



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 9922/1
<b>Permit Holder:</b>	Mineral Resources Limited
<b>Duration of Permit:</b>	From 01 June 2023 to 01 June 2028

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 constructing workforce accommodation.

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

Lot 300 on Deposited Plan 422325, Onslow

**3. Clearing authorised**

The permit holder must not clear more than 12.42 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

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

The permit holder must not clear any *native vegetation* unless construction commences within three (3) months of the authorised clearing being undertaken.

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

**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 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*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *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.

## 7. Directional clearing

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

## **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	<ol 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 Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings;</li><li>(c) the date that the area was cleared;</li><li>(d) direction of clearing;</li><li>(e) the date construction activities commenced;</li><li>(f) the size of the area cleared (in hectares);</li><li>(g) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; and</li><li>(h) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 6.</li></ol>

## 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

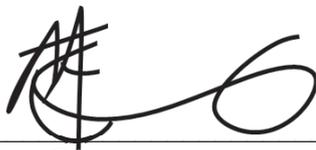
In this permit, the terms in Table have the meanings defined.

**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.
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)
fill	means material used to increase the ground level, or to fill a depression.
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.
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



**Mathew Gannaway**  
**MANAGER**  
NATIVE VEGETATION REGULATION

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

2 May 2023

# Schedule 1

## Plan 9922/1

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**



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9922/1
<b>Permit type:</b>	Purpose permit
<b>Applicant name:</b>	Mineral Resources Limited
<b>Application received:</b>	18 October 2022
<b>Application area:</b>	12.42 hectares
<b>Purpose of clearing:</b>	Constructing workforce accommodation
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Lot 300 on Deposited Plan 422325, Onslow
<b>Location (LGA area/s):</b>	Shire of Ashburton
<b>Localities (suburb/s):</b>	Onslow

### 1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area within a 15.85 ha footprint (see Figure 1, Section 1.5).

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	2 May 2023
<b>Decision area:</b>	12.42 hectares of native vegetation, as depicted in Section 1.5, below.

### 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 no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E.1), the findings of a flora and fauna survey (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- potential land degradation in the form of wind erosion; and
- impacts to conservation significant fauna if present during clearing activities.

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 can be minimised and managed and is unlikely lead to an unacceptable risk to land degradation, adjacent vegetation and conservation significant fauna species.

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;
- staged clearing to minimise wind erosion; and
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity

## 1.5. Site map



**Figure 1. Map of the application area**

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)
- *Planning and Development Act 2005* (WA) (P&D 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 has advised that most of the structures within the transient workforce accommodation will be built on elevated platforms (accommodation pods) to reduce the size of land to be cleared. In addition, the establishment of open space will maintain the presence of native vegetation within the site (Mineral Resources Limited, 2022).

To minimise vegetation clearing, careful control of the clearing of vegetation within the site will occur during the construction phase. Control of access between the uncleared area and the transient workforce accommodation both during and after the construction phase will minimise unnecessary clearing of vegetation (Mineral Resources Limited, 2022).

The Joint Development Assessment Panel (JDAP) Determination (dated 23 December 2021) for the proposed transient workforce accommodation at the site, identified that a construction environmental management plan (CEMP) will be required as a condition of approval for the project.

To minimise the risks of impact from the activities associated with the application, the applicant has advised that the following environmental management measures will be implemented:

- Induction of all contractors and/or internal personnel undertaking the clearing in accordance with MINRES procedures;
- GPS coordinates of clearing permit area to be supplied to contractor undertaking the clearing activities;
- Clearing area will be demarcated prior to the commencement of project activities and prior to the commencement of native vegetation clearing;
- Prior to clearing and earthworks commencing within the clearing permit area, the area will be clearly outlined (by barrier tape or star pickets) to ensure that no over clearing occurs beyond the permitted area;
- Utilize existing cleared access tracks for the proposed access road, rather than creating new tracks to limit unnecessary clearing of native vegetation, where practicable;
- Weed hygiene measures will be in place to minimise the risk of spread or introduction of new weed species to the site;
- Vegetation clearing will be scheduled to occur immediately before planned earthworks and construction to minimize the potential for dust emissions, where practicable;
- Vegetation clearing will be in accordance with an approved CEMP as required by the JDAP Decision for the proposed development (360 Environmental, 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.

