



## CLEARING PERMIT

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

### PERMIT DETAILS

Area Permit Number: 8954/1

File Number: DWERVT5980

Duration of Permit: From 13 November 2020 to 13 November 2022

### PERMIT HOLDER

Leeman Investments Pty Ltd

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 100 on Deposited Plan 415637, Leeman

### AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 1.5 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8954/1.

### CONDITIONS

#### 1. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in 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.

#### 2. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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 *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

#### 3. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, in relation to the clearing of native vegetation authorised under this Permit:

- (a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) the date that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 1 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 2 of this Permit.

#### 4. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 3 of this Permit, when requested by the *CEO*.

#### DEFINITIONS

The following meanings are given to terms used in this Permit:

**CEO:** means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

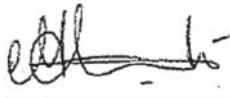
**dieback** means the effect of *Phytophthora* species on native vegetation;

**fill** means material used to increase the ground level, or fill a hollow;

**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;

**weed/s** means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*;  
or
- (b) published in a Department of Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



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Meenu Vitarana  
A/MANAGER  
NATIVE VEGETATION REGULATION

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

12 November 2020

# Plan 8954/1

114°58'35.040"E

114°58'40.080"E

114°58'45.120"E

29°57'7.200"S

29°57'11.880"S

29°57'16.560"S

29°57'7.200"S

29°57'11.880"S

29°57'16.560"S




114°58'35.040"E

114°58'40.080"E

114°58'45.120"E

## CPS layers

 CPS areas approved to clear

## Map Layers

Land Tenure LGATE - 226

 Local Government Authorities

Road Centrelines

 Local Rd - Sealed



0 25 50 75 100 m



1:2190

MGA Zone 50  
Geocentric Datum of Australia 1994

Meenu Vitarana

2020.11.12

16:15:16 +08'00'

Officer delegated under section 20 of the  
Environmental Protection Act 1986



GOVERNMENT OF  
WESTERN AUSTRALIA



# Clearing Permit Decision Report

## 1. Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 8954/1
<b>Permit type:</b>	Area permit
<b>Applicant name:</b>	Leeman Investments Pty Ltd
<b>Application received:</b>	25 June 2020
<b>Application area:</b>	1.5 hectares (ha) of native vegetation
<b>Purpose of clearing:</b>	Preliminary investigations to facilitate the Leeman Caravan Park extension
<b>Method of clearing:</b>	Mechanical removal
<b>Property:</b>	Lot 100 on Deposited Plan 415637, Leeman
<b>Location (LGA area/s):</b>	Shire of Coorow
<b>Localities (suburb/s):</b>	Leeman

### 1.2. Description of clearing activities

The vegetation applied to be cleared includes a total of 1.5 hectares of native vegetation contained within a single contiguous area directly adjacent to the existing Leeman Caravan Park, and intersected by previously cleared access tracks (see Figure 1, Section 1.5). The clearing of 1.5 hectares is proposed for the purpose of investigating the site to identify suitable areas for the installation of utilities including water and power lines, to facilitate expansion of the Leeman Caravan Park. It is understood that the vegetation applied to be cleared lies over limestone, which may obstruct and impede the installation of utilities, if preliminary investigations are not undertaken prior to the development of plans for the Leeman Caravan Park expansion.

### 1.3. Decision on application and key considerations

<b>Decision:</b>	Granted
<b>Decision date:</b>	12 November 2020
<b>Decision area:</b>	1.5 hectares of native vegetation, as depicted in Section 1.5, below.

### 1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Water and Environmental Regulation (DWER) on 25 June 2020. DWER advertised the application for public comment and no submissions were received.

In accordance with section 51O of the EP Act, the Delegated Officer has given consideration to the Clearing Principles in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments, and any other pertinent matters they deemed relevant to the assessment (see Sections 3 and 4). The Delegated Officer determined that the proposed clearing is not likely to be at variance to any of the Clearing Principles.

On 16 October 2020, the Delegated Officer gave the applicant a written undertaking to grant a clearing permit in the event the applicant becomes the owner of all properties under application by 16 April 2021.

