



# Clearing Assessment Report – CPS 818

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Western Australia.*

Minilya Exmouth Road Material Pits

2, 7, 10.5, 13.2, 18.3 and 62 SLK

January 2021

2180, 2192, 2181, 2182, 2183 and 2184

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# Amendments

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Environment Officer	Draft v1	6/10/2020
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Author:	Environment Officer	Rev 1	27/01/2021

## 1 PURPOSE

The purpose of this Clearing Assessment Report (CAR) is to provide a report detailing the assessment of native vegetation clearing that is proposed to be undertaken using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

The CAR outlines the key activities associated with the project, the existing environment and an assessment of native vegetation clearing. This assessment provides an evaluation of the vegetation clearing impacts associated with the project using the ten Clearing Principles, and the strategies used to manage vegetation clearing.

## 2 SCOPE

### 2.1 Project Scope

**Project Name:** Minilya Exmouth Road 2, 7, 10.5, 13.2, 18.3 & 62 SLK Material Pits

**Project Purpose / Components:** This project involves the investigation of ~783 hectares of leased pastoral land to identify any potential naturally occurring road building materials for Borrow/Basecourse. If suitable material is located during the investigation, stockpiling will be staged as per project requirements.

**The proposed clearing undertaking using CPS 818 is:** Total=216 hectares (ha) of native vegetation within 783 ha combined project envelope as per break down below:

2 SLK= ~7ha within a 13.4ha project envelope.

7 SLK= ~40ha within a 141ha project envelope.

10.5 SLK= ~10ha within a 16.4ha project envelope.

13.2 SLK= ~4ha within a 5.5ha project envelope.

18.3 SLK= ~5ha within a 6.9ha project envelope.

62 SLK= ~150ha within a 600ha project envelope.

**The proposed temporary clearing undertaking using CPS 818 is:** None.

**Project Location(s):** This project is located on Minilya Exmouth Road 2, 7, 10.5, 13.2, 18.3 & 62 SLK within the Shire of Carnarvon.

The location of the proposed works is at Figure 1-6 (refer to D20#811810 for figures).

### 2.2 Assessment Report Scope

The assessment area, see Figure 7, is confined to a local area of a 20 km radius.

**Figure 1. Project Area 2 SLK**

**Figure 2. Project Area 7 SLK**

**Figure 3. Project Area 10.5 SLK**

**Figure 4. Project Area 13.2 SLK**

**Figure 5. Project Area 18.3 SLK**

**Figure 6. Project Area 62 SLK**

**Figure 7. Project Location and Study Area**

Figures Redacted - See D20#811810 for figures

## **2.3 Alternatives to clearing**

The materials are necessary for maintaining the safety of the road network. Commercially sourcing the material is not viable given the carting distances required would make the project unfeasible. Material needs to be sourced close to the project and these locations will provide sufficient coverage for the future projects and maintenance requirements.

## **2.4 Measures to Avoid, Minimise, Reduce and Manage Project Clearing Impacts**

Justification for how project design was chosen:

- Location of available material in close vicinity to the road.
- Results of hand help material testing.

Impacts of clearing have been avoided and minimised through following:

- Smallest possible area is to be removed. This approval is an envelope and the entire area will not be required to be cleared.
- Where possible priority flora will be avoided.
- Existing access tracks will be utilised.
- Other disturbed areas will also be utilised as far as possible.

## 2.5 Approved Policies and Planning Instruments

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), Main Roads has also had regard to the below instruments.

### **Other Legislation of relevance for assessment of clearing and planning/other matters**

- Biodiversity Conservation Act 2016 (WA) (BC Act)
- Conservation and Land Management Act 1984 (WA) (CALM Act)
- Country Areas Water Supply Act 1947 (WA) (CAWS Act)
- Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)
- Planning and Development Act 2005 (WA) (P&D Act)
- Soil and Land Conservation Act 1945 (WA)
- Rights in Water and Irrigation Act 1914
- Aboriginal Heritage Act 1972 (WA)
- Town Planning and Development Act 1928

### **Environmental Protection Policies**

- Environmental Protection (Peel Inlet - Harvey Estuary) Policy 1992;
- Environmental Protection (Western Swamp Tortoise Habitat) Policy 2011

