



## 3. Application details

### 3.1. Permit application details

**Permit application No.:** 8290/1  
**Permit type:** Purpose Permit

### 3.2. Applicant details

**Applicant's name:** Main Roads Western Australia

### 3.3. Property details

**Property:** Lot 7 on Deposited Plan 28944, Mount Sheila  
Lot 556 on Deposited Plan 404911, Mount Sheila  
Nanutarra Road Reserve (PINS 11731092, 11731092 and 11732662), Mount Sheila,

**Local Government Authority:** ASHBURTON, SHIRE OF  
**Localities:** Mount Sheila

### 3.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
113.8 hectares (revised)		Mechanical Removal	Extraction

### 3.5. Decision on application

**Decision on Permit Application:** Granted

**Decision Date:** 20 June 2019

**Reasons for Decision:** The clearing permit application was received on 13 December 2018 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is at variance to clearing principle (f) and is not likely to be at variance to the remaining clearing principles.

In determining to grant the clearing permit, the Delegated Officer considered the following;

- the proposed clearing may impact on riparian vegetation growing in association with nearby watercourses, however, it was determined that the proposed clearing is unlikely to have any significant environmental impacts;
- the proposed clearing may increase the risk of weeds and dieback being introduced or spread into adjacent areas. Weed and dieback management measures will minimise impacts to adjacent areas; and
- the proposed clearing will impact on active mounds utilised by the Western Pebble-mound Mouse. An avoid and minimise condition, along with a directional clearing condition will mitigate and minimise the potential risk to individuals.

## 2. Site Information

**Clearing Description:** The application is to clear up to 113.8 hectares of native vegetation within Lot 7 on Deposited Plan 28944, Lot 556 on Deposited Plan 404911 and Nanutarra Road Reserve (PINS 11731092, 11731092 and 11732662), Mount Sheila, for the purpose of material extraction.

**Vegetation Description:** The application area is mapped as two Beard vegetation associations:

- 29: Sparse low woodland; mulga, discontinuous in scattered groups; and
- 567: Hummock grasslands, shrub steppe; mulga & kanji over soft spinifex & *Triodia basedowii* (Shepherd et al., 2001).

The application consists of three separate areas referred to as Application Area 'A', 'B' and 'C'. Application Area 'A' (South) comprises of 66.9 hectares, Application Area 'B' (Middle) comprises of 11.9 hectares and Application Area 'C' (North) comprises of 36.6 hectares. The following vegetation units were mapped within the application areas (Woodman Environmental, 2018).

Vegetation Unit	Vegetation Description	Application Area
VU 1	Tall open shrubland dominated by <i>Acacia citrinoviridis</i> and occasionally <i>Grevillea berryana</i> and <i>Acacia pruinoscarpa</i> over mid sparse shrubland of mixed species dominated by <i>Eremophila fraseri</i> subsp. <i>fraseri</i> , <i>Corchorus crozophorifolius</i> and <i>Sida</i> sp. spiciform panicles (E. Leyland s.n. 14/8/90) over low hummock grassland dominated by <i>Triodia wiseana</i> on brown or red-brown clay loam with calcrete stones and large areas of calcrete outcropping on crests of low ridges.	'A'