In November 2020, previous Lots 350, 475 and 476 on Plan 183148, Lots 406 and 407 on Plan 213819, and Lot 381 on Plan 71867, Leeman, were amalgamated into a single property; Lot 100 on Deposited Plan 415637, Leeman, which was transferred to the applicant. As a result, the applicant is now the owner of all properties under application. The terms of the undertaking have been met and therefore, the permit has been granted.

In determining to grant a clearing permit subject to avoiding and minimising clearing, and weed and dieback conditions, the Delegated Officer found that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

### 1.5. Site map

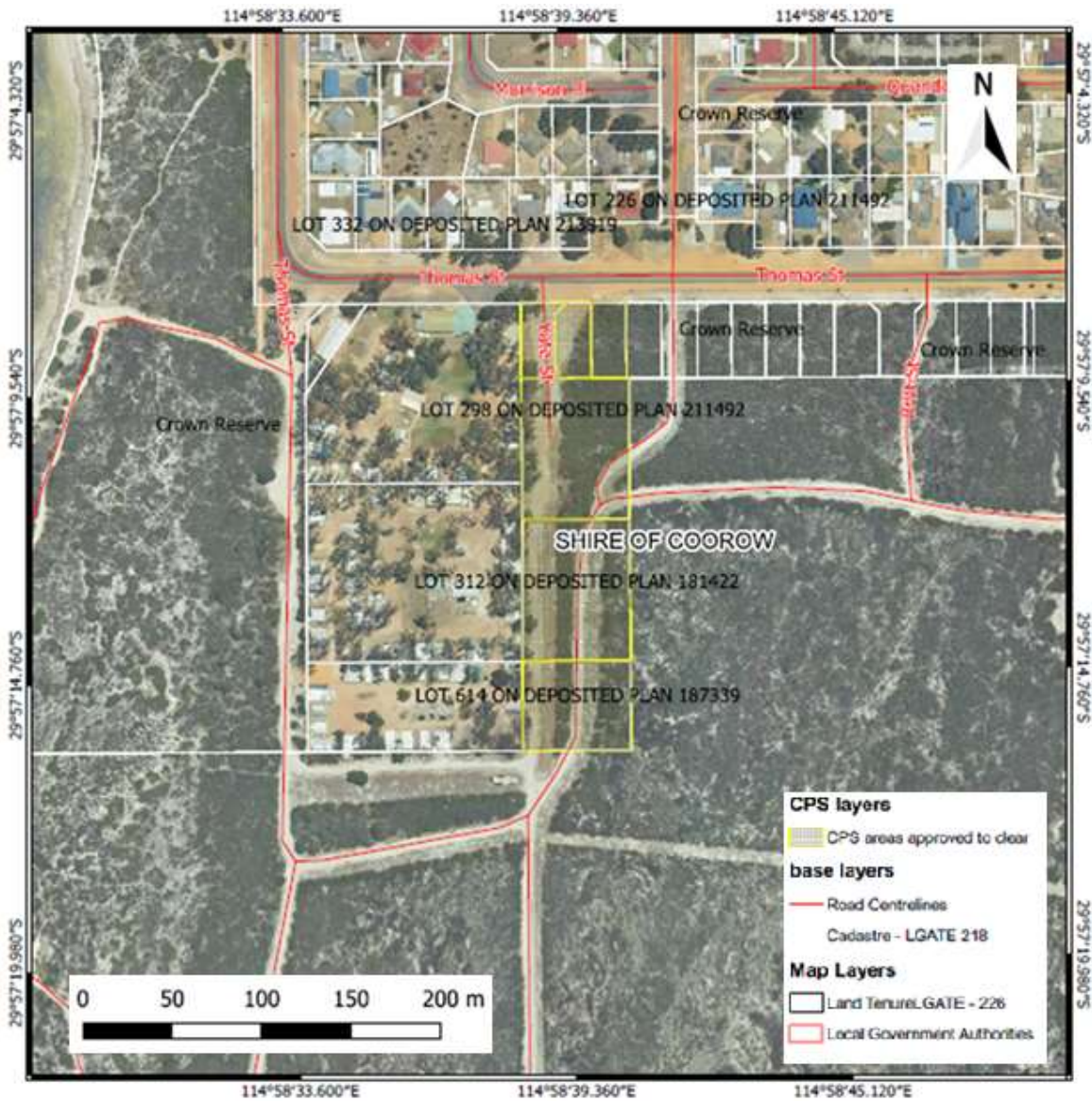


Figure 1. The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

## 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 1.3), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

1. the precautionary principle;
2. the principle of intergenerational equity; and
3. 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* (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

### 3. Detailed assessment of application

#### 3.1. Avoidance and mitigation measures

No evidence of avoidance or mitigation measures was provided to support the application. However, it is noted that the proposed expansion of Leeman Caravan Park will involve the clearing of vegetation to the east of the existing site, which has been highly disturbed through previous clearing activities for access tracks, as well as the surrounding recreational and residential land uses (see Figure 1, Section 1.5). The proposed expansion will not impact largely undisturbed vegetation to the west and south of the existing caravan park.