### **Other Relevant policies and guidance documents:**

- Environmental Offsets Policy (Government of Western Australia, 2011)
- A guide to the assessment of applications to clear native vegetation (DEC, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, August 2014)
- Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016)
- Technical guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020)
- Approved conservation advice under section 266B of the EPBC Act for threatened flora/fauna/vegetation communities
- Approved Recovery Plans for threatened species
- EPBC Act Referral guidelines for the three threatened black cockatoo species
- Strategic advice - EPA

## **3 SUMMARY OF SURVEYS**

### **3.1 Biological Survey**

The Minilya Exmouth Widen Formation and Seal Shoulders Biological Survey was conducted in July 2020 by Eco Logical Australia.

Section 3.1.1 contains the summary of the survey.



### 3.1.1 Summary of Biological Survey

Main Roads Biological Survey | Main Roads Western Australia

#### Executive Summary

Eco Logical Australia was engaged by Main Roads Western Australia to undertake a desktop assessment and biological survey across six survey areas associated with the proposed Minilya-Exmouth (H048), Burkett Road (M007) and North West Coastal (H007) widening and material pit locations. The desktop assessment included a review of relevant government database searches, and other supplementary information, as provided by Main Roads (e.g. previous biological survey reports). A Detailed and Targeted flora and vegetation survey and a Basic fauna survey (Level 1 equivalent) was undertaken within Survey Areas 1, 2, 4, 5 and 6; with a targeted flora survey being undertaken within Survey Area 3.

#### SURVEY AREA 1

A total of 109 taxa (104 native and five introduced taxa) from 68 genera and 26 families were recorded across 40 quadrats established within Survey Area 1. Average species richness per quadrat was 15.15 species, ranging from a low of 5 species at ELA\_01\_38 to a high of 28 species at ELA\_01\_37. A species accumulation curve determined that approximately 85.8% of the flora species potentially present within Survey Area 1 were recorded, resulting in sufficient data to define and assess the presence, extent and significance of vegetation types.

No Threatened flora species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* or the State *Biodiversity Conservation Act 2016* were recorded within Survey Area 1. Four flora species listed as Priority by the Department of Biodiversity, Conservation and Attractions were recorded within Survey Area 1, namely *Sclerolaena stylosa* (Priority 1), *Crinum flaccidum* (Priority 2), *Owenia acidula* (Priority 3) and *Eremophila youngii* subsp. *lepidota* (Priority 4).

Spatial data (vegetation communities, condition and fauna habitats) for Survey Area 1 were extrapolated for a 500-metre-wide area, as specified in the Consultant Brief (12/2741). A total of eight vegetation communities were delineated and mapped across Survey Area 1 and within the extrapolation area. These communities generally comprised a broad mosaic of sparse to isolated *Acacia* shrublands over low chenopod shrublands and low tussock grassland on flats, gentle slopes, depressions and minor drainage lines. Vegetation communities recorded within Survey Area 1 are not inferred to represent any known Threatened or Priority ecological communities listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, the State *Biodiversity Conservation Act 2016* or by the Department of Biodiversity, Conservation and Attractions.

Vegetation within Survey Area 1 and within the broader extrapolation area ranged from Very Good to Degraded condition, with the majority being recorded in Poor condition. Disturbances within Survey Area 1 included previous clearing, heat stress and vegetation death, extensive cattle grazing and trampling, minor rubbish dumping and weeds. A total of five introduced flora species were recorded, namely *\*Asphodelus fistulosus* (Onion Weed), *\*Cenchrus ciliaris* (Buffel Grass), *\*Malvastrum americanum* (Spiked Malvastrum), *\*Sonchus oleraceus* (Common Sowthistle) and *\*Vachellia farnesiana* (Mimosa bush). No introduced flora recorded are listed as Weed of National Significance or Declared Pests under the State *Biosecurity and Agriculture Management Act 2007*. All weed species recorded are listed on the Western Australian Organism List Database as S-11 (permitted) species.

A total of five fauna habitats were identified within Survey Area 1 and within the broader extrapolation area. The most commonly occurring fauna habitat was Fauna habitat 2: *Acacia* tall sparse shrubland over mixed sparse shrubland and chenopods on sandy clay undulating plain. Fauna habitat 5: *Tecticornia* spp. low shrubland over sparse chenopod shrubs on open depression was found to be the least common fauna habitat type occurring within Survey Area 1. This fauna habitat was mapped as occurring within the extrapolation area only.