VU 2	Low isolated trees/mallees to low open woodland/mallee woodland of mixed species dominated by <i>Eucalyptus xerothermica</i> , <i>Eucalyptus socialis</i> subsp. <i>eucentrica</i> and <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> over mid sparse shrubland of mixed species dominated by <i>Acacia bivenosa</i> and <i>Melaleuca eleuterostachya</i> over low shrubland sparse shrubland of mixed species dominated by <i>Heliotropium ovalifolium</i> and <i>Androcalva luteiflora</i> over low hummock grassland dominated by <i>Triodia wiseana</i> and occasionally <i>Triodia angusta</i> on brown clay loam with calcrete stones and often calcrete outcropping on slopes of low ridges and low rises	'A', 'B'
VU 3	Mid sparse shrubland of mixed species dominated by <i>Acacia bivenosa</i> and occasionally <i>Acacia synchronicia</i> over low sparse shrubland of mixed species including <i>Senna artemisioides</i> subsp. <i>oligophylla</i> and <i>Senna stricta</i> over hummock grassland dominated by <i>Triodia wiseana</i> and occasionally <i>Triodia angusta</i> on red-brown clay loam with ironstone and occasionally calcrete stones on undulating plains and lower slopes	'A', 'B'
VU 4	Low open woodland dominated by <i>Eucalyptus xerothermica</i> and <i>Corymbia hamersleyana</i> over tall open shrubland of mixed species dominated by <i>Petalostylis labicheoides</i> , <i>Acacia bivenosa</i> , <i>Eremophila longifolia</i> , <i>Acacia pyrifolia</i> var. <i>pyrifolia</i> and <i>Acacia citrinoviridis</i> over mid sparse shrubland of mixed species including <i>Tephrosia rosea</i> var. <i>Fortescue Creeks</i> , <i>Corchorus lasiocarpus</i> subsp. <i>parvus</i> and <i>Dodonaea lanceolata</i> var. <i>lanceolata</i> over low open hummock and tussock grassland of mixed species including <i>Themeda triandra</i> , <i>Cenchrus ciliaris</i> , <i>Eulalia aurea</i> , <i>Eriachne tenuiculmis</i> and <i>Triodia epactia</i> on red-brown clay loam, usually with mixed stony colluvium, in drainage lines and on adjacent flats	'A', 'B'
VU 5	Low isolated trees of <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> over tall sparse shrubland of mixed species including <i>Acacia maitlandii</i> , <i>Acacia kempeana</i> , <i>Acacia wanyu</i> , <i>Acacia marramamba</i> and <i>Acacia bivenosa</i> over mid sparse shrubland of mixed species including <i>Senna glutinosa</i> subsp. <i>pruinosa</i> , <i>Ptilotus rotundifolius</i> , <i>Ptilotus obovatus</i> and <i>Indigofera monophylla</i> over low hummock grassland dominated by <i>Triodia brizoides</i> and occasionally <i>Triodia epactia</i> on red-brown clay loam with ironstone stones and ironstone outcropping on hill slopes	'A'
VU 7	Tall open shrubland dominated by <i>Acacia xiphophylla</i> over mid to low sparse shrubland of mixed species <i>Eremophila cuneifolia</i> , <i>Senna artemisioides</i> subsp. <i>Oligophylla</i> and <i>Rhagodia eremaea</i> over low chenopod shrubland of mixed species including <i>Senna</i> sp. Karijini (M.E. Trudgen 10392), <i>Maireana triptera</i> , <i>Sclerolaena ericantha</i> , <i>Sclerolaena lanicuspis</i> and <i>Sclerolaena cuneata</i> over open to sparse hummock grassland of mixed species including <i>Triodia wiseana</i> and <i>Triodia epactia</i> on red clay loam with stonycolluvium and basalt rocks, interspersed with claypans with open to sparse tussock grassland of mixed species including <i>Eriachne benthamii</i> , <i>Aristida latifolia</i> , <i>Astrelba elymoides</i> , <i>Dichanthium fecundum</i> and <i>Eragrostis xerophila</i> over a seasonal open herbland and tussock grassland of mixed species including <i>Dichanthium sericeum</i> subsp. <i>humilius</i> , <i>Panicum laevinode</i> , <i>Sida fibulifera</i> , <i>Stemodia kingii</i> and <i>Goodenia muelleriana</i> on red cracking clay with basalt stones and rocks, on flats and in broad drainage lines.	'B', 'C'
VU 8	Low open woodland to low isolated trees dominated by <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> over tall open to sparse shrubland dominated by <i>Acacia aptaneura</i> and <i>Acacia pruinocarpa</i> , and occasionally <i>Acacia aneura</i> , <i>Acacia ayersiana</i> and <i>Acacia atkinsiana</i> over low hummock grassland dominated by <i>Triodia wiseana</i> on red clay loam with laterised ironstone gravel and occasional laterised ironstone outcropping on low rises	'C'
VU 10	Isolated low trees of <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> over tall shrubland to open shrubland dominated by <i>Acacia aptaneura</i> and <i>Acacia pruinocarpa</i> , and occasionally <i>Acacia aneura</i> and <i>Acacia ayersiana</i> , over low sparse shrubland of mixed species including <i>Senna glutinosa</i> subsp. <i>glutinosa</i> and <i>Ptilotus rotundifolius</i> over low hummock grassland of <i>Triodia epactia</i> over low sparse herbland and tussock grassland of mixed species including <i>Aristida contorta</i> , <i>Ptilotus helipteroides</i> ,	'C'