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) 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 B) identified that the impacts of the proposed clearing present a risk to biological values (fauna, adjacent flora and vegetation) and cause land degradation. 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 (flora and ecological communities) - Clearing Principles (a, c and d)

##### Assessment

##### **Flora**

According to available databases, no threatened and six Priority 3 flora species have been recorded within the local area. Three of these were identified as having the potential to occur within the application area.

A detailed flora and vegetation survey was conducted within the application area on 19<sup>th</sup> and 21<sup>st</sup> of July 2021. Across the survey area, 30 native taxa were recorded from 15 families. No threatened flora species pursuant to the EPBC Act and/or the BC Act, or DBCA listed Priority flora species were recorded within the survey area (360 Environmental, 2021).

Four introduced flora species were recorded during the survey; including \**Tamarix aphylla*, listed as both a Declared Pest and Weed of National Significance by the Commonwealth Department Agriculture, Water, and the Environment (360 Environmental, 2021).

##### **Vegetation**

One vegetation type was mapped within the Survey Area, comprising mid to low Acacia trees, low shrubs and grass lands. The vegetation was identified as vegetation type 'VT1' which is described as *Acacia coriacea* subsp. *coriacea* and *Acacia tetragonophylla* (with *Crotalaria cunninghamii* subsp. *sturtii*) mid to low sparse shrubland over \**Cenchrus ciliaris* and *Eulalia aurea* low tussock grassland with *Triodia epactia* low sparse hummock grassland over *Euphorbia myrtoides* low sparse herb land (360 Environmental, 2021). The vegetation type identified by the survey is predominantly uncleared and widespread within the bioregion (360 Environmental, 2021).

All vegetation present within the application area was determined to be in a very good (Keighery, 1994) condition (360 Environmental, 2021).

No Threatened or Priority Ecological Communities (TEC/PEC) were recorded during the flora survey. The vegetation present within the application was not representative of any know threatened or priority ecological communities (360 Environmental, 2021).

##### Conclusion

Noting the above, and the highly vegetated local area, the application area is not likely to comprise threatened or priority flora, TECs, PECs or a high biodiversity. The proposed clearing activities may result in the introduction or spread of weeds into adjacent vegetation, which could impact habitat quality and connectivity.

##### Conditions

To address the above impacts, the following management measure will be required as a condition on the clearing permit:

- Implement weed management measures to mitigate impacts to adjacent vegetation.

#### 3.2.2. Biological values (fauna) - Clearing Principle (b)

##### Assessment

According to available databases, 17 fauna species of conservation significance have been recorded within the local area. A fauna survey undertaken by 360 Environmental (2022b) identified 59 conservation significant terrestrial vertebrate fauna species potentially occurring within the survey area, comprising 47 bird species, four mammal species and eight reptile species (includes five turtle species known to breed in the Pilbara region) (360 Environmental, 2021).

The terrestrial vertebrate fauna survey recorded a total of 18 fauna species from 13 families. No fauna species of conservation significance (Threatened or Priority), or evidence of these species such as tracks, scats, nest, diggings, burrows, or direct sightings were recorded within/or directly surrounding the survey area (360 Environmental, 2021).

One broad fauna habitat was identified and mapped within the Survey Area (Figure 7). The coastal dune Fauna Habitat was continuous throughout the Survey Area and is analogous with the Coastal Dune (VT1) vegetation type (360 Environmental, 2021 and 2022b).