A total of 22 fauna species were recorded within Survey Area 1. This number comprised 16 birds, five mammals and one reptile. Of these, three mammal species were introduced species, namely Cattle (*Bos taurus*), Feral Goat (*Capra hircus*) and European Rabbit (*Oryctolagus cuniculus*). No direct (observations) or indirect (scats, tracks, diggings) evidence of conservation significant fauna species were recorded within Survey Area 1. Of the 24 fauna species of conservation significance identified from the desktop assessment as possibly occurring within Survey Area 1, two have been previously recorded by GHD (2016b), namely *Chlidonias leucopterus* (White-winged Black tern) and *Tringa nebularia* (Common Greenshank). These species are vagrant in nature and were not recorded during the current assessment.

#### SURVEY AREA 4

A total of 74 taxa (73 native and one introduced taxa) from 57 genera and 28 families were recorded across 12 quadrats established within Survey Area 4. Average species richness per quadrat was 28.5 species, ranging from a low of 19 species at ELA\_4\_02 to a high of 34 species at ELA\_4\_05 and ELA\_4\_06. A species accumulation curve determined that approximately 86.7% of the flora species potentially present within Survey Area 4 were recorded, resulting in sufficient data to define and assess the presence, extent and significance of vegetation communities within Survey Area 4.

No Threatened flora species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* or the State *Biodiversity Conservation Act 2016* were recorded from within Survey Area 4. One flora species listed as Priority 2 by the Department of Biodiversity, Conservation and Attractions was recorded, namely *Acacia ryaniana*.

A total of three vegetation communities were delineated and mapped across Survey Area 4, comprising a broad mix of occasional *Acacia* shrubland over mixed heathland on sandy dune slopes, rises and crests. Vegetation communities recorded within Survey Area 4 are not inferred to represent any known Threatened or Priority ecological communities listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, the State *Biodiversity Conservation Act 2016* or by the Department of Biodiversity, Conservation and Attractions.

Vegetation condition within Survey Area 4 ranged from Excellent to Very Good. Majority of Survey Area 4 was classed as being in Excellent condition (97.6%), with the remainder classed as in Very Good condition (1.1%) or Cleared (1.3%). Disturbances present within Survey Area 4 included the presence of

low-density weeds, previous clearing and rubbish. One introduced flora species was recorded within Survey Area 4, namely *\*Cenchrus ciliaris* (Buffel Grass). This species is listed on the Western Australian Organism List Database as S-11 (permitted) and is not listed as a Weed of National Significance or a Declared Pest under the State *Biosecurity and Agriculture Management Act 2007*.

One fauna habitat was identified within Survey Area 4, namely Fauna habitat 1: occasional tall sparse shrubland over mixed open heathland over *Triodia* low hummock grassland on sandy dune slopes, swales and rises. A total of 11 fauna species were recorded within Survey Area 4. This number comprised six birds, four mammals and one reptile. Of these, two mammal species were introduced species, namely Cattle (*\*Bos taurus*) and Feral Cat (*\*Felis catus*). No direct (observations) or indirect (scats, tracks, diggings) evidence of conservation significant fauna species were recorded within Survey Area 4.

## 4 VEGETATION DETAILS

### 4.1.1 Project Site Vegetation Description

For a full description of the existing vegetation, refer to the Biological Survey D20#830909 (Ecological Australia 2020).

#### 2 SLK

There are three vegetation types within the project area:

##### AoAsCc

*Alectryon oleifolius*, *Hakea preissii*, *Acacia tetragonophylla* tall sparse shrubland over *Acacia sclerosperma*, *Stylobasium spathulatum*, *Acacia synchronicia* mid sparse shrubland over *Sclerolaena costata* low isolated chenopod shrubs and *\*Cenchrus ciliaris* low open tussock grassland.

##### AtSsCc

*Acacia tetragonophylla*, *Acacia synchronicia*, *\*Vachellia farnesiana* tall open shrubland over *Scaevola spinescens*, *Acacia sclerosperma*, *Rhagodia preissii* subsp. *obovata* mid open shrubland over *\*Cenchrus ciliaris*, *Eulalia aurea*, *Eragrostis dielsii* low sparse tussock grassland.