	<i>Goodenia tenuiloba</i> and <i>Eriachne pulchella</i> subsp. <i>dominii</i> on red clay loam with ironstone and occasionally basalt gravel on undulating plains or low rises	
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**Vegetation Condition:** Excellent; Vegetation structure intact; disturbance affecting individual species; weeds are non-aggressive species (Keighery, 1994).

To

Good; Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

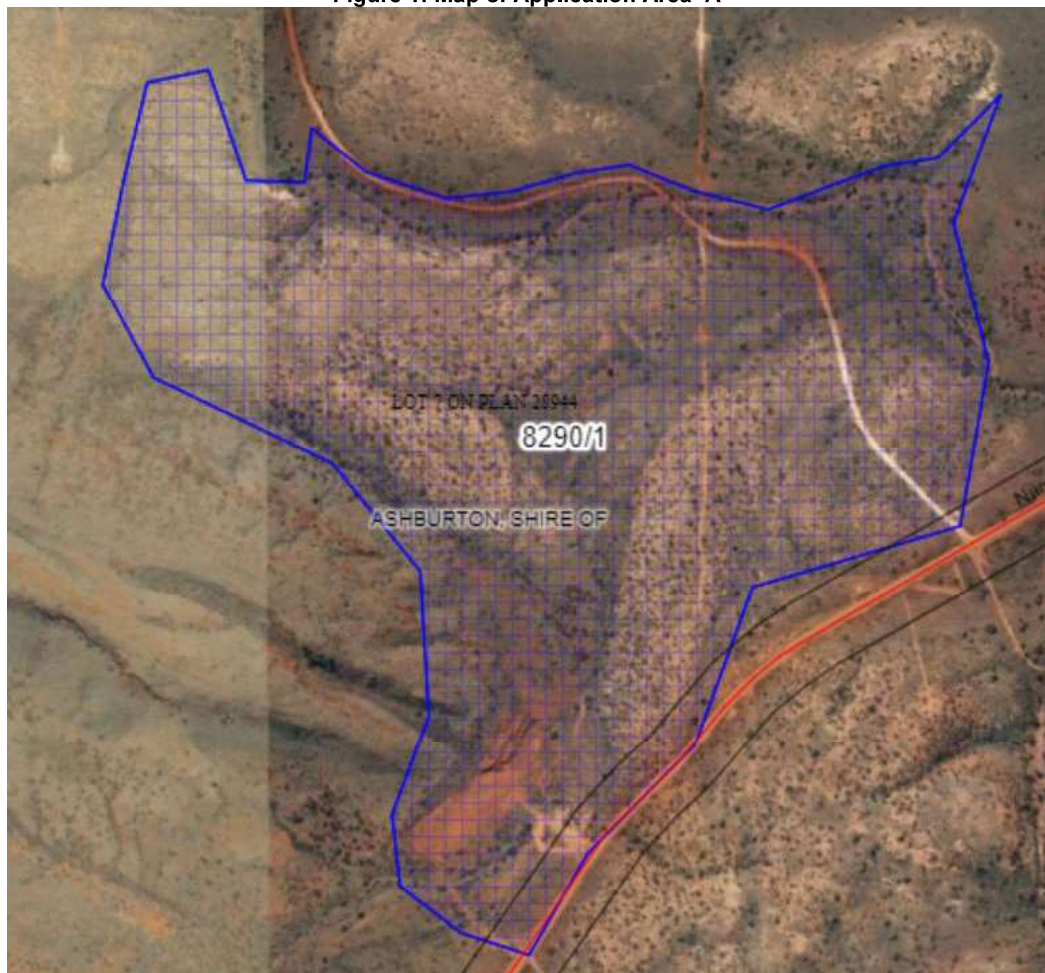
The condition and structure of the vegetation under application was determined by a biological survey undertaken by Woodman Environmental (2018).

