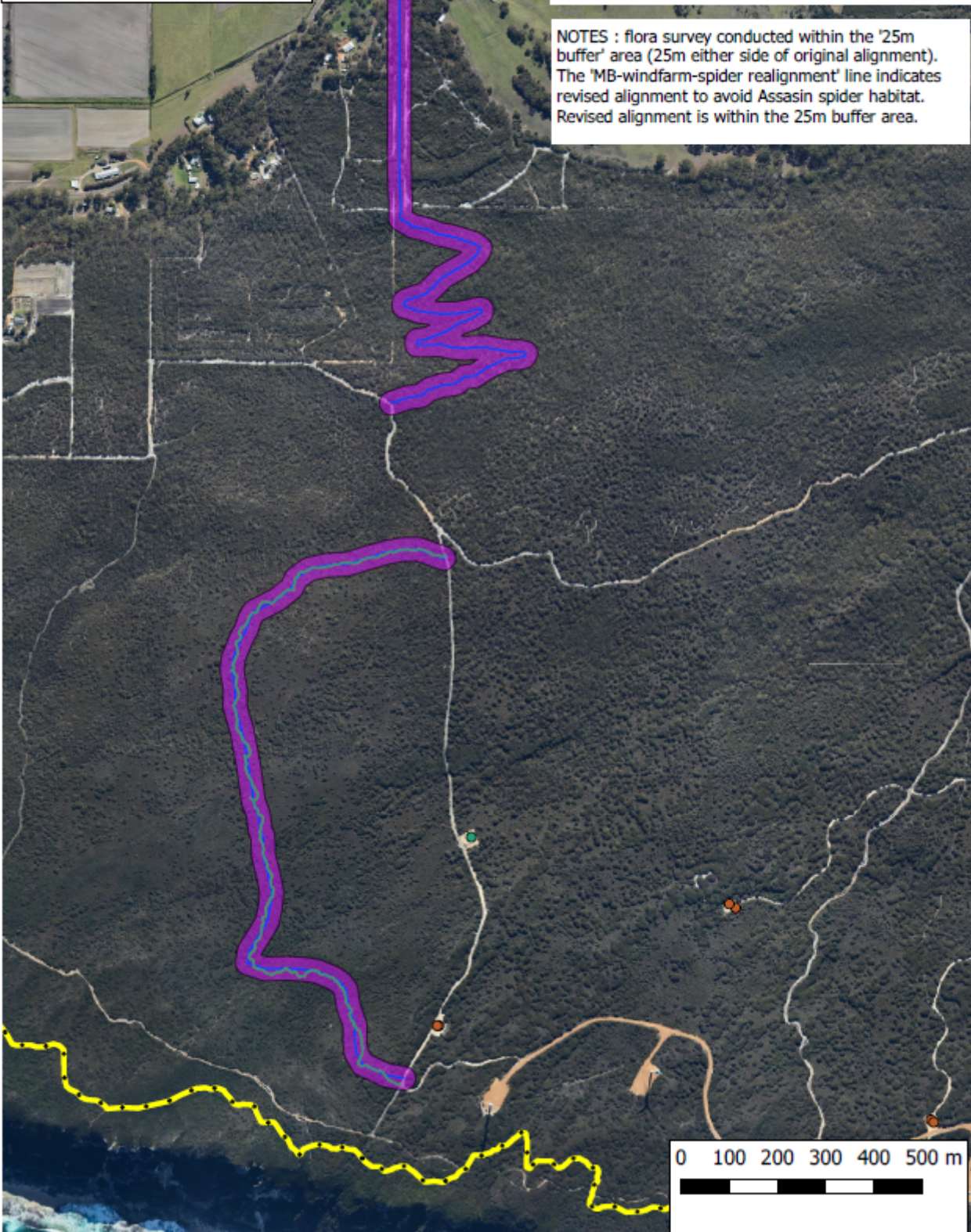


Figure 3 – Map showing originally proposed trail alignment, 25 metre buffer around this in which surveys were undertaken, and proposed new trail alignment to avoid Main's assassin spider habitat.



Figure 4 – Proposed trail alignment in seasonally inundated wetland area (approximate extent circled in red) in northern portion of alignment. The yellow line represent the originally proposed trail alignment, the blue line indicates a portion of the revised trail alignment where the boardwalk is planned to be constructed to minimise impacts to the wetland, and the green line indicates a portion of the revised trail alignment where a trail is planned to be constructed along the ground surface.

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) 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 Appendix C) identified that the risks of impacts of the proposed clearing to biological values (fauna and flora) and wetlands and water resources required further consideration. 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, is set out below.

#### 3.2.1. Biological values (fauna) - Clearing Principles (a) and (b)

##### Assessment

Impacts to the following conservation significant fauna species required further consideration:

- *Pezoporus flaviventris* (western ground parrot) (Critically Endangered);
- *Pseudocheirus occidentalis* (western ringtail possum (WRP)) (Critically Endangered);
- *Calyptorhynchus baudinii* (Baudin's black cockatoo) (Endangered);
- *Calyptorhynchus latirostris* (Carnaby's black cockatoo) (Endangered);
- *Calyptorhynchus banksii subsp. naso* (forest red-tailed black cockatoo) (Vulnerable);
- *Parantechinus apicalis* (dibbler) (Endangered);
- *Psophodes nigrogularis nigrogularis* (western whipbird (western heath)) (Endangered);
- *Cynotelopus notabilis* (Western Australian pill millipede) (Endangered);
- *Dasyurus geoffroii* (chuditch) (Vulnerable);
- *Zephyrarchaea mainae* (Main's assassin spider) (Vulnerable);
- *Elapognathus minor* (short-nosed snake) (Priority 2);
- *Hylaeus globuliferus* (woollybush bee) (Priority 3);
- *Isodon fusciventer* (south-western brown bandicoot/quenda) (Priority 4);
- *Notamacropus irma* (western brush wallaby) Priority 4); and
- *Falco peregrinus* (peregrine falcon) (Other Specially Protected).

The western ground parrot is confined to near coastal regions of south-western Western Australia and is currently known to occur in at Cape Arid National Park-Nuytsland Nature Reserve (DBCA, 2017a) and in a small translocated population east of Albany (DBCA, 2021d). As such, while the application area may provide suitable habitat for this species, the proposed clearing is unlikely to impact this species.