##### Cleared

Cleared area

The project area is in Good to Degraded condition with the majority in Degraded (EPA, 2016) condition.

#### 7 SLK

There are three vegetation types within the project area:

##### AoAsCc

*Alectryon oleifolius*, *Hakea preissii*, *Acacia tetragonophylla* tall sparse shrubland over *Acacia sclerosperma*, *Stylobasium spathulatum*, *Acacia synchronicia* mid sparse shrubland over *Sclerolaena costata* low isolated chenopod shrubs and *\*Cenchrus ciliaris* low open tussock grassland.

##### AcAcCc

*Acacia coriacea* subsp. *coriacea*, *Acacia tetragonophylla*, *Acacia synchronicia* tall open shrubland over *Acacia sclerosperma*, *Alectryon oleifolius*, *Exocarpos aphyllus* mid sparse shrubland over *\*Malvastrum*

*americanum* low sparse shrubland and \**Cenchrus ciliaris*, *Chrysopogon fallax* low sparse tussock grassland.

Cleared

Cleared area

The project area is in Good to Poor condition with the majority in Poor (EPA, 2016) condition.

**10.5 SLK**

There are three vegetation types within the project area:

AsSsMp

*Acacia synchronicia*, *Acacia xiphophylla*, *Acacia tetragonophylla* tall sparse shrubland over *Stylobasium spathulatum*, *Scaevola spinescens*, *Rhagodia preissii* subsp. *obovata* mid sparse shrubland over *Maireana polypterygia*, *Sclerolaena gardneri* low sparse chenopod shrubland and \**Cenchrus ciliaris* low isolated tussock grasses.

AtEtPo

*Acacia tetragonophylla*, *Acacia sclerosperma*, *Alectryon oleifolius* tall sparse shrubland over *Eremophila tietkensisii*, *Scaevola spinescens*, *Senna artemisioides* subsp. *helmsii* mid sparse shrubland over *Ptilotus obovatus*, *Roepora retivalvis* low sparse shrubland and \**Cenchrus ciliaris* low isolated tussock grasses.

Cleared

Cleared area

The project area is in Very Good to Good condition with the majority in Good (EPA, 2016) condition.

**13.2 SLK**

There are two vegetation types within the project area:

AsSsMp

*Acacia synchronicia*, *Acacia xiphophylla*, *Acacia tetragonophylla* tall sparse shrubland over *Stylobasium spathulatum*, *Scaevola spinescens*, *Rhagodia preissii* subsp. *obovata* mid sparse shrubland over *Maireana polypterygia*, *Sclerolaena gardneri* low sparse chenopod shrubland and \**Cenchrus ciliaris* low isolated tussock grasses.

Cleared

Cleared area

The project area is in Good to Poor condition with the majority in Poor (EPA, 2016) condition.

**18.3 SLK**

There are two vegetation types within the project area:

AsSsMp

*Acacia synchronicia*, *Acacia xiphophylla*, *Acacia tetragonophylla* tall sparse shrubland over *Stylobasium spathulatum*, *Scaevola spinescens*, *Rhagodia preissii* subsp. *obovata* mid sparse shrubland over *Maireana polypterygia*, *Sclerolaena gardneri* low sparse chenopod shrubland and \**Cenchrus ciliaris* low isolated tussock grasses.

Cleared

Cleared area

The project area is in Poor (EPA, 2016) condition.

**62 SLK**

There are four vegetation types within the project area:

AsTb

*Acacia spathulifolia*, *Thryptomene dampieri*, *Hakea stenophylla* subsp. *stenophylla* mid open heathland over *Triodia basedowii* low hummock grassland.

AtMcTb

*Acacia tetragonophylla*, *Acacia coriacea* subsp. *coriacea*, *Grevillea stenobotrya* tall sparse shrubland over *Melaleuca cardiophylla*, *Thryptomene dampieri*, *Acacia spathulifolia* mid sparse heathland over *Triodia basedowii* low hummock grassland and \**Cenchrus ciliaris* low sparse tussock grassland.