**Soil and Landform Type:** The application area is mapped within the following land subsystems;

- 285Pd: Gravelly hardpan plains supporting groved mulga shrublands with hard and soft spinifex.
- 285PI: Dissected slopes and raised plains supporting shrubby hard spinifex grasslands.
- 285Ta: Low calcrete plateaux, mesas and lower plains supporting mulga and cassia shrublands and minor spinifex grasslands (Schoknecht et al., 2004).

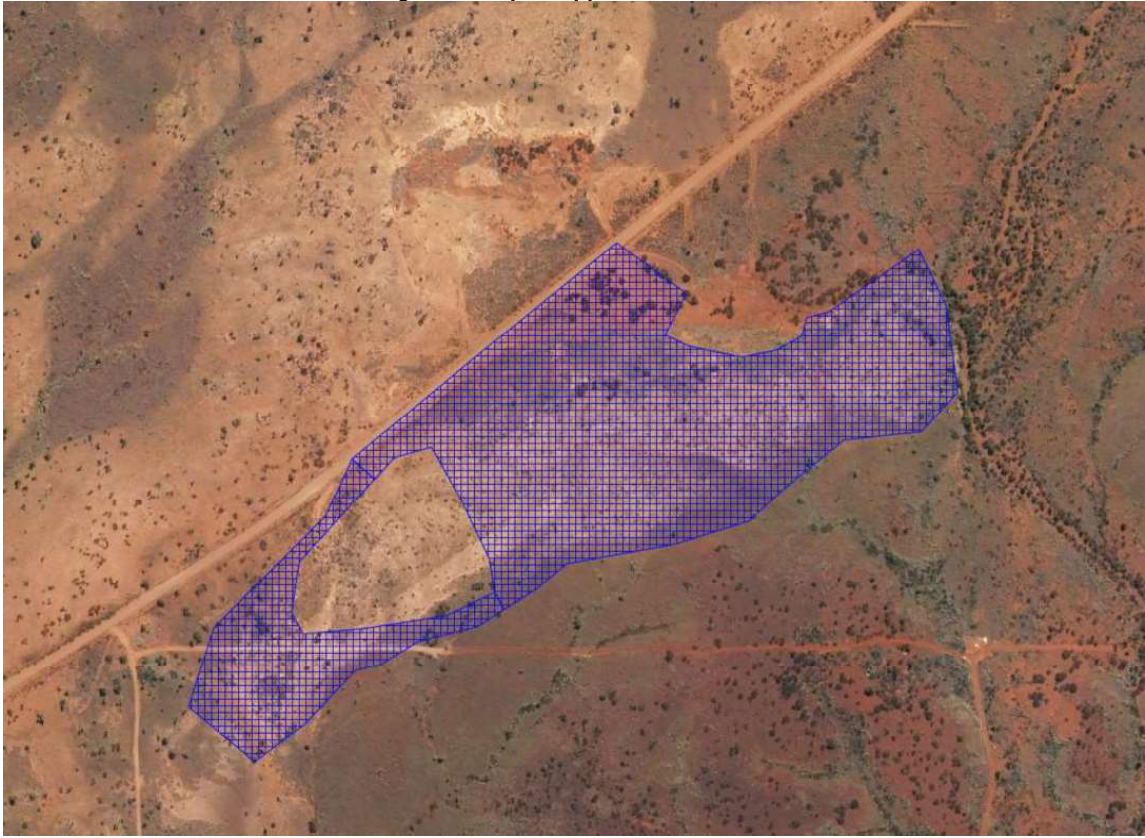
**Comment:** The local area referred to in this assessment is defined as the area within a 50 kilometre radius of the application area. Aerial imagery indicates that the local area retains approximately 95 per cent native vegetation cover.