The current distribution of the WRP is patchy and largely restricted to near coastal areas of peppermint woodland and peppermint/tuart (*Eucalyptus gomphocephala*) associations in vegetation with high canopy continuity (DBCA, 2017b). Long-term survival of the species requires linkages between suitable habitat patches and as such habitat critical to survival incorporates this. Vegetation communities critical to the species include (among other things) coastal heath, *Agonis flexuosa* (peppermint) woodlands, and Myrtaceae heaths and shrublands (DBCA, 2017b). The WRP is considered likely to inhabit vegetation within the application area, however given that the applicant has advised they will not be clearing large trees or any peppermint canopy (DBCA, 2022a), the clearing is unlikely to disturb the canopy which the WRP resides in. As such, the clearing is unlikely to impact upon the conservation status of the WRP or WRP individuals.

Baudin's black cockatoo, Carnaby's black cockatoo and forest red-tailed black cockatoo (hereafter referred to as black cockatoo species) have different habitat requirements, however the requirements in general can be categorised as breeding habitat, night roosting habitat and foraging habitat. Suitable breeding habitat for black cockatoos includes trees (typically *Corymbia calophylla* (marri) or certain *Eucalyptus* species) which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (Commonwealth of Australia, 2012). Black cockatoos also predominantly roost in large *Eucalyptus* and marri trees (Commonwealth of Australia, 2012). Given that the application area does not contain species of large *Eucalyptus* or marri (DBCA, 2022b) the application is unlikely to provide current or future breeding or roosting habitat for black cockatoo species. The application area does contain smaller mallee eucalypts and proteaceous species (DBCA, 2022b) that may provide foraging habitat for black cockatoo species, however noting that the applicant has committed to not clearing large trees (DBCA, 2022a) and the relatively small extent of the clearing in the context of the surrounding tract of native vegetation, the proposed clearing is unlikely to significantly impact upon black cockatoo foraging habitat.

It is considered likely that dibblers can occupy a wide variety of habitats, however mainland occurrences of dibblers have been characterised by the presence of long unburnt heathland (Friend, 2003). Surviving populations of dibblers are currently known only from Fitzgerald River National Park and Boullanger and Whitlock Islands, however given the recorded disappearances and rediscoveries of the species, including captures of individuals in Torndirrup National Park in 1987 and 1988, it is likely that other populations exist on the south coast between Denmark and Israelite Bay (Friend, 2003). Feral predators are a key threatening process for the dabbler (Friend, 2003). While the application area contains suitable habitat for the dabbler and is in the potential distribution of this species, given that the application area is within land not managed by DBCA and hence not managed for predators (including foxes) (DBCA, 2022b), it is considered unlikely that dibblers would be present within the application area. Given the small extent of the clearing in the context of similar surrounding vegetation, even if dibblers were to inhabit the application area the proposed clearing would be unlikely to have a significant impact on this species.

Main's assassin spider is known from the greater Albany region, from the Walpole-Nornalup National Park (near Walpole) east to Bremer Bay and north to the Porongurup National Park, with a range centred on the Torndirrup Peninsula south of Albany (Rix and Harvey, 2012). The species has been collected from elevated leaf litter amongst the crowns of understorey plants including sedges (*Lepidosperma* sp.), curly grass (*Empodisma gracillimum*) and low shrubs in dense coastal or near-coastal groves of peppermint, with some isolated records from karri (*Eucalyptus diversicolor*) forest (Framenau et al., 2008; Rix and Harvey, 2012). An assessment of the original trail alignment found areas of potential habitat for Main's assassin spider, consisting of a number of small patches of thicker vegetation with a suspended litter midstorey, such as at minor drainages (DBCA, 2021b). Although the final trail alignment is subject to detailed design, the applicant proposes to avoid most of the areas of potential Main's assassin spider habitat in accordance with a proposed trail alignment presented in Figure 3, Section 3.1 above. Noting this, the proposed clearing may impact upon Main's assassin spider habitat, but, in the context of suitable habitat present in the large tract of surrounding vegetation, is not likely to significantly impact upon this species. A condition placed on the permit requiring the rehabilitation and revegetation of cleared areas no longer required for the cycling trail will further mitigate impacts to Main's assassin spider habitat.

The Western Australian pill millipede is found between Tinglewood and Torbay Hill along the southern coast of Western Australia, inhabiting areas of deep litter in moist forests such as karri (York Main et al., 2002). These particular habitats are not present within the proposed clearing area. Furthermore, the Western Australian pill millipede has not been found in the vicinity of the proposed clearing area, with the closest record approximately 11 kilometres to the east. As such, the application area is unlikely to provide habitat for the Western Australian pill millipede. As the applicant has proposed to clear an alignment that largely avoids areas of denser vegetation deemed suitable habitat for Main's assassin spider (see above) and likely to be more suitable for the Western Australian pill

millipede (DBCA, 2022a), the likelihood of the clearing impacting the Western Australian pill millipede are not considered significant.

The western whipbird (western heath subspecies) inhabits dense heath-like shrubby thickets on coastal dunes, and mallee woodland or shrubland with an open upper storey above a dense shrubby understorey (Schodde & Mason, 1991; Smith, 1991). Although it previously occurred west of Albany along the coast to Perth, it is currently known only to be present in an area east of Albany (Department of the Environment, 2014). Given this, although the application area may provide areas of suitable habitat for the western whipbird (western heath subspecies), it is unlikely to be present within the application area. Should the species be present in this region, areas of suitable habitat would likely be avoided as they would be similar to areas of habitat for the Main's assassin spider that the applicant proposes to largely exclude (see above) (DBCA, 2022a).

Remaining natural populations of the chuditch occur in mallee shrublands and heaths along the south coast (Department of Environment and Conservation, 2012a). While the application area may provide suitable habitat for chuditch, given the small extent of the clearing in the context of similar surrounding vegetation and the large range of this species, the proposed clearing is unlikely to have a significant impact on the chuditch. Any individuals present within the application area would be able to move away from the proposed clearing.