HsTb

*Hakea stenophylla* subsp. *stenophylla*, *Daviesia benthamii*, *Acacia gregorii* mid open heathland over *Triodia basedowii* low hummock grassland.

Cleared

Cleared area

The project area is in Excellent to Very Good condition with the majority in Excellent (EPA, 2016) condition.

Tables 2 and 3 provide details of the Pre-European Vegetation Associations with the project area and the remaining extents of these associations.

**Table 2. Summary of Project Area’s Mapped Pre-European Vegetation Associations**

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 95 described as a Hummock grasslands, shrub steppe; acacia & grevillea over <i>Triodia basedowii</i> Vegetation Association 244 described as a Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> scrub Vegetation Association 264 described as a Low woodland; <i>Acacia victoriae</i> & snakewood Vegetation Association 662 described as a Hummock grassland; shrub steppe; mixed acacia scrub & dwarf scrub with soft spinifex & <i>Triodia basedowii</i> (Government of Western Australia, 2019)	Clearing of up to 216 ha for material investigation and extraction Minilya Exmouth Road, Carnarvon.	See above	Vegetation description and condition determined from Eco Logical (2020) biological survey and aerial imagery.

**Table 3. Pre-European Vegetation Representation****2 SLK**

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
<b>Veg Assoc No. 95</b>	<b>Statewide</b>	1,224,626.57	1,223,593.74	99.92	4.03
	<b>IBRA Bioregion</b> Carnarvon	390,084.97	389,947.89	99.96	1.19
	<b>IBRA Sub-region</b> Wooramel	332,277.23	332,140.15	99.96	1.40
	<b>Local Government Authority</b> Shire of Carnarvon	385,399.51	384,366.68	99.73	1.34
<b>Veg Assoc No. 264</b>	<b>Statewide</b>	581,127.75	581,123.31	100.00	3.76
	<b>IBRA Bioregion</b> Carnarvon	503,681.76	503,677.32	100.00	3.47
	<b>IBRA Sub-region</b> Wooramel	475,948.78	475,944.34	100.00	3.67
	<b>Local Government Authority</b> Shire of Carnarvon	218,234.12	218,229.69	100.00	4.54

**7 SLK**

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
<b>Veg Assoc No. 264</b>	<b>Statewide</b>	581,127.75	581,123.31	100.00	3.76
	<b>IBRA Bioregion</b> Carnarvon	503,681.76	503,677.32	100.00	3.47
	<b>IBRA Sub-region</b> Wooramel	475,948.78	475,944.34	100.00	3.67
	<b>Local Government Authority</b> Shire of Carnarvon	218,234.12	218,229.69	100.00	4.54

**10.5, 13.2 and 18.3 SLK**

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
<b>Veg Assoc No. 244</b>	<b>Statewide</b>	88,973.39	88,973.39	100.00	0.04
	<b>IBRA Bioregion</b> Carnarvon	88,909.93	88,909.93	100.00	0.01
	<b>IBRA Sub-region</b> Wooramel	88,868.39	88,868.39	100.00	0.01
	<b>Local Government Authority</b> Shire of Carnarvon	36,386.99	36,386.99	100.00	-

**62 SLK**

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
<b>Veg Assoc No. 662</b>	<b>Statewide</b>	284,795.92	282,125.59	99.06	7.51
	<b>IBRA Bioregion</b> Carnarvon	282,709.68	281,679.33	99.64	7.41
	<b>IBRA Sub-region</b> Cape Range	282,709.68	281,679.33	99.64	7.41
	<b>Local Government Authority</b> Shire of Carnarvon	90,385.25	88,529.85	97.95	8.77

**5 ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES**

In assessing whether the project's proposed clearing is likely to have a significant impact on the environment, the project was assessed against the ten Clearing Principles (Environmental Protection Act 1986, Schedule 5).

Each principle has been assessed in accordance with DWER's 'A Guide to the Assessment of Applications to Clear Native Vegetation' and other relevant CPS Decision Reports prepared by DWER.

The proposed clearing is not likely to be at variance with the 10 Clearing Principles.