**Figure 1: Map of Application Area 'A'**





**Figure 1: Map of Application Area 'B'**



**Figure 3: Map of Application Area 'C'**





**Figure 4: Photographs of vegetation within the application area**



**Vegetation Unit VU 1**



**Vegetation Unit VU 2**



**Vegetation Unit VU 3**



**Vegetation Unit VU 4**



**Vegetation Unit VU 5**



**Vegetation Unit VU 7**



**Vegetation Unit VU 8**



**Vegetation Unit VU 10**

### 3. Minimisation and mitigation measures

On 11 March 2019, the Department of Water and Environmental Regulation wrote to the applicant to advise that the proposed clearing had the potential to impact the conservation significance of the following priority flora species:

- *Goodenia pedicellata* (P1);
- *Oldenlandia* sp. Hamersley Station (P3); and
- *Astrebla lappacea* (P3)

The applicant subsequently amended the clearing footprint area and reduced the clearing size from 151.4 hectares to 113.8 hectares, thereby minimising the environmental impacts to the above listed species through:

- The avoidance of *Oldenlandia* sp. Hamersley Station (P3) and *Astrebla lappacea* (P3); and
- Minimising the extent of clearing on *Goodenia pedicellata* (P1) by reducing the proposed number of individuals to be cleared to 927 of the 3149 plants recorded in the original application area. The broader biological survey recorded 6011 plants, with the proposed clearing therefore impacting on 15.42 per cent of the total number of plants recorded.

### 4. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

##### Proposed clearing is not likely to be at variance to this Principle

As discussed in Section 2, eight vegetation units have been recorded within the proposed clearing areas, with the condition of the vegetation ranging from good to excellent (Keighery, 1994).

According to available databases received from the Department of Biodiversity, Conservation and Attractions (DBCA), 62 priority flora species and no threatened flora species have been recorded within the local area. Threatened flora are discussed under Principle (c). Of the priority flora recorded in the local area, *Goodenia pedicellata* has been identified within the application areas (Woodman Environmental, 2018). A further two species were also identified within the application areas as specified under Section 3, however the applicant has reduced the clearing footprint to avoid impacts to these species. Based on the findings within the flora survey undertaken by Woodman Environmental (2018), none of the other priority flora recorded in the local area are likely to be impacted upon by the proposed clearing.

*Goodenia pedicellata* is a single-stemmed perennial, herb (with dense, cottony and strigose hairs), growing to 0.25 metres high. It can be found in rocky clayey soils, rocky slopes and crests of small hills. There are eight known records of the species (WA Herbarium, 19918). A biological survey, which included the application area, identified 6011 plants across 64 locations (Woodman Environmental, 2018). A total of 937 plants were recorded from Application Area 'A' and 'B' and these plants will be removed in implementing the proposal, however, 84.58 per cent of the population recorded during the biological survey will remain. Noting the number *Goodenia pedicellata* individuals that will not be impacted, the proposed clearing will not impact on the conservation status of *Goodenia pedicellata* (DBCA, 2019).

According to available databases, five fauna species specially protected under the *Biodiversity Conservation Act 2016*, five protected fauna under international agreement, one specially protected fauna species and nine priority fauna have been recorded within the local area (DBCA, 2007-). Of the fauna recorded within local area, active and inactive mounds of the Western Pebble-mound mouse were identified within Application Area 'A' and 'B'. The application will impact on habitat for the Western Pebble-mound mouse, although the application is unlikely to impact on the conservation status of the species as its habitat is not limited to the application area. Fauna habitat and conservation significant fauna species that may utilise the application area are discussed further under Principle (b).