#### 3.2. Assessment of environmental impacts

In assessing the application in accordance with section 51O of the EP Act, the Delegated Officer has examined the application and site characteristics (Appendix B) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix C.

This assessment identified that the clearing may pose a risk to the environmental value of suitable habitat for fauna, and that this required further consideration. The detailed consideration and assessment of the clearing impacts against the specific environmental value is provided below.

##### **Environmental value: biological values (fauna) – Clearing Principle (b)**

Assessment: According to available databases and with consideration of the site characteristics, the proposed clearing area is likely to contain suitable habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*), thorny bush katydid (*Hemisaga vepreculae*), springtime corroboree stick katydid (*Phasmodes jeeba*), and graceful sunmoth (*Synemon gratiosa*) (see Appendix B).

The application area is mapped within the non-breeding range of Carnaby's cockatoo (Commonwealth of Australia, 2012) and consists predominantly of *Acacia* and *Melaleuca* coastal heath, absent of suitable hollow-bearing *Eucalyptus* species. While breeding, Carnaby's cockatoos typically forage within a 6 to 12 km radius of their nesting site, and roost in or near riparian environments (Commonwealth of Australia, 2012). Foraging habitat for Carnaby's cockatoo is noted to include a range of plant species, predominantly the seeds and flowers of *Eucalyptus* and proteaceous species (e.g. *Banksia* spp., *Hakea* spp. and *Grevillea* spp.) (Commonwealth of Australia, 2012). Noting this, the *Acacia* and *Melaleuca* dominated heath within the application area is unlikely to represent preferred foraging habitat, or to include suitable breeding or roosting habitat for the species. Further, the application area is located over 30 kilometres from the closest confirmed roost site for Carnaby's cockatoo and does not include riparian vegetation or sources of suitable drinking water. Given the above, it is not considered likely that the application area comprises significant foraging, breeding, or roosting habitat for Carnaby's cockatoo.

It is noted that the application area may provide some function as an ecological linkage for Carnaby's cockatoos migrating between confirmed breeding areas further north. However, it should be noted that the local area is highly vegetated, the application area occurs within a contiguous patch of remnant vegetation, and that the vegetation association within the application area is highly represented in the local area. Noting the above and the extent of the proposed clearing, it is not considered likely that the proposed clearing will significantly impact Carnaby's cockatoos moving through the landscape.

The graceful sun moth is a medium-sized diurnal moth, associated *Banksia* woodland that comprises the suitable host species *Lomandra hermaphrodita* or coastal heath comprising *Lomandra maritima* (TSSC, 2013). Noting that the proposed clearing area includes coastal heath and that targeted vegetation surveys have not been conducted, it is considered possible that the application area comprises suitable habitat for the graceful sun moth. The graceful sun moth was listed as Endangered under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) in 1997, however was delisted to a Priority 4 conservation significant fauna species in 2012 after extensive survey efforts (TSSC, 2013). The application area is also highly disturbed from previous clearing activities for access tracks and from the adjacent caravan park and residential land uses, and comprises vegetation separated by previously cleared access tracks. Noting that the dispersal of the graceful sun moth is thought to be very limited, with dispersal across unsuitable habitat extremely uncommon (TSSC, 2013), it is unlikely that the proposed clearing area comprises significant habitat for this species. Further, the application area comprises part of a contiguous

remnant of coastal *Acacia* and *Melaleuca* dominated heath, that is well-represented in the highly vegetated local area. Therefore, it is also not considered likely that the proposed clearing will significantly impact the extent of suitable habitat for the graceful sun moth in the local area.