An additional detailed vertebrate fauna and shorebird survey was undertaken within the application area in April 2022. The desktop assessment identified 58 significant terrestrial vertebrate fauna species as potentially occurring within the survey area, comprising 46 birds, four mammals, and eight reptiles. A single-phase detailed vertebrate fauna and shorebird survey recorded fauna assemblage using a variety of detection methods including trap sites, opportunistic observations, and active searches. A total of 62 fauna species from 37 families were recorded, comprising 37 bird species from 21 families, nine mammal species from eight families, 15 reptile species from seven families, and one amphibian from one family (360 Environmental, 2022b).

Four significant species were recorded adjacent to the survey area during the fauna survey; the caspian tern (*Hydroprogne caspia*; DBCA: IA; EPBC: MI, MA), the common sandpiper (*Actitis hypoleucos*; DBCA: IA; EPBC: MI, MA), the eastern osprey (*Pandion haliaetus cristatus*; DBCA: IA; EPBC: MI, MA), and the greater crested tern (*Thalasseus bergii*; DBCA: IA; EPBC: MI, MA) (360 Environmental, 2022b).

The post survey results identified seven significant taxa as having a medium likelihood of occurrence within the survey area:

- barn swallow (*Hirundo rustica*) – IA (DBCA); MI, MA (EPBC)
- common tern (*Sterna hirundo*) – IA (DBCA); MI, MA (EPBC)
- greater sand plover (*Charadrius leschenaultii*) – VU, IA (DBCA); VU, MI, MA (EPBC)
- grey-tailed tattler (*Tringa brevipes*) – IA, P4 (DBCA); MI, MA (EPBC)
- red-necked stint (*Calidris ruficollis*) – IA (DBCA); MI, MA (EPBC)
- ruddy turnstone (*Arenaria interpres*) – IA (DBCA); MI, MA (EPBC)
- sanderling (*Calidris alba*) – IA (DBCA); MI, MA (EPBC).

The shorebirds noted above may occur within the survey area, however they are unlikely to rely on it for foraging or roosting activities, as more suitable habitat is found to the north, northwest and west of the survey area along the beach and tidal flats (360 Environmental, 2022b). These species are highly mobile and would not be reliant on the habitats within the application area (360 Environmental, 2021). The clearing proposed is not likely to have an impact on significant habitat for these species.

One conservation significant fauna species, Maryan's keeled slider (Ashburton) (*Lerista planiventralis maryani*) (P1), utilises dune habitat in the bioregion and records indicate that it historically occurred within 1 km of the survey area. The detailed fauna survey did not identify its presence within the survey area. The local area is highly vegetated and suitable habitat for this species is located adjacent to the application area. The clearing proposed is not likely to impact upon significant habitat for this species. The proposed clearing has the potential to directly impact upon individuals of this species if present during clearing activities. Fauna management practices will help mitigate this risk.

### Conclusion

Based on the above assessment, the proposed clearing is not likely to impact upon significant habitat for fauna, however the clearing may result in indirect impacts to fauna present within the application area during the clearing process. The proposed clearing activities may result in the introduction or spread of weeds into adjacent vegetation, which could impact habitat quality and connectivity.

### Conditions

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

- Slow, directional clearing towards adjacent native vegetation to allow fauna to escape ahead of the clearing activity; and
- Implement weed management measures to mitigate impacts to adjacent vegetation.

### **3.2.3. Land degradation - Clearing Principles (g)**

#### Assessment

Soils mapped within the proposed clearing footprint are highly susceptible to wind erosion and water logging. The proposed clearing may cause land degradation in the form of wind erosion if soils are left exposed for extended periods post clearing.

## Conclusion

Based on the above assessment, the Delegated Officer has determined that the proposed clearing may lead to appreciable land degradation, however, impacts can be managed with staged clearing.

## Conditions

To address the above impacts, the following management measure will be required as a condition on the clearing permit:

- Wind erosion management, requiring works to commence within three months of undertaking clearing.