The vegetation types identified within the biological survey are not representative of any priority ecological communities or threatened ecological communities (TEC) (Woodman Environmental, 2018). TEC's are discussed further under Principle (d).

Given the above, the application area is unlikely to comprise a high level of biological diversity. The proposed clearing is not likely to be at variance to this Principle.

#### (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

##### Proposed clearing is not likely to be at variance to this Principle

According to available databases, five fauna species specially protected under the *Biodiversity Conservation Act 2016*, five protected fauna under international agreement, one specially protected fauna species and nine priority fauna have been recorded within the local area (DBCA, 2007-). Of the conservation significant fauna species that have been recorded in the local area, a biological survey determined that the following species have the potential to occur within the application areas:

- **Pilbara Olive Python** (*Liasis olivaceous barroni*)
- **Northern Quoll** (*Dasyurus hallucatus*)
- **Ghost Bat** (*Macroderma gigas*)
- **Peregrine Falcon** (*Falco peregrinus*)
- **Pilbara Barking Gecko** (*Underwoodisaurus seorsus*)
- **Spectacled Hare-wallaby, mainland** (*Lagorchestes conspicillatus leichardti*)

- **Lakeland Downs Mouse** (*Leggadina lakedownensis*)
- **Lined Soil-crevice Skink** (*Notoscincus butleri*)
- **Western Pebble-mound Mouse** (*Pseudomys chapmani*)

Of the fauna species listed above, only the Western Pebble-mound mouse was recorded, having been observed within Application Area 'A' and 'B' (Woodman Environmental, 2018). The biological survey also found a number of active and inactive mounds across a number of sites outside of the application area. The Western Pebble-mound Mouse predominately occurs in rocky areas throughout the Pilbara and into the Little Sandy Desert, favouring gentle slopes (Woodman Environmental, 2018). The mounds house a colony of mice, though not all active mounds are necessarily in use, with foraging mice tending to unoccupied mounds within their ranges (Woodman Environmental, 2018). Although mining and development destroys some mounds, this is not considered to be a significant threat (Woodman Environmental, 2018) as the species habitat is considered to be broad in extent within the bioregion (17,733,583 vegetation extent) which remains largely uncleared (Woodman Environmental, 2018). In addition, the mice are known to be easily disturbed and will vacate mounds due to close disturbance (MRWA, 2019) and clearing in a one directional method will allow the mice to move themselves (relocation by displacement). The method of clearing in one direction will enable the mice to move into areas of suitable habitat outside of the application areas. Noting this and that their habitat is largely represented in the bioregion (including adjacent to the application area), impacts to the Western Pebble-mound Mouse from the proposed clearing are unlikely to be significant.

In relation to the other fauna species listed above, the application areas do not represent significant habitat for the reasons stated below:

The Pilbara Olive Python may range into Application Area 'A' however it prefers to inhabit deep gorges with water pools of which Application 'A' lacks the deep gorges and river pools favoured by this species (Woodman Environmental, 2018).

The Northern Quoll occurs across a wide range of habitat and areas including the Northern Territory and Queensland. The species could traverse through Application Area 'A' as for it is adjacent to its preferred habitat being rocky hills and outcrops adjacent to Application Area 'A' (Woodman Environmental, 2018).

The Ghost Bat and Peregrine Falcon may forage and utilise the application areas for traversing, however, their breeding or roost habitat is not present within the application areas (Woodman Environmental, 2018).

The Lakeland downs mouse was not recorded in the application areas with only a moderate chance of it being present within the application area based on the habitat type (Woodman Environmental, 2018). The biological survey determined their habitat to be broad in extent within the bioregion (Woodman Environmental, 2018).

The Pilbara Barking Gecko has an association with rocky habitats which are adjacent but not within the application areas. No individuals were recorded within the application area (Woodman Environmental, 2018). The biological survey determined there is a low probability for the species to occur in the application areas (Woodman Environmental, 2018).