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

Comments	Proposed clearing is not likely to be at variance to this Principle
	<p>This project requires the removal of up to 216ha of vegetation within a 783ha area across six sites over the next twenty years to source materials.</p> <p>The project areas fall within the mapped Vegetation Associations 95, 244, 264 and 662 (Government of Western Australia, 2019). These vegetation associations are well represented with greater than 99% of their pre-European extent remaining at the State, Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion, IBRA sub-region and local government authority (LGA) levels.</p> <p>No Threatened flora was recorded within the project areas. However three Priority flora species were identified within pits 2, 7 and 62 SLK.</p> <ul style="list-style-type: none"> <li>• <i>Acacia ryaniana</i> P2 (270 individuals within pit 62 SLK)</li> <li>• <i>Crinum flaccidum</i> P2 (12 individuals within pit 7 SLK)</li> <li>• <i>Owenia acidula</i> P3 (20 individuals within pit 2 SLK)</li> </ul> <p>The priority flora within pits 2 and 7 SLK will be avoided by the project activities and a buffer will be demarcated for protection around the flora, therefore these species will not be impacted. Of the 270 individuals of the <i>Acacia ryaniana</i> only up to 65 will be removed by the project activities the remaining 214 individuals will not be impacted by the project activities. The biological survey identified a further six locations to the west of the development envelope which includes 49 individuals recorded. This species is also known from a further 21 DBCA records of approximately 600km from south of Eurady in the south to near Exmouth in the north. Overall, assuming each DBCA record is just one individual (underestimate), there are 340 known individuals of the species and the removal of up to 65 will represent less than 20%. Further, it is expected that the appropriate habitat</p>

	<p>extends well beyond the project area and this species would be found within the surrounding landscape, further reducing the impact. Therefore, the clearing for the project is not expected to significantly impact this species.</p> <p>The fauna habitat available in the project area is widespread within the local area. As such the removal of the vegetation for this project is unlikely to significantly impact any fauna species.</p> <p>Within the study area there are no known records of Threatened Ecological Communities (TEC) and one record of a Priority Ecological Community (PEC). This PEC is the "Marloo Land System" P3 which is located over 17.7 km to the north east of the 18.3 SLK pit. The biological survey identified that none of the vegetation units are representative of any state or federally listed TECs or PECs. Therefore it is unlikely that any TECs or PECs will be impacted by the project activities.</p> <p>Given the above this project clearing is not likely to be at variance to this Principle.</p>
<b>Methodology</b>	<p>DBCA shapefiles                  Government of WA (2019)                  Main Roads GIS Shapefiles                  Eco Logical Biological Survey 2020</p>

**(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.**

<b>Comments</b>	<b>Proposed clearing is not likely to be at variance to this Principle</b>
	<p>Within the study area there are known records of 34 protected fauna species. The majority of the known records are migratory and marine species. As this project is terrestrial in nature and involves a highly vegetated area it is unlikely that the project area represents significant habitat.</p> <p>The biological survey identified that previous conservation significant species recorded in the area are <i>Chlidonias leucopterus</i> (White-winged Black tern) and <i>Tringa nebularia</i> (Common Greenshank). These species are vagrant in nature and therefore these are not likely to be impacted by the project activities.</p> <p>The fauna habitat available in the project area is widespread within the local area. As such the staged, localised removal of vegetation required for the project is unlikely to impact any fauna species.</p> <p>Given the study area is almost 100% vegetated and the habitat types present within the project area are widespread within the local and regional area it is unlikely that the project area represents significant habitat to any fauna species. Therefore this project clearing is not likely to be at variance to this Principle.</p>
<b>Methodology</b>	<p>Eco Logical Biological Survey 2020                  DBCA Shapefiles</p>



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

<b>Comments</b>	<b>Proposal is not likely to be at variance to this Principle</b>
	<p>Within the study area there are no known records of declared rare flora (DRF). The nearest DRF record occurs 265km to the east of the project area. During the survey no DRF was identified within the project areas.</p> <p>Given the above it is unlikely that this project will directly or indirectly impact upon any DRF species. Therefore this project clearing is not likely to be at variance to this Principle.</p>
<b>Methodology</b>	<p>DBCA shapefiles Eco Logical Biological Survey 2020</p>