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

On 23rd December 2021, the JDAP approved the development application (DAP/21/02079) for the proposed transient workforce accommodation at the site. The JDAP determination identified those conditions of approval applicable to the development (360 Environmental, December 2022a).

Since the development approval, the proponent has slightly modified the development footprint and has re-issued a development approval package to the JDAP to re-consider specific conditions applicable to the approved development. The amended development approval package (DAP/21/02078) was supported by the Council at the Ordinary Council meeting (dated 9 August 2022) and has subsequently been approved by JDAP (dated 24 August 2022) (360 Environmental, December 2022a).

The applicant was required to revise the proposed development approval as concerns were raised regarding access route from Third Avenue into the proposed development. A revised development proposal was submitted to the Shire of Ashburton for the revised access route and development intended for the site (360 Environmental, December 2022a).

On 3 March 2023, the Shire of Ashburton Council, in accordance with Regulation 17A of the *Planning and Development (Development Assessment Panel) Regulations 2011* and Schedule 2, clauses 77(1)(b) and (c) of the *Planning and Development (Local Planning Schemes) Regulations 2015* approved the amendment application granted by the Regional JDAP on 24 August 2022 for Transient Workforce Accommodation, as shown on plans dated 1 December 2022. This amendment included a change of footprint that includes all native vegetation proposed to be cleared within the application area (Shire of Ashburton, 2023).

The application area is location within the proclaimed Pilbara groundwater and surface water areas and are subject to licensing requirements under the *Rights in Water and Irrigation Act 1914* (RiWI Act). If the proponent intends to use groundwater or surface water for any purpose, they will need to apply for a 5C licence to take water, and a 26D licence if water supply bores are needed. Disturbance to the bed or banks of a water course may require a permit under the RiWI Act. DWER's North West Region considers the permit proposal unlikely to impact on the quantity or water quality of water resources (DWER, 2023).

One Aboriginal site of significance 'Ceremonial, Water Source' has 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. The applicant has advised that the application area excludes the Cultural Heritage area to the south of the development (360 Environmental, 2022a).

**End**

## Appendix A. 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 DWER 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.

### A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of remnant of native vegetation in the extensive land use zone of Western Australia. It is located adjacent to the coast line and a residential area.</p> <p>Aerial imagery indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 95 per cent of the original native vegetation cover.</p>
Ecological linkage	No ecological linkages will be impacted by the proposed clearing.
Conservation areas	The nearest conservation area is Cane River Conservation Park, located approximately 60 km south-east of the application area.
Vegetation description	<p>A flora and vegetation survey that was undertaken within the application area identified one vegetation type within the proposed clearing ,VT1 which is described as <i>Acacia coriacea</i> subsp. <i>coriacea</i> and <i>Acacia tetragonophylla</i> (with <i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>) mid to low sparse shrubland over <i>Cenchrus ciliaris</i> and <i>Eulalia aurea</i> low tussock grassland with <i>Triodia epactia</i> low sparse hummock grassland over <i>Euphorbia myrtoides</i> low sparse herb land (360 Environmental, 2021).</p> <p>The full survey descriptions and maps are available in Appendix D.</p> <p>This is consistent with the mapped vegetation type 117, which is described as Hummock grassland <i>Triodia</i> spp. (Shepherd et al, 2001)</p> <p>The mapped vegetation type retains approximately 88 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>A flora and vegetation survey that was undertaken within the application area indicates the vegetation within the proposed clearing area is in a very good (Trudgen, 1991) condition (360 Environmental, 2021).</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix C.</p> <p>The full survey descriptions and mapping are available in Appendix D.</p>
Climate and landform	The nearest Bureau of Meteorology (BoM) weather station to the site is Onslow Airport (Station No:005017) located approximately 3.6 km away. The data statistics have been collected since 1940 to date. The long-term mean minimum temperature for Onslow Airport Station is 19.2° and the mean maximum is 32.1°. Onslow area receives rainfall 29.3 days annually with an average annual mean rain of 304.2 mm.
Soil description	The soil is mapped as Dune System 201Du, described as dune fields supporting soft spinifex and minor hard spinifex grasslands.
Land degradation risk	Soils associated with sandplains and coastal dunes are susceptible to wind and water erosion.
Waterbodies	The desktop assessment and aerial imagery indicated that a non perennial lake is located approximately 140 metres south of the application area.