The Spectacled Hare-wallaby (mainland) is only known from one record within the local area with the species considered to be locally extinct (Woodman Environmental, 2018). The biological survey determined there is a low probability for the species to occur in the application areas (Woodman Environmental, 2018).

The Lined Soil-crevice Skink is associated with spinifex in rocky areas or creek-lines. No individuals were recorded within the application area and the biological survey determined there is a moderate probability for the species to occur in the application areas (Woodman Environmental, 2018). The biological survey determined their habitat to be broad in extent within the bioregion (Woodman Environmental, 2018).

The proposed clearing within Application Area 'A' and 'B' will impact on Western Pebble-mound Mouse habitat and has the potential to impact on the Western Pebble-mound Mouse individuals. However, the species habitat is not limited to the application areas and is well represented in the bioregion and directly adjacent to the application area. An avoid and minimise condition, along with a directional clearing condition will mitigate and minimise the potential risk to individuals.

Noting the above the proposed clearing is not likely to be at variance to this principle.

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Proposed clearing is not likely to be at variance to this Principle**

According to available databases, no threatened flora species have been recorded within the local area. The closest threatened flora species is *Thryptomene wittweri* located approximately 105 kilometres east from the Application Area 'B'. A biological survey of the application areas did not record the abovementioned threatened flora species or any other threatened flora species within the application areas (Woodman Environmental, 2018).

Noting the biological survey results and distance to the closest known threatened flora species, the application areas are not deemed to be necessary for the continued existence of threatened flora.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Proposed clearing is not likely to be at variance to this Principle**

According to available databases, one threatened ecological community (TEC) has been recorded within the local area. The TEC is described as, 'Themeda grasslands on cracking clays (Hamersley Station, Pilbara)' and has been mapped as occurring approximately 22 kilometres north of Application Area 'C'. A biological survey of the application areas did not record the abovementioned TEC (Woodman Environmental, 2018).

Noting the vegetation types recorded within the application areas and the distance to the nearest known TEC, the application area is unlikely to comprise the whole or part of, or be necessary for the maintenance of a TEC.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Proposed clearing is not at variance to this Principle**

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

As indicated in Table 1, the extents of native vegetation within the bioregion, local government authority and mapped vegetation complexes within the bioregion are above the 30 per cent threshold (Government of Western Australia, 2018).

As discussed in Section 2, the local area retains approximately 95 per cent native vegetation cover. Noting this and that the application area does not contain significant habitat for conservation significant fauna or flora, it is considered that the vegetation under application is unlikely to be significant as a remnant in an area that has been extensively cleared.

Given the above, the proposed clearing is not at variance to this Principle.

**Table 1: Vegetation extents**

	<b>Pre-European (ha)</b>	<b>Current Extent (ha)</b>	<b>Remaining (%)</b>	<b>Current Extent in DCBA Managed Lands (%)</b>
<b>IBRA Bioregion</b>				
Pilbara	17,808,657	17,733,583	99	10
<b>Local government authority</b>				
Shire of Ashburton	10,087,789	10,061,093	99	17
<b>Beard vegetation association</b>				
29	1,133,219	1,132,939	99	9
567	776,823	774,213	99	25.5

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Proposed clearing is at variance to this Principle**

According to available databases, a number of minor watercourses (drainage lines) intersect with the application areas. The vegetation units referred to as VU4 and VU7 are considered to be ephemeral wetlands (Woodman Environmental, 2018). VU4 occurs in relatively major drainage lines in Application Areas 'A' and 'B'. VU7 occurs on flats and in broad drainage lines, in particular, it contains clay pans with cracking clay soil that are likely to become seasonally inundated (Woodman Environmental, 2018). VU7 occurs within Application Areas 'B' and 'C'.