**(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.**

<b>Comments</b>	<b>Proposed clearing is not likely to be at variance to this Principle</b>
	<p>Within the study area there are no known records of Threatened Ecological Communities (TECs). The nearest TEC occurs over 90km to the north of pit 62 SLK.</p> <p>During the biological surveys no TECs were identified. Given the distance to the nearest known TEC and that the biological survey identified no TECs it is unlikely that this project clearing will impact any TECs.</p> <p>Therefore this project clearing is not likely to be at variance to this Principle.</p>
<b>Methodology</b>	<p>DBCA shapefiles Eco Logical Biological Survey 2020</p>

**(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.**

<b>Comments</b>	<b>Proposed clearing is not likely to be at variance to this Principle</b>
	<p>It is evident from Section 5.2.1 above that the vegetation associations in the project area are well represented in the local area with nearly 100% vegetation remaining.</p> <p>This vegetation is not significant as a remnant. The surrounding landscape is highly vegetated with nearly 100% of the study area vegetated. Since the project involves clearing within a highly vegetated area it is unlikely that the removal of this vegetation will reduce ecological functioning or that the proposed clearing areas provide essential linkages.</p> <p>Given the above this project clearing is not likely to be at variance to this Principle as the clearing does not represent an area that is significant as a remnant nor is it in an extensively cleared landscape.</p>
<b>Methodology</b>	<p>Aerial photography Government of Western Australia (2019)</p>

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

Comments	Proposed clearing is not likely to be at variance to this Principle
	<p>The nearest lake occurs over 4.5km to the west of the 13.2 SLK material pit. The nearest watercourse occurs over 780m to the south of 18.3 SLK material pit.</p> <p>The mapped vegetation associations in the project envelope do not include any riparian vegetation. During the biological survey it was confirmed that there are no water bodies identified within the project envelope nor was there any evidence of riparian vegetation present within the project envelope.</p> <p>Given the project’s mapped vegetation type, that no riparian vegetation was identified during the biological survey and the project’s distance to the nearest waterbody it is considered unlikely that the native vegetation proposed to be cleared is growing in or in association with a watercourse or wetland. Therefore this project clearing is considered not likely to be at variance to this Principle.</p>
<b>Methodology</b>	DWER and DBCA shapefiles Eco Logical Biological Survey 2020

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

Comments	Proposed clearing is not likely to be at variance to this Principle
	<p>The project area is in an area of low rainfall (244.6mm average annual rainfall, BoM 2020). Since the rainfall in the area is low it is unlikely that water erosion or waterlogging will be significantly increased as a result of this clearing. As the area is surrounded by vegetation the likelihood of wind erosion is reduced. As there is no dewatering or excavation below the water table required for this project it is unlikely that acid sulfate soils will be an issue. The soil in the project area is a sand with some small areas of clay and as such will have a high infiltration rate which will reduce the chances of waterlogging and water erosion.</p> <p>Given the soil properties, vegetation remaining in the area and that this clearing will be it is unlikely that the clearing will increase land degradation. Therefore this project clearing is not likely to be at variance to this Principle.</p>
<b>Methodology</b>	BoM 2020 Eco Logical Biological Survey 2020

**(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.**

Comments	Proposed clearing is not likely to be at variance to this Principle
	<p>Within the study area there are two conservation reserves. These are:</p> <ul style="list-style-type: none"> <li>• Ningaloo Marine Park-located over 5.2km to the west of the project area</li> <li>• Un-named Foreshore Management-located over 11.2km to the north west of the project area.</li> </ul> <p>Given the distance to the nearest reserve it is unlikely that this project will significantly impact any reserves or conservation areas.</p>

	Therefore this project clearing is not likely to be at variance to this Principle.
<b>Methodology</b>	DBCA shapefiles

**(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.**

<b>Comments</b>	<b>Proposed clearing is not likely to be at variance to this Principle</b>
	<p>The project occurs within the Pilbara Proclaimed Surface Water Area and the Gascoyne Groundwater Area. There are no Public Drinking Water Source Areas overlying the project areas. The nearest lake occurs over 4.5km to the west of the 13.2 SLK material pit. The nearest watercourse occurs over 780m to the south of 18.3 SLK material pit.</p> <p>The project area is heavily vegetated and therefor the impacts to surface and groundwater are unlikely to be significant in the local context.</p> <p>Therefore this project clearing is not likely to be at variance to this Principle.</p>
<b>Methodology</b>	DWER and DBCA shapefiles Eco Logical Biological Survey 2020