The short-nosed snake is restricted to the south-western corner of WA, and is found in heath, swamps and wet sclerophyll forest (Australian Reptile Online Database, 2017). As the applicant has proposed to clear an alignment that largely avoids habitat for the Main's assassin spider, much of the thicker vegetation preferred by the short nosed snake will also be avoided (DBCA, 2022a). Given this, and noting the extent of the proposed clearing in the context of the large tract of surrounding vegetation, the proposed clearing is unlikely to have a significant impact upon this species, and individuals are expected to be able to move away from the clearing while it is being undertaken.

The woollybush bee is known to feed on the flowers of woollybush (*Adenanthos cygnorum*) in particular, but has also been collected from the flowers of slender banksia (*Banksia attenuata*) (Roadside Conservation Committee, 2005). While the proposed clearing area is outside the distribution of the woollybush bee, slender banksia may be present. Given that woollybush bee is unlikely to provide optimal habitat for the woollybush bee and therefore the species is not likely to be present. Should it be present, the impacts are not likely to be significant given the small extent of the clearing in the context of similar surrounding vegetation.

The quenda typically prefers dense understorey such as around swamps or in banksia and jarrah woodlands (Department of Biodiversity, Conservation and Attractions, 2017b). While the application area may provide suitable habitat for quenda, given the small extent of the clearing in the context of similar surrounding vegetation and the large range of this species, the proposed clearing is unlikely to have a significant impact on the quenda. Any quenda individuals present within the application area would be able to move away from the proposed clearing.

The Western brush wallaby's optimum habitat is open forest or woodland, particularly favouring open, seasonally-wet flats with low grasses and open scrubby thickets, but it is also found in some areas of mallee and heath-land (Department of Environment and Conservation, 2012c). Although the vegetation within the application area may provide suitable habitat for the Western brush wallaby, given the extent of the proposed clearing in the context of the large tract of surrounding vegetation, the proposed clearing is unlikely to have a significant impact upon this species, and individuals should be able to move away from the clearing while it is being undertaken.

The peregrine falcon is found in most habitats but prefers coastal and inland cliffs or open woodlands near water (Australian Museum, 2020). Although the vegetation within the application area may provide suitable habitat for the peregrine falcon, given the extent of the proposed clearing in the context of the large tract of surrounding vegetation, the proposed clearing is unlikely to have a significant impact upon this species.

## Conclusion

Based on the above assessment, the proposed clearing:

- May impact upon habitat for Main's assassin spider, however noting the applicant's avoidance and mitigation measures and a condition to rehabilitate and revegetate cleared areas no longer required for the cycling trail, the impacts are unlikely to be significant;
- May impact upon foraging habitat for Baudin's black cockatoo, Carnaby's black cockatoo, forest red-tailed black cockatoo, however impacts are unlikely to be significant;
- May impact upon habitat for short-nosed snake, chuditch, quenda, western brush wallaby and Peregrine falcon, however impacts are unlikely to be significant;
- Is unlikely to be within areas inhabited by the dibbler, Western pill millipede, western whipbird and woollybush bee, but should these species be present, the clearing is not likely to have a significant impact upon their habitat; and
- Is unlikely to impact upon the western ringtail possum, noting that the applicant has advised they will not be clearing large trees or any peppermint canopy.

## Conditions

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

- Rehabilitation and revegetation of cleared areas no longer required for the cycling trail.

### **3.2.2. Biological values (flora) - Clearing Principles (a) and (c)**

#### Assessment

The application area may contain suitable habitat for the following conservation significant flora species:

- *Banksia verticillata* (T)
- *Caladenia harringtoniae* (T)
- *Calectasia cyanea* (T)
- *Isopogon uncinatus* (T)
- *Microtis globula* (T)
- *Diuris drummondii* (T)
- *Drosera paleacea* (P1)
- *Caladenia evanescens* (P1)
- *Prasopphyllum paulinae* (P1)
- *Gyrostemon thesioides* (P2)
- *Isopogon buxifolius* var. *buxifolius* (P2)
- *Pterostylis heberlei* (P2)
- *Corybas abditus* (P3)
- *Juncus meianthus* (P3)
- *Leucopogon alternifolius* (P3)
- *Austrostipa mundula* (P3)
- *Boronia crassipes* (P3)
- *Adenanthos x cunninghamii* (P4)
- *Corybas limpidus* (P4);
- *Eucalyptus calcicola* subsp. *Unita* (P4)
- *Eucalyptus x missilis* (P4)
- *Gahnia sclerioides* (P4)
- *Gonocarpus pusillus* (P4)
- *Gonocarpus simplex* (P4)
- *Lysinema lasianthum* (P4)
- *Microtis pulchella* (P4)
- *Microtis quadrata* (P4)
- *Thomasia quercifolia* (P4)

The applicant conducted a flora survey within the application area (DBCA, 2021c), which included a targeted search of the following species (DBCA, 2022a):

- *Calectasia cyanea*;
- *Isopogon uncinatus*;
- *Banksia verticillate*;
- *Caladenia harringtoniae*;
- *Pterostylis heberlei*;
- *Prasopphyllum paulinae*;
- *Caladenia evanescens*;
- *Drosera paleacea*,
- *Gyrostemon thesioides*;
- *Isopogon buxifolius*
- *Boronia crassipes*;
- *Juncus meianthus*;
- *Leucopogon alternifolius*
- *Thomasia quercifolia*;
- *Adenanthos cunninghamii*;
- *Eucalyptus missilis*;



- *Eucalyptus calcicola* ssp *unita*;
- *Lysinea lasianthum*;
- *Gahnia sclerioides*;
- *Corybas limpidus*; and
- *Corybas abditus*

None of the above species were recorded within the application area (DBCA, 2021b). The timing of the survey was considered adequate to detect all of the above species, with the exception of *Caladenia evanescens* and *Corybas abditus* (DBCA, 2022a). *Caladenia evanescens* is currently known only from a single population near Peaceful Bay where it grows amongst coastal heath at the base of consolidated dunes (Hearn et al, 2006). Only one occurrence of the species has been found in the local area of the application area, near Albany, in 1962, however it has not been recorded in this area since (Western Australian Herbarium, 1998-). Given this and the flora survey undertaken by DBCA (2021b), it is considered unlikely that this species would be present within the application area. As such, it is considered unlikely that any of the above species, with the exception of *Corybas abditus*, would be present within the application area.