Noting the above, the application area will impact on vegetation growing in association with a watercourse and wetland. Taking into consideration the occurrence of vegetation types VU4 and VU7 outside of the application areas and that the local area retains approximately 95 per cent native vegetation cover, the clearing within the application areas is not likely to have a significant impact on the environmental values of the watercourses or ephemeral wetlands.

Given the above, the proposed clearing is at variance to this Principle.



**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Proposed is not likely to be at variance to this Principle**

As discussed in Section 2, the application area is located within three rangeland subsystems (Schoknecht et al., 2004).

The mapped and recorded gravel soil types are considered to be at a low risk of land degradation. The proposed clearing, which comprises of three separate areas separated by large distances that are surrounded by remnant native vegetation, is unlikely to result in appreciable land degradation.

The applicant will be required to undertake revegetation on any temporarily cleared areas (extraction sites), which will aid in mitigating the unlikely event of land degradation.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Proposed clearing is not at variance to this Principle**

According to available datasets, the closest conservation area to the application is the Karijini National Park located approximately 26.6 kilometres east of the application area. Noting the distance between the National Park and the application area, the proposed clearing is unlikely to impact on the conservation values of the National Park.

Although there is unlikely to be impacts to conservation areas from the proposed clearing, the disturbance caused by the proposed clearing is likely to increase the risk of weeds being introduced into adjacent areas of remnant vegetation. Weed management practices will assist in mitigating this risk.

Given the above, the proposed clearing is not at variance to this Principle.

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Proposed clearing is not likely to be at variance to this Principle**

As discussed under Principle (f), the application intersects with a number of drainage lines and ephemeral wetlands. It is possible the clearing as proposed may cause deterioration to the water quality within the known drainage lines and ephemeral wetlands, however, these impacts are likely to be short-term and minimal noting the large amount of vegetation remaining in the local area. Additionally, the applicant will be required to undertake revegetation post-extraction which will also assist in mitigating potential water quality impacts.

The application area has relatively flat topography, an average rainfall of 400 millimetres per annum and groundwater salinity mapped at 500-1,000 total dissolved solids (milligrams per litre). Noting the extent of vegetation in the local area, the proposed clearing is unlikely to cause deterioration in the quality of surface or underground water.

The proposed clearing is not likely to be at variance to this Principle.

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Proposed clearing is not likely to be at variance to this Principle**

As discussed under Principle (f), the application intersects with a number of drainage lines and ephemeral wetlands. These areas may be subject to inundation during the wet season. However, given the large amount of vegetation remaining in the local area, the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

The clearing as proposed is not likely to be at variance to this principle.

**Planning instruments and other relevant matters.**

The application was advertised on the Department of Water and Environmental Regulation's website on 2 August 2018 for a 21 day submission period. No submissions were received.

No registered Aboriginal Sites of Significance occur within the application area.

**5. References**

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

Department of Biodiversity Conservation and Attractions (DBCA) (2007- ) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed May 2019

Department of Biodiversity Conservation and Attractions (2019) Flora advice received in relation to Clearing Permit Application CPS 8290/1 – MRWA DWER Ref:A1797303)

Government of Western Australia. (2018a). 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity and Attractions, Perth

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Main Roads Western Australia (MRWA) (2019) Additional information received in relation to Clearing Permit CPS 8290/1. Correspondence between MRWA and DBCA regarding the Western Pebble-mound mouse (DWER Ref:A1798540).

Schoknecht, N., Tille, P. and Purdie, B. (2004) Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs' Resource Management Technical Report No. 280. Department of Agriculture.

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.

Western Australian Herbarium (1998- ) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/> (Accessed August 2018).

Woodman Environmental (2018) Biological Survey for the Nanutarra Munjina Road Material Pits. Prepared for Main Roads Western Australia, November 2018.

**GIS Databases:**

Aboriginal Sites of Significance  
DBCA Estate  
Groundwater salinity  
Hydrography, Linear  
Hydrography, Hierarchy  
Remnant vegetation  
SAC bio datasets (accessed May 2019)  
Topographic contours