Characteristic	Details
Hydrogeography	The application area located within the Pilbara Surface Water Area and Pilbara Groundwater Area proclaimed under the RIWI Act.  Groundwater Salinity is mapped between 7000 – 14000 milligrams per total dissolved solids.
Flora	No threatened or priority flora have been mapped or were identified during a flora survey undertaken within the application area (360 Environmental 2021).
Ecological communities	No threatened ecological communities have been recorded within 20 km of the application area.  No threatened or priority ecological communities were identified during a flora survey undertaken within the application area (360 Environmental 2021).
Fauna	Four significant species were recorded adjacent to the survey area during the fauna survey; the caspian tern, the common sandpiper, the eastern osprey, and the greater crested tern (360 Environmental, 2022b).

## A.2. Flora analysis table

Species 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 (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Abutilon</i> sp. Pritzelianum (S. van Leeuwen 5095)	3	N	N	Y	5.5	1	Y
<i>Corynotheca flexuosissima</i>	3	Y	Y	Y	0.7	1	Y
<i>Eleocharis papillosa</i>	3	N	N	N	17.3	2	Y
<i>Eremophila forrestii</i> subsp. <i>viridis</i>	3	N	N	Y	16.3	2	Y
<i>Stackhousia clementii</i>	3	N	N	Y	5.1	1	Y
<i>Triumfetta echinata</i>	3	Y	Y	Y	15.4	3	Y

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

## A.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Hirundo rustica</i> (Barn Swallow)	MI	Y	0.2	10	Y
<i>Sterna hirundo</i> (Common Tern)	MI	Y	0.2	33	Y
Greater Sand Plover ( <i>Charadrius leschenaultii</i> )	VU	Y	0.2	72	Y
<i>Tringa brevipes</i> (Grey-tailed Tattler)	P4	Y	0.05	49	Y
<i>Calidris ruficollis</i> (Red-necked Stint)	MI	Y	0.2	51	Y
<i>Arenaria interpres</i> (Ruddy Turnstone)	MI	Y	0.05	38	Y
<i>Calidris alba</i> (Sanderling)	MI	Y	0.05	45	Y

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

## Appendix B. 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></p> <p>No threatened or priority flora or threatened or priority ecological communities have been recorded within the application area.</p> <p>The application area may provide habitat for conservation significant fauna.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, 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></p> <p>The proposed clearing area contains suitable habitat for conservation significant fauna.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, 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></p> <p>The proposed clearing area is unlikely to contain habitat for threatened flora species.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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></p> <p>The proposed clearing area does not contain vegetation representative of any known threatened ecological community.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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></p> <p>The extent of the mapped vegetation type and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</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></p> <p>Given the distance to the nearest conservation area, 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>: “Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</p> <p><u>Assessment</u>:</p> <p>Given the closest wetland is located 140 metres south the application area, the proposed clearing is unlikely to impact an environment associated with a watercourse or wetland.</p>	Not likely to be at variance	No
<p><u>Principle (g)</u>: “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</p> <p><u>Assessment</u>:</p> <p>The application area includes soils associated with coastal dunes, which are susceptible to wind and water erosion. Given the size of the proposed clearing and the location on the coast, land degradation in the form of wind erosion may occur.</p>	May be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<p><u>Principle (i)</u>: “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.”</p> <p><u>Assessment</u>:</p> <p>A lake is located approximately 140 metres south of the application area. The proposed clearing is not likely to cause deterioration in the quality of surface water. The local area is highly vegetated and the proposed clearing is not likely to have a significant impact on ground water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j)</u>: “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment</u>:</p> <p>Given the soil type present within the application area and the highly vegetated local area, the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding</p>	Not likely to be at variance	No

### Appendix C. 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:

Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

#### Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.