*Austrostipa mundula* is known from 15 records along the coastline from the Perth area in the west to Nuytsland Nature Reserve in the east, and is associated with various habitats, including grey sands and coastal heath. Although only known from two records within the local area, the limited information available indicates that the application area may contain suitable habitat for this species. The applicant notes that the species is often found in disturbed/burnt areas, of which none occur in the survey area, and that no *Austrostipa* species were recorded in the flora survey (DBCA, 2022a). Noting this, it is considered unlikely that *Austrostipa mundula* would be present within the application area.

*Microtis globula*, *Diuris drummondii*, *Microtis pulchella*, *Microtis quadrata*, *Gonocarpus pusillus*, *Gonocarpus simplex* and *Corybas abditus* are associated with winter wet or swampy habitat (Western Australian Herbarium, 1998-) and it is considered that the wetland area within the application area may provide suitable habitat for these species. However, the applicant is planning to construct the track along an existing cleared area adjacent to a fenceline within this wetland, except for one small deviation where a paperbark tree is present along the fenceline. As such, the clearing is considered unlikely to impact these species, should they be present within the wetland area. Furthermore, a boardwalk will be constructed in the wetland portion of the application area, which will further reduce impacts to any wetland vegetation present within the track alignment.

The applicant has mapped locations of weeds within the application area, which include *Asparagus asparagoides* (bridal creeper), *Zantedeschia aethiopica* (Arum lily) and *Acacia longifolia* (Sydney golden wattle) (DBCA, 2022a). Given the significant edge effects potentially resulting from a long, linear clearing area, it is considered that the proposed clearing may result in the spread of these weeds beyond the clearing area, which could potentially impact any conservation significant flora that may be present outside of the application area. It is considered that weed management conditions imposed upon the permit are sufficient to prevent the spread of weeds.

#### Conclusion

Based on the above assessment, the proposed clearing is unlikely to directly impact upon any flora species of conservation significance. While the proposed clearing has the potential to result in the spread of weeds, which may impact any conservation significant flora present within the area surrounding the proposed clearing, weed management conditions are considered sufficient to mitigate these impacts.

#### Conditions

Weed management conditions.

### **3.2.3. Wetlands and water quality - Clearing Principles (f) and (i)**

#### Assessment

The application area intersects a seasonally inundated wetland (refer to Figure 4 in Section 3.1 above). However, as noted in Section 3.1, while the final trail alignment is still subject to detailed design, the final trail alignment will minimise impacts to this wetland area by creating a boardwalk over the wetland area, which will largely follow an existing cleared area along the fenceline, except where required to deviate around a large paperbark on the fenceline (DBCA, 2022a) (refer to Figure 4, Section 3.1). As such, impacts to wetland vegetation are likely to be minimal, and long-term impacts to water quality resulting from the clearing are unlikely. There may be impacts to water quality within the wetland whilst the clearing is occurring as a result of clearing related erosion, however these impacts are expected to be temporary and minimal.

Given the minimal extent of the clearing, it is not expected to impact water quality in Lake Powell and the nearby manmade drain.

#### Conclusion

Based on the above assessment, while the proposed clearing may result in minor erosion which may impact water quality in a wetland present within the application area, these impacts are expected to be temporary and minor, and will not significantly impact the wetland in the long-term.

#### Conditions

No management conditions required.

### **3.3. Relevant planning instruments and other matters**

The City of Albany has been involved in the process of planning the proposed cycling trail, and provided the applicant with permission to apply for this clearing permit under the following conditions:

- All necessary environmental and heritage approvals are in place before any works are undertaken;
- Clearing must be minimised and surrounding vegetation must not be disturbed
- All cleared vegetation must not be discarded on top of vegetation to be retained, but placed on nearby unvegetated areas or on nearby unsanctioned tracks;
- Any cleared weeds must be disposed of appropriately if they contain any reproductive material;
- When flagging the final route, avoid clearing any large trees;
- When flagging the route, suitable habitat for the Assassin spider must be avoided;
- The project area is within a dieback free assessed area and therefore low risk dieback surface material must be used, and the construction team must follow suitable dieback protocols whilst working;
- Suitable drainage offshoots must be constructed along the trail to avoid any unnecessary erosion points (City of Albany, 2021).

The City advised they have no further comment on this clearing permit (City of Albany, 2022).

A portion of the proposed clearing area intersects a Priority 1 area within the South Coast Water Reserve Public Drinking Water Resource Area protected under the *Country Areas Water Supply Act 1947*. Noting that the majority of the trail will be located outside of the water reserve, DWER's Water Source Protection Branch advised (DWER, 2022) that this re-alignment can be supported based on consideration of alternative routes and that there will be no unacceptable risks to water quality, which was confirmed by the members of the Recreation Interagency Collaborative Working Group (the Water Corporation and the Departments of Biodiversity, Conversation and Attractions; Health; and Local Government, Sport and Cultural Industries).

A clearing permit (CPS 5766/1), for the purpose of re-aligning the Munda Bididi trail, was granted to the City of Albany in an area encompassing the application area in 2013 with standard conditions. This permit has now expired.

Several Aboriginal Sites of Significance have been mapped within the local 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.

**End**

## Appendix A. Additional information provided by applicant

During the assessment, the applicant provided the following additional information.

Summary of comments	Consideration of comment
Applicant provided summary of flora survey (DWERDT549164)	Considered in Section 3.2.2
Applicant advised clearing is likely to be understorey and midstorey only (DWERDT560615)	Considered in Sections 3.1 and 3.2.1
Applicant provided proposed revised alignment to avoid Main's assassin spider habitat (DWERDT560616)	Considered in Sections 3.1 and 3.2.1
Applicant provided further information regarding flora survey (DWERDT560619 and DWERDT566229)	Considered in Section 3.2.2
Applicant provided fauna survey report (DWERDT560621)	Considered in Section 3.2.1
Applicant provided additional information regarding fauna survey (DWERDT560620)	Considered in Sections 3.1 and 3.2.1
Applicant provided information regarding wetland area and how impacts to this would be minimised (DWERDT563206 and DWERDT563207)	Considered in Sections 3.1, 3.2.2 and 3.2.3