The thorny bush katydid and springtime corroboree stick katydid are poorly known invertebrates, with little documented habitat preferences (DBCA, 2007-). Given this, it is possible that the species are present within the application area. However, potential habitat for these species is likely to be abundant in the local area, noting that the area is highly vegetated, and that *Acacia* and *Melaleuca* dominated heath is well-represented in the landscape. Further, noting that the application area is highly disturbed from previous clearing activities for access tracks and from the adjacent caravan park and residential land uses, it is not considered likely that the vegetation proposed to be cleared comprises significant habitat for these katydid species.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable in relation to this environmental value.

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

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 8 July 2020, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

The proposed expansion of the Leeman Caravan Park amalgamates previous Lots 350, 475 and 476 on Plan 183148, Lots 406 and 407 on Plan 213819, and Lot 381 on Plan 71867, Leeman into a single property; Lot 100 on Deposited Plan 415637, Leeman (Leeman Investments Pty Ltd, 2020). The Shire of Coorow (the Shire) advised DWER that, given the zoning of Lot 100 on Deposited Plan 415637, Leeman, would be updated to 'Tourist Accommodation' through the lands and planning process, the proposal is considered consistent with the Shire's Local Planning Scheme (Shire of Coorow, 2020a). The Shire indicated that no development application had been received in relation to the proposed caravan park expansion (Shire of Coorow, 2020b). However, the Shire advised that, given the land zoning and adjacent land use, it was likely that a future development application for the Leeman Caravan Park expansion would be approved subject to conditions (Shire of Coorow, 2020b).

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.

## 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.

### 1. Site characteristics

Site characteristic	Details								
Local context	The proposed clearing area is part of an expansive remnant of native vegetation, interspersed with previously cleared access tracks. It is adjacent to the existing Leeman Caravan Park to the west, Thomas Road to the north and remnant native vegetation interspersed with access tracks and road infrastructure to the south and east. The proposed clearing area is part of a large approximately 825 hectare area of vegetation interspersed with previously cleared access tracks. Aerial imagery and spatial data indicates the local area (20 km radius of the proposed clearing area) retains approximately 79 per cent of the original native vegetation cover.								
Vegetation description	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of coastal scrub and heathland dominated by <i>Acacia</i> and <i>Melaleuca</i> species, over limestone. Representative photos are available in Appendix D.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> <li>Beard vegetation association 1026, which is described as a mosaic of shrublands of <i>Acacia rostellifera</i> and <i>Acacia cyclops</i> in the south, and <i>Melaleuca cardiophylla</i> in the north, and thicket or shrublands including <i>Acacia lasiocarpa</i> and <i>Melaleuca acerosa</i> heath (Shepherd et al, 2001).</li> </ul>								
Vegetation condition	<p>Photographs supplied by the applicant and a review of aerial imagery indicate the vegetation within the proposed clearing area ranges from Good to Completely Degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> <li>Good: Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it;</li> <li>Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.</li> <li>Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species (Keighery, 1994).</li> </ul> <p>The full Keighery condition rating scale is provided in Appendix C, below. Representative photos are available in Appendix D.</p>								
Soil description	The soil is mapped within the Quindalup Central 6 Subsystem (221Qu_6), described as flat coastal plain; shallow grey calcareous sands over calcrete (over sands, shells, etc.) (DPIRD, 2017).								
Land degradation risk	<p>Land degradation risk (DPIRD, 2017) for the mapped soil types are summarised in the following table:</p> <table border="1"> <thead> <tr> <th>Risk categories</th> <th>Quindalup Central 6 Subsystem (221Qu_6)</th> </tr> </thead> <tbody> <tr> <td>Wind erosion</td> <td>30-50% of map unit has a high to extreme wind erosion risk</td> </tr> <tr> <td>Water erosion</td> <td>&lt;3% of map unit has a high to extreme water erosion risk</td> </tr> <tr> <td>Salinity</td> <td>&lt;3% of map unit has a high salinity risk or is presently saline</td> </tr> </tbody> </table>	Risk categories	Quindalup Central 6 Subsystem (221Qu_6)	Wind erosion	30-50% of map unit has a high to extreme wind erosion risk	Water erosion	<3% of map unit has a high to extreme water erosion risk	Salinity	<3% of map unit has a high salinity risk or is presently saline
Risk categories	Quindalup Central 6 Subsystem (221Qu_6)								
Wind erosion	30-50% of map unit has a high to extreme wind erosion risk								
Water erosion	<3% of map unit has a high to extreme water erosion risk								
Salinity	<3% of map unit has a high salinity risk or is presently saline								