Condition	Description
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

## Appendix D. Biological survey information excerpts



Figure 2: Vegetation Condition (360 Environmental, 2021)

Vegetation Unit and Description*	Local Landform	Total Area, Proportion of the Survey Area	Vegetation Condition	Photograph
<b>Coastal Dunes</b>				
<p>VT1: <i>Acacia coriacea</i> subsp. <i>coriacea</i> and <i>Acacia tetragonophylla</i> (with <i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>) mid to low sparse shrubland over *<i>Cenchrus ciliaris</i> and <i>Eulalia aurea</i> low tussock grassland with <i>Triodia epactia</i> low sparse hummock grassland over <i>Euphorbia myrtilodes</i> low sparse hermland.</p> <p>Sites: Q1, Q2, Q3, Q4, Q5, Q6</p>	Dunes	25 ha, 100 %	Very Good	

**Table 1: Vegetation Types Occurring within the Survey Area (360 Environmental, 2021)**

Fauna Habitat	Total Area, Proportion of the Survey Area	Sites	Representative Photo
<p>Coastal Dunes: <i>Acacia coriacea</i> subsp. <i>coriacea</i> and <i>Acacia tetragonophylla</i> (with <i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>) mid to low sparse shrubland over *<i>Cenchrus ciliaris</i> and <i>Eulalia aurea</i> low tussock grassland with <i>Triodia epactia</i> low sparse hummock grassland over <i>Euphorbia myrtilodes</i> low sparse hermland.</p> <p>Suitable good quality habitat for passerine birds (perching birds and songbirds). Suitable, but low-quality habitat for reptile and small mammal species due to the presence of cats and alteration of understory structure by *<i>Cenchrus ciliaris</i>.</p>	25 ha, 100%	HA1, HA2, HA3, HA4, HA5, HA6	

**Table 2: Fauna Habitat Type Descriptions within the Survey Area (360 Environmental, 2021)**

## 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)
- 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)

## E.2. References

360 Environmental (2021) Flora and Fauna Report Lot 300 Back Beach Road, Onslow. Western Australia (DWER Ref: DWERDT717904)

360 Environmental (2022a) Native Vegetation Clearing Permit: Supporting Documentation. Western Australia (DWER Ref: DWEDT673505)

360 Environmental (2022b) Detailed Terrestrial Fauna and Shorebird Survey. Western Australia (DWER Ref: DWERDT717906)

Mineral Resources Limited (2022) *Clearing permit application CPS 9922/1*, received 18 October 2022 (DWER Ref: DWERDT673506).

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf).

Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: [https://dwer.wa.gov.au/sites/default/files/Procedure\\_Native\\_vegetation\\_clearing\\_permits\\_v1.PDF](https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF).

Department of Water and Environmental Regulation (DWER) (Regulatory Services – Water) (2023) *Rights in Water and Irrigation Act 1914 advice for clearing permit application CPS 9922/1*, received 6 May 2023 (DWER Ref: DWERDT754063).

Environmental Protection Authority (EPA) (2016). *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment*. Available from: [http://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey\\_Dec13.pdf](http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf).

- Environmental Protection Authority (EPA) (2016). *Technical Guidance – Terrestrial Fauna Surveys*. Available from: [https://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf).
- Government of Western Australia. (2019) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report)*. Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) *Atlas of Australian Soils*, Sheets 1 to 10, with explanatory data. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Shire of Ashburton (2023) Notice of Determination on Application for Development Approval. Western Australia (DWER Ref: DWERDT770486 and DWERDT770487)
- Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.