## Appendix B. Site characteristics

### B.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. It is surrounded by native vegetation. Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 41.5 per cent of the original native vegetation cover.
Ecological linkage	A corridor (Coastal Corridor, Priority) identified within the South Coast Macro Corridor Network runs through the application area (Wilkins et al, 2006). This linkage is within Strategic Zone A – which contains areas of woody vegetation where polygons greater than 30 ha in size are spaced no greater than 1 km apart and potentially form the most strategic link between major protected areas.
Conservation areas	Lake Powell Nature Reserve, the closest conservation area to the proposed clearing area, is approximately 45 m to the northwest.
Vegetation description	Information supplied by the applicant (DBCA, 2022a) indicates the vegetation within the proposed clearing area consists of the following vegetation units (as per the Albany Regional Vegetation Survey (Sandiford and Barrett, 2010)): <ul style="list-style-type: none"> <li>• 2 (Peppermint forest) - Thickets with <i>Agonis flexuosa</i> dominant or co-dominant. Occurs on sand in coastal areas.</li> <li>• 3 (Coastal Heath) - Occurs on coastal dunes on acidic sand. Diverse mixed heaths with <i>Cyathochaeta equitans</i> a dominant sedge and interspersed with <i>Agonis flexuosa</i> clumps.</li> <li>• 5 (Limestone Coastal Heath) - Mixed tall shrub layer with <i>Adenanthos sericeus</i>, <i>Spyridium globulosum</i>, <i>Banksia praemorsa</i>, <i>Banksia sessilis</i>, <i>Leucopogon parviflorus</i>, <i>Acacia littorea</i>, <i>Allocasuarina lehmanniana</i> and <i>Scaevola nitida</i> dominant. Occurs on coastal sand dunes and adjacent flats with alkaline soils.</li> <li>• 11 (Jarrah Woodland) – Low open canopy of <i>Eucalyptus marginata</i> +/- <i>Banksia ilicifolia</i> over a relatively open understorey with species typical of well drained</li> </ul>

Characteristic	Details
	<p>sandy soils including <i>Taxandria parviceps</i>, <i>Pultenaea reticulata</i>, <i>Pteridium esculentum</i>, <i>Dasyogon bromeliifolius</i> and <i>Patersonia umbrosa</i>. Occurrence on grey sand on lower-mid slopes in coastal and near coastal areas.</p> <ul style="list-style-type: none"> <li>• 57 (<i>Melaleuca raphiophylla</i> Woodland/Low Forest Complex) - dominance of <i>Melaleuca raphiophylla</i> in overstorey. Occurrence along drainage lines and winter wet flats/swamps. Presence of <i>Melaleuca lateritia</i> (47b).</li> <li>• 59 (<i>Taxandria juniperina</i> Closed Forest) - Dense canopy of <i>Taxandria juniperina</i>. Occurrence along drainage lines, freshwater lakes and around swamps.</li> </ul> <p>This is consistent with the mapped vegetation types:</p> <ul style="list-style-type: none"> <li>• Beard 423, which is described as Shrublands; Acacia scrub-heath (unknown spp.); and</li> <li>• Beard 49, which is described as Shrublands; mixed heath (Shepherd et al, 2001).</li> </ul> <p>The Beard mapped vegetation types retain approximately 79 per cent and 97 per cent of their original extents in the Warren bioregion respectively (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Information supplied by the applicant (DBCA, 2021b) indicates the vegetation within the proposed clearing area is largely in Excellent (Keighery, 1994) condition, described as "Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species".</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix D.</p>
Climate	<p>Rainfall: 900 mm</p> <p>Evapotranspiration: 900 mm</p>
Topography	<p>The northern portion of the proposed clearing area ranges from 5 m AHD in the north to 85 m AHD in the south. The southern portion of the application area ranges from approximately 125 to 155 m AHD.</p>
Soil description	<p>Soils within the application area can be described as:</p> <p>Northernmost portion of northern portion - 242TbOW, described as Plains with swamps, lunettes and dunes. Yellow solonchic soils, organic loams and diatomaceous earth; Wattle-Paperbark thickets, Teatree heath and reeds. Podzols on dunes; Banksia-Sheoak woodland.</p> <p>Southernmost portion of northern portion, and northernmost portion of southern portion - 254NkEN, described as Broad ridges of limestone, often &gt;100 m relief; undulating crests; steep scarps to seaward; much limestone outcrop. Podzols and shallow brown sands; Peppermint-Banksia scrub.</p> <p>Southernmost portion of southern portion - 242MeMRp, described as Podzols over calcareous sand; banksia-bulch-yate woodland (Schoknecht et al., 2004).</p>
Land degradation risk	<ul style="list-style-type: none"> <li>• Flood risk: <ul style="list-style-type: none"> <li>○ 242TbOW - 10-30% of the map unit has a moderate to high flood risk</li> <li>○ 254NkEN and 242MeMRp - &lt;3% of the map unit has a moderate to high flood risk</li> </ul> </li> <li>• Waterlogging risk: <ul style="list-style-type: none"> <li>○ 242TbOW - &gt;70% of map unit has a moderate to very high waterlogging risk</li> <li>○ 254NkEN and 242MeMRp - &lt;3% of map unit has a moderate to very high waterlogging risk</li> </ul> </li> <li>• Salinity risk: <ul style="list-style-type: none"> <li>○ 242TbOW - 3-10% of map unit has a moderate to high salinity risk or is presently saline</li> <li>○ 254NkEN and 242MeMRp - &lt;3% of map unit has a moderate to high salinity risk or is presently saline</li> </ul> </li> <li>• Phosphorus export risk:</li> </ul>