Site characteristic	Details	
	Subsurface Acidification	<3% of map unit has a high subsurface acidification risk or is presently acid
	Flood risk	<3% of the map unit has a moderate to high flood risk
	Waterlogging	<3% of map unit has a moderate to very high waterlogging risk
	Phosphorus export	<3% of map unit has a high to extreme phosphorus export risk
Waterbodies	<p>The desktop assessment and aerial imagery indicated that the application area does not intersect any natural sources of surface water or wetland systems. The closest mapped wetland system, the Leeman Palusplain, occurs over 500 metres east of the proposed clearing area, separated by previously cleared access tracks and road infrastructure.</p> <p>The application area is mapped within the Arrowsmith Groundwater Area, proclaimed under the <i>Rights in Water and Irrigation Act 1914</i>.</p>	
Conservation areas	<p>According to available databases, the closest conservation area, Beekeepers Nature Reserve, occurs over 700 metres east of the application area. This conservation area is separated from the proposed clearing area by previously cleared access tracks and road infrastructure.</p>	
Climate and landform	<p>The application area occurs within a Mediterranean-type climate, with an average annual rainfall of 600 millimetres, average annual evapotranspiration rate of 600 millimetres and average monthly maximum temperatures ranging from 19.6°C to 30.8°C. The application area has flat topography with minimal slope or elevation.</p>	

## 2. Flora, fauna and ecosystem analysis

A review of available databases determined that a total of 49 threatened or priority flora have been recorded within the local area, comprising two Priority 1 (P1) flora, 10 Priority 2 (P2) flora, 21 Priority 3 (P3) flora, 14 Priority 4 (P4) flora, and two threatened flora (Western Australian Herbarium, 1998-). None of these existing records occur within the application area. With consideration for the site characteristics set out above, habitat preferences including soil type and vegetation association, extent of occurrence and existing records, none of the aforementioned conservation significant flora species are considered likely to be impacted by the clearing.

According to available databases, no state-listed threatened ecological communities (TECs) are recorded within the local area. One priority ecological community (PEC) is recorded within the local area, with the closest occurrence approximately 12 kilometres south of the proposed clearing area. Given the site characteristics set out above, the application area is not considered likely to be representative of any threatened or priority ecological communities.

A total of 38 threatened or priority fauna species have been recorded within the local area, including 10 threatened fauna species, seven priority fauna species, 19 fauna species protected under international agreement, and three other specially protected fauna species (DBCA, 2007-). None of these records occur within the application area. Noting the site characteristics set out above, the following conservation significant fauna species may be impacted by the clearing.

Species	Distance of closest record to application area (kilometres)	Suitable habitat features (fauna)	Surveys adequate to identify? (Y, N, N/A)
Carnaby's cockatoo ( <i>Calyptorhynchus latirostris</i> )	Approximately 9.4 kilometres	Y	N/A – no surveys undertaken
Thorny bush katydid ( <i>Hemisaga vepreculae</i> )	Approximately 12.2 kilometres	Y	N/A – no surveys undertaken
Springtime corroboree stick katydid ( <i>Phasmodes jeeba</i> )	Approximately 12.8 kilometres	Y	N/A – no surveys undertaken

Species	Distance of closest record to application area (kilometres)	Suitable habitat features (fauna)	Surveys adequate to identify? (Y, N, N/A)
Graceful sunmoth ( <i>Synemon gratiosa</i> )	Approximately 10.6 kilometres	Y	N/A – no surveys undertaken

### 3. Vegetation extent

Vegetation representation statistics (Government of Western Australia, 2018).