Characteristic	Details
	<ul style="list-style-type: none"> <li>○ 30-50% of map unit has a high to extreme phosphorus export risk</li> <li>• Subsurface acidification risk: <ul style="list-style-type: none"> <li>○ 242TbOW - &gt;70% of map unit has a high subsurface acidification risk or is presently acid</li> <li>○ 254NkEN - 30-50% of map unit has a high subsurface acidification risk or is presently acid</li> <li>○ 242MeMRp - 50-70% of map unit has a high subsurface acidification risk or is presently acid</li> </ul> </li> <li>• Water erosion risk: <ul style="list-style-type: none"> <li>○ 242TbOW - 3-10% of map unit has a high to extreme water erosion risk</li> <li>○ 254NkEN and 242MeMRp - 30-50% of map unit has a high to extreme water erosion risk</li> </ul> </li> <li>• Wind erosion risk <ul style="list-style-type: none"> <li>○ 242TbOW - 10-30% of map unit has a high to extreme wind erosion risk</li> <li>○ 254NkEN and 242MeMRp - &gt;70% of map unit has a high to extreme wind erosion risk</li> </ul> </li> </ul>
Surface water	<p>Lake Powell, the closest wetland to the proposed clearing area, is mapped approximately 190 m to the northwest. An unnamed inundation area is also located approximately 250 m northeast of the proposed clearing area.</p> <p>A manmade drain is located approximately 13 m northwest of the application area.</p> <p>A portion of the proposed clearing area intersects a Priority 1 area within the South Coast Water Reserve Public Drinking Water Resource Area protected under the <i>Country Areas Water Supply Act 1947</i>.</p>
Groundwater	<p>The proposed clearing area is within the Albany Groundwater Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i>.</p> <p>Groundwater Salinity: 500-1000 mg/L TDS</p> <p>Hydrogeology: Rocks of Low Permeability, Fractured and Weathered Rocks - Local Aquifers (gneiss, migmatite lithology)</p>
Flora	<p>There are records of 13 threatened and 63 priority flora species within the local area, the closest of which to the application area is Priority 4 species <i>Thomasia quercifolia</i> located approximately 470 m from the proposed clearing area.</p>
Ecological communities	<p>There are records of 7 priority ecological communities within the local area, the closest of which to the application area is the Priority 1 <i>Banksia coccinea</i> Shrubland/<i>Eucalyptus staeri</i>/Sheoak Open Woodland (Community 14a - Sandiford &amp; Barrett 2010) (all/or portion in EPBC listed Kwongkan community) located approximately 2 km from the proposed clearing area.</p>
Fauna	<p>There are records of 53 threatened, 14 priority, 25 migratory, one conservation dependent and three other specially protected fauna species within the local area, the closest of which to the application area is migratory species <i>Tringa nebularia</i> (Common greenshank) located approximately 110 m from the proposed clearing area.</p>

## B.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*					
Warren	833,985.56	659,432.21	79.07	558,485.38	66.97

	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
Vegetation complex					
Beard vegetation association 423* in Warren biogeion	15,176.26	11,983.36	78.96	4,481.50	29.53
Beard vegetation association 49* in Warren biogeion	9,696.96	9,443.73	97.39	6,165.64	63.58
Local area (calculation)					
20km radius	83135.17	34517.38	41.52	-	-

\*Government of Western Australia (2019a)

### B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E), and biological survey information, impacts to the following conservation significant flora required further consideration.

Row Labels	Conservation status	Closest record (km)	# florabase records	# records in local area	Recorded in same mapped soil type?	Recorded in same mapped veg type?	Suitable habitat features?	Are surveys adequate to identify?
<i>Acacia prismifolia</i>	T (extinct)	11.4	8	1	N	N	N	N
<i>Adenanthos x cunninghamii</i>	4	1.1	62	31	Y	Beard and ARVS	Y	Y
<i>Amanita drummondii</i>	3	17.1	11	2	N	N	N	N
<i>Amanita fibrillopes</i>	3	14.4	28	1	N	Beard	N	N
<i>Amanita preissii</i>	3	17.7	30	1	N	N	N	N
<i>Andersonia auriculata</i>	3	15.0	108	2	N	Beard	N	N
<i>Andersonia setifolia</i>	3	16.3	21	1	Y	Beard and ARVS	N	N
<i>Andersonia</i> sp. Jamesii (J. Liddelow 84)	4	9.8	20	7	N	N	N	N
<i>Astartea transversa</i>	2	15.9	4	1	N	N	N	N
<i>Austrostipa mundula</i>	3	11.7	15	2	Y	Beard and ARVS	Y	Y
<i>Banksia brownii</i>	T	9.4	57	33	Y	Beard and ARVS	N	N
<i>Banksia goodii</i>	T	16.6	25	33	N	N	N	N
<i>Banksia seneciifolia</i>	4	4.9	22	3	N	N	N	N
<i>Banksia serra</i>	4	12.4	99	18	Y	N	N	N
<i>Banksia verticillata</i>	T	9.2	60	27	Y	Beard and ARVS	Y	Y
<i>Boronia crassipes</i>	3	7.0	25	12	Y	Beard and ARVS	Y	Y
<i>Boronia virgata</i>	4	12.7	54	1	N	N	N	N

Row Labels	Conservation status	Closest record (km)	# florabase records	# records in local area	Recorded in same mapped soil type?	Recorded in same mapped veg type?	Suitable habitat features?	Are surveys adequate to identify?
<i>Bossiaea</i> sp. Mt Frankland (L. Graham 2174)	2	12.4	5	1	N	N	N	N
<i>Caladenia evanescens</i>	1	12.4	3	1	N	N	Y	N
<i>Caladenia harringtoniae</i>	T	12.6	40	3	N	Beard and ARVS	Y	Y
<i>Calectasia cyanea</i>	T	3.8	17	19	Y	Beard and ARVS	Y	Y
<i>Caustis</i> sp. Boyanup (G.S. McCutcheon 1706)	3	19.2	23	1	N	N	N	N
<i>Chordifex abortivus</i>	T	18.8	15	3	N	N	N	N
<i>Chorizema carinatum</i>	3	12.4	30	2	N	N	N	N
<i>Conospermum quadripetalum</i>	2	11.4	10	11	Y	Beard	N	N
<i>Conostylis misera</i>	0	12.4	32	1	N	N	N	
<i>Corybas abditus</i>	3	17.4	5	1	N	N	Y	N
<i>Corybas limpidus</i>	4	11.4	17	1	N	N	Y	Y
<i>Degelia flabellata</i>	2	11.1	14	6	N	N	N	N
<i>Diuris drummondii</i>	T	17.4	53	1	N	N	Y	N
<i>Drakaea micrantha</i>	T	17.2	49	3	N	N	N	N
<i>Drosera fimbriata</i>	4	11.4	20	6	N	N	N	N
<i>Drosera paleacea</i>	1	11.3	16	13	Y	Beard and ARVS	Y	Y
<i>Eucalyptus calcicola</i> subsp. <i>unita</i>	4	12.3	53	21	N	Beard	Y	Y
<i>Eucalyptus x missilis</i>	4	12.3	42	18	N	Beard	Y	Y
<i>Gahnia sclerioides</i>	4	10.5	29	11	N	Beard	Y	Y
<i>Gonocarpus pusillus</i>	4	12.4	31	4	N	ARVS	Y (wetland)	N
<i>Gonocarpus simplex</i>	4	7.6	26	3	N	N	Y (wetland)	N
<i>Gyrostemon thesioides</i>	2	13.7	11	4	Y	Beard and ARVS	Y	Y
<i>Hibbertia sandfordiae</i>	1	16.3	3	1		N	N	N
<i>Hydrocotyle serendipita</i>	2	19.9	3	1	Y	Beard	N	N
<i>Isopogon buxifolius</i> var. <i>buxifolius</i>	2	9.6	12	3	N	N	Y	Y
<i>Isopogon uncinatus</i>	T	3.9	17	23	Y	Beard and ARVS	Y	Y
<i>Juncus meianthus</i>	3	4.3	24	8	N	Beard and ARVS	Y	Y
<i>Kunzea pauciflora</i>	4	10.9	32	2	N	N	N	N
<i>Lachnagrostis billardierei</i> subsp. <i>billardierei</i>	3	18.2	2	1	N	N	N	N
<i>Lepidium pseudotasmanicum</i>	4	12.3	15	2	N	N	N	N
<i>Leucopogon alternifolius</i>	3	5.2	16	2	N	N	Y	Y
<i>Leucopogon altissimus</i>	3	17.3	18	1	N	N	N	N
<i>Leucopogon bracteolaris</i>	2	12.4	41	2	N	ARVS	Y	N
<i>Lysinema lasianthum</i>	4	3.1	30	12	N	ARVS	Y (wetland)	Y
<i>Microtis globula</i>	T	16.8	3	1	N	N	Y (wetland)	N

Row Labels	Conservation status	Closest record (km)	# florabase records	# records in local area	Recorded in same mapped soil type?	Recorded in same mapped veg type?	Suitable habitat features?	Are surveys adequate to identify?
<i>Microtis pulchella</i>	4	9.2	19	5	N	N	Y (wetland)	N
<i>Microtis quadrata</i>	4	12.4	18	1	N	N	Y (wetland)	N
<i>Pimelea rosea</i> subsp. <i>annelsii</i>	3	12.0	18	1	N	N	N	N
<i>Poa billardierei</i>	3	15.4	15	4	Y	Beard and ARVS	N	N
<i>Prasophyllum paulinae</i>	1	7.3	4	2	Y	N	Y	Y
<i>Pterostylis heberlei</i>	2	3.1	4	2	Y	Beard and ARVS	Y	Y
<i>Schizaea rupestris</i>	2	12.3	13	2	N	N	N	
<i>Schoenus</i> sp. Grey Rhizome (K.L. Wilson 2922)	1	9.1	10	1	N	N	N	
<i>Spyridium spadiceum</i>	4	13.2	17	4	N	N	N	N
<i>Stenanthemum sublineare</i>	2	17.5	20	1	N	N	N	N
<i>Stylidium articulatum</i>	2	15.4	18	2	N	N	N	N
<i>Stylidium falcatum</i>	2	10.9	13	10	N	ARVS	N	N
<i>Stylidium gloeophyllum</i>	4	10.4	20	1	N	N	N	N
<i>Stylidium lepidum</i>	3	12.9	43	1	N	N	N	N
<i>Styphelia cymbiformis</i>	2	11.4	12	1	N	N	N	N
<i>Synaphea incurva</i>	3	5.1	19	18	N	N	N	N
<i>Synaphea intricata</i>	3	16.3	52	1	N	N	N	N
<i>Synaphea preissii</i>	3	9.7	22	6	N	Beard	Y	N
<i>Thelymitra</i> sp. South coast (G. Byrne 5133)	2	18.6	7	1	N	N	N	
<i>Thomasia purpurea</i> x <i>solanacea</i>	1	15.7	5	6	N	ARVS	N	N
<i>Thomasia quercifolia</i>	4	0.5	27	19	Y	Beard and ARVS	Y	Y
<i>Thomasia solanacea</i>	4	10.1	40	18	Y	Beard and ARVS	N	N
<i>Thysanotus isantherus</i>	4	10.9	15	7	N	N	N	N
<i>Usnea pulvinata</i>	1	12.7	7	3	N	N	N	N
<i>Verticordia fimbrialepis</i> subsp. <i>australis</i>	T	13.0	16	1	N	N	N	N

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

Beard: species found within same Beard vegetation association, ARVS: species found within same *Albany Regional Vegetation Survey* (Sandford and Barrett, 2010) vegetation association

#### B.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E), and biological survey information, impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features?	Most recent record in local area	Distance of closest record to application area (km)	Number of known records in local area	Are surveys adequate to identify?
<i>Atrichornis clamosus</i> (noisy scrub-bird, tjimiluk)	EN	N	2008	10.26	5	N