	Pre-European extent (ha)	Current extent (ha)	% remaining	Current extent in all DBCA managed land (ha)	% current extent in all DBCA managed land (proportion of pre-European extent)
<b>IBRA bioregion</b>					
Geraldton Sandplains	3,136,037.83	1,404,424.32	44.78	568,255.10	18.12
<b>Beard vegetation association</b>					
1026	69,846.29	65,549.45	93.85	36,099.81	51.68
<b>Beard vegetation association in IBRA Bioregion</b>					
1026 in Geraldton Sandplains	11,426.90	10,729.87	93.9	562.78	48.68
<b>Local area</b>					
20 km radius	62,553.23	49,420.93	79.01	-	-

### 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> “Native vegetation should not be cleared if it comprises a high level of biodiversity.”</p> <p><u>Assessment:</u> Although the application area may contain suitable habitat for fauna (see Principle (b) below), the application area is not likely to comprise locally or regionally significant flora, vegetation or ecological communities (see Appendix B). Given that the proposed clearing area comprises vegetation in Good to Completely Degraded (Keighery, 1994) condition that has been subject to disturbance through activity at the adjacent caravan park, previous clearing activities for access tracks, and weed invasion, the proposed clearing area is not considered likely to comprise a high level of biodiversity.</p>	Not likely to be at variance	No
<p><u>Principle (b):</u> “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.”</p>	Not likely to be at variance	Yes Refer to Section 3.2.1 above.

Assessment against the Clearing Principles	Variance level	Is further consideration required?
<p><u>Assessment:</u> The proposed clearing area contains suitable habitat for four conservation significant fauna (see Appendix A).</p>		
<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> Noting the site characteristics (see Appendix A), habitat preferences including soil type and vegetation association, extent of occurrence and existing records, the proposed clearing area is unlikely to contain suitable or significant habitat for flora species listed under the <i>Biodiversity Conservation Act 2018</i>.</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> Given the site characteristics (see Appendix A) and the distance and separation from existing records, the proposed clearing area is not considered to comprise vegetation representative of any threatened ecological community listed under the <i>Biodiversity Conservation Act 2018</i>.</p>	Not likely to be at variance	No
<b>Environmental values: 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 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 (Commonwealth of Australia, 2001) (see Appendix A).</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 distance and separation from the nearest conservation area (see Appendix A), 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 values: land and water resources</b>		
<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> Given no water courses or wetlands are recorded within the proposed clearing area, and the closest records are separated from the application area by previously cleared access tracks and road infrastructure (see Appendix A) the clearing is unlikely to impact on- or off-site hydrology, water quality or riparian values of an environment associated with a watercourse or wetland.</p>	Not likely to be at variance	No
<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> The mapped soils are moderately susceptible to land degradation resulting from wind erosion (see Appendix B). However, noting the extent of the proposed clearing, the condition of and high degree of disturbance to the vegetation, that adjacent vegetation of similar or higher quality will be retained, and the highly vegetated local area, the proposed</p>	Not likely to be at variance	No

Assessment against the Clearing Principles	Variance level	Is further consideration required?
clearing is not considered likely to have an appreciable impact on land degradation.		
<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> Although no water courses or wetlands are recorded within the proposed clearing area, the application area is mapped within a proclaimed groundwater area (see Appendix A). However, noting the distance and separation from the closest source of surface water, the extent of the proposed clearing, the condition of the vegetation, that adjacent vegetation of similar or higher quality will be retained, and the highly vegetated local area, the proposed clearing is not considered likely cause deterioration in the quality of surface or underground water.</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> Noting the mapped soils, topographic contours in the surrounding area, the condition of the vegetation, and the highly vegetated local area, the proposed clearing is not considered likely to contribute to increased 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.

#### 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.
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 D – Photographs of the vegetation



Figure 1. Photographs of the application area (Leeman Investments Pty Ltd, 2020).

## Appendix E – References and databases

### 1. GIS datasets

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

- Aboriginal Heritage Places (DPLH-001)
- Bush Forever Areas 2000 (DPLH-019)
- Cadastre Address (LGATE-002)
- CAWSA Part 2A Clearing Control Catchments (DWER-004)
- Consanguineous Wetlands Suites (DBCA-020)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA Statewide Vegetation Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Geomorphic Wetlands, Cervantes Coastal (DBCA-014)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography Linear (Hierarchy) (DWER-031)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Vegetation Extent (DPIRD-005)

- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Regional Parks (DBCA-026)
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Rivers (DWER-036)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil and Landscape Mapping – Best Available
- Soil Landscape Land Quality datasets

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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Shire of Coorow (2020a) Comments regarding Clearing Permit Application CPS 8954/1. DWER Ref: DWERDT308227.

Shire of Coorow (2020b) Correspondence regarding relevant approvals associated with Clearing Permit Application CPS 8954/1. DWER Ref: A1918453.

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