Species name	Conservation status	Suitable habitat features?	Most recent record in local area	Distance of closest record to application area (km)	Number of known records in local area	Are surveys adequate to identify?
<i>Bettongia penicillata ogilbyi</i> (Woylie, brush-tailed bettong)	CR	N (not in range)	1933	3.09	5	N
<i>Botaurus poiciloptilus</i> (Australasian bittern)	EN	N	2004	0.65	10	N
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	VU	Y	2020	1.65	24	N
<i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)	EN	Y	2018	0.14	277*	N
<i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo)	EN	Y	2018	0.27	490*	N
<i>Cynotelopus notabilis</i> (Western Australian Pill Millipede)	EN	Y	2006	10.86	83	N
<i>Dasyornis longirostris</i> (Western bristlebird)	EN	N (not in range)	1945	11.36	2	N
<i>Dasyurus geoffroyi</i> (Chuditch, western quoll)	VU	Y	2016	7.79	5	N
<i>Elapognathus minor</i> (Short-nosed snake)	P2	Y	1961	12.25	9	N
<i>Falco peregrinus</i> (Peregrine falcon)	OS	Y	2015	1.65	35	N
<i>Falsistrellus mackenziei</i> (western false pipistrelle, western falsistrelle)	P4	N	1999	19.62	1	N
<i>Hydromys chrysogaster</i> (Water-rat, rakali)	P4	N	2017	1.07	28	N
<i>Hylaeus globuliferus</i> (woolybush bee)	P3	Y	1929	12.54	1	N
<i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot)	P4	Y	2019	0.84	216	N
<i>Leipoa ocellata</i> (malleefowl)	VU	N	2000	13.14	2	N
<i>Macrotis lagotis</i> (bilby, dalgyte, ninu)	VU	N (not in current range)	1969	11.77	1	N
<i>Myrmecobius fasciatus</i> (Numbat, walpurti)	EN	N (not in current range)	-	19.08	1	N
<i>Notamacropus irma</i> (Western brush wallaby)	P4	Y	1999	2.54	5	N
<i>Oxyura australis</i> (Blue-billed duck)	P4	N	2018	0.64	189	N
<i>Parantechinus apicalis</i> (Dibbler)	EN	Y	1988	15.57	5	N
<i>Pezoporus flaviventris</i> (Western ground parrot)	CR	Y	1983	9.98	9	N
<i>Phascogale tapoatafa wambenger</i> (South-western brush-tailed phascogale, wambenger)	CD	N	2017	11.36	7	N
<i>Potorous gilbertii</i> (Gilbert's potoroo)	CR	N	-	19.94	1	N
<i>Pseudocheirus occidentalis</i> (western ringtail possum, ngwayir)	CR	Y	2020	1.05	690	N
<i>Psophodes nigrogularis nigrogularis</i> (western whipbird (western heath))	EN	Y	-	15.35	1**	N
<i>Setonix brachyurus</i> (quokka)	VU	N (not in current range)	1905	8.46	10	N
<i>Trioza barrettiae</i> (Banksia brownii plant-louse)	EN	N	2011	15.93	1	N
<i>Tyto novaehollandiae novaehollandiae</i> (masked owl (southwest))	P3	N	2001	11.37	3	N

Species name	Conservation status	Suitable habitat features?	Most recent record in local area	Distance of closest record to application area (km)	Number of known records in local area	Are surveys adequate to identify?
<i>Zephyrarchaea mainae</i> (Main's assassin spider)	VU	Y	2011	1.11	48	N

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

\* A further 247 records of *Calyptorhynchus* sp. 'white-tailed black cockatoo' (White-tailed black cockatoo) were present within the local area, which may comprise either of these species

\*\* A further 4 records of "*Psophodes nigrogularis* (western whipbird)" are present within the local area, which may be either *Psophodes nigrogularis nigrogularis* or *Psophodes nigrogularis oberon*

## B.5. Ecological community analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E), and biological survey information, impacts to the following conservation significant ecological communities required further consideration.

Community name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area	Are surveys adequate to identify? [Y, N, N/A]
<i>Astartea scoparia</i> Swamp Thicket	P1	N	N	N	6.5	35	Y
<i>Banksia coccinea</i> Shrubland/ <i>Eucalyptus staeri</i> /Sheoak Open Woodland (Community 14a - Sandiford & Barrett 2010)(all/or portion in EPBC listed Kwongkan community)	P1	Y	N	Y	2.0	68	Y
<i>Banksia littoralis</i> woodland / <i>Melaleuca incana</i> Shrubland	P1	Y	N	Y	9.2	10	Y
<i>Banksia occidentalis</i> / <i>Kunzea clavata</i> shrubland	P1	N	N	N	5.3	7	Y
Coastal <i>Melaleuca incana</i> / <i>Taxandria juniperina</i> Shrubland/Closed Forest	P1	N	N	N	9.5	6	Y
<i>Melaleuca spathulata</i> / <i>Melaleuca viminea</i> Swamp Heath	P1	N	N	N	10.1	3	Y
Subtropical and Temperate Coastal Saltmarsh	P3	N	N	N	3.6	27	Y

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

## Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared consists of six vegetation complexes as mapped in the Albany Regional Vegetation Survey in largely Excellent condition, however these vegetation units not considered to have a restricted range (Sandiford and Barrett, 2010). Vegetation is unlikely to contain significant flora or assemblages of plants. The application area may contain habitat for conservation significant fauna.</p>	May be at variance	Yes <i>Refer to Sections 3.2.1 and 3.2.2 above.</i>
<p><u>Principle (b):</u> <i>“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.”</i></p> <p><u>Assessment:</u> The proposed clearing may impact habitat for conservation significant fauna, including Main’s assassin spider, black cockatoo species, short-nosed snake, chuditch, quenda, western brush wallaby and Peregrine falcon.</p>	May be at variance	Yes <i>Refer to Section 3.2.1 above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared is unlikely to contain flora species listed under the BC Act or habitat necessary for the continued existence of such species.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared is not likely to contain species indicative of a threatened ecological community.</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u> The extents of the mapped Beard vegetation types and native vegetation in the local area are consistent with the national objectives and targets for biodiversity conservation in Australia. Although a South Coast Linkage runs through the application area, given the narrow width of the proposed clearing area and the surrounding vegetation, the proposed clearing is unlikely to impact upon this linkage.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment:</u> Given the extent of the proposed clearing and that a road is present between it and the nearest conservation area (Lake Powell Nature Reserve), the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (f)</u>: <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment</u>: A portion of the application area intersects a low-lying area containing riparian vegetation.</p>	At variance	Yes <i>Refer to Section 3.2.3, above.</i>
<p><u>Principle (g)</u>: <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment</u>: Portions of the application area contain mapped soil types that are highly susceptible to wind erosion, waterlogging, and subsurface acidification. However, noting the shape of the application area (long and narrow (2 metres wide)), and that no large trees are proposed to be cleared, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	No
<p><u>Principle (i)</u>: <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.”</i></p> <p><u>Assessment</u>: Given the extent of the proposed clearing, the proposed clearing is unlikely have long-term impacts upon surface water or groundwater quality.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<p><u>Principle (j)</u>: <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment</u>: The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. Given the extent of the proposed clearing, it is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	No

## Appendix D. 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 Keighery (1994) scale below was used to measure the condition of the vegetation proposed to be cleared.

### Measuring vegetation condition for the South West 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.
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.

Condition	Description
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 E. Sources of information

### E.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- 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)
- 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
- South Coast Significant Wetlands (DBCA-018)

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)

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