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

<b>Comments</b>	<b>Proposed clearing is not likely to be at variance to this Principle</b>
	<p>The project area is in a low rainfall area (244.6mm average annual rainfall, BoM Winning 2020) which will minimise the chance of flooding in the area. This area will have a high infiltration rate as the project area is composed of sand soils with some small areas of clay. As there is approximately 100% vegetation remaining within the local area it is unlikely that the clearing required for this project will cause or increase the chance of flooding.</p> <p>Given the above this project clearing is not likely to be at variance to this Principle.</p>
<b>Methodology</b>	Eco Logical Biological Survey 2020 BoM 2020

## 6 ADDITIONAL ACTIONS REQUIRED

Table 5 summarises what further pre-clearing impact assessment and vegetation management is required in accordance with CPS 818.

**Table 5. Summary of Additional Management Actions Required by CPS 818**

Impact of Clearing	Yes/No or NA	Further Action Required
<p><b>1.</b> The CAR indicates that the clearing is 'At Variance' or 'May be at Variance' with one or more of the Clearing Principles.</p> <p>Where the clearing is at variance or may be at variance to Clearing Principle (f) and no other Clearing Principle, and the area of the proposed clearing is less than 0.5 hectares in size and the Clearing Principle (f) impacts only relate to:</p> <ul style="list-style-type: none"> <li>(i) a minor non-perennial watercourse(s);</li> <li>(ii) a wetland(s) classed as a multiple use management category wetland(s); and/or</li> <li>(iii) a wetland that is not a defined wetland;</li> </ul> <p>the preparation of an Assessment Report, as required by condition 6(e), is not required.</p>	<b>No</b>	No further action required.
<p><b>2.</b> Clearing is at variance or may be at variance with Clearing Principle (g) land degradation, (i) surface or underground water quality or (j) the incidence of flooding.</p>	<b>No</b>	No further action required.
<p><b>3.</b> The project involves clearing for temporary works (as defined by CPS 818).</p>	<b>No</b>	No further action required.
<p><b>4 a.</b> Project is within Region that:</p> <ul style="list-style-type: none"> <li>- Has rainfall greater than 400mm and</li> <li>- Is South of the 26<sup>th</sup> parallel and</li> <li>- Works are in 'Other than dry conditions' and</li> </ul>	<b>No</b>	Proceed with standard Vehicle and Plant management actions.

Impact of Clearing	Yes/No or NA	<i>Further Action Required</i>
- Works have potential for <b>uninfested</b> areas to be impacted		
<b>4b.</b> Does the proposed works require clearing within or adjacent to DBCA estate in non-dry conditions?	<b>No</b>	No further action required.
<b>5.</b> Main Roads has been notified by DWER or an environmental specialist that the area to be cleared is susceptible to a pathogen other than dieback	<b>No</b>	No further action required.
<b>6.</b> The vegetation within the area to be cleared and/or the surrounding vegetation in a good or better condition and weeds likely to spread to and result in environmental harm to adjacent areas of native vegetation that are in good or better condition	<b>No</b>	Weeds are present but only at a low density and are unlikely to spread or impact the surrounding area

## **7 STAKEHOLDER CONSULTATION**

No stakeholder consultation required as part of the project.

## **8 VEGETATION MANAGEMENT**

Main Roads will avoid clearing native vegetation where possible. Where clearing cannot be avoided then this clearing is kept to a minimum. A Vegetation Management Plan (VMP) has been developed to manage and minimise vegetation clearing for the project (refer to Appendix 3).

## 9 REFERENCES

Beeston, G.R., Hopkins, A.J.M. and Shepherd, D.P. (2002). Land-use and vegetation in Western Australia. Department of Agriculture, Western Australia, Resource Management Technical Report 250.

Bureau of Meteorology Australia. (2020). Climate Averages for Australian Sites – Winning – Available online from <http://www.bom.gov.au/climate/data/index.shtml> Accessed 30/9/2020.

Department of Natural Resources and Environment (2002). Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

Eco Logical Australia. (2020). *Main Roads Biological Survey 2020. Minilya-Exmouth (H048); Burkett Road (M007) and North West Coastal (H048)*. Unpublished report prepared for Main Roads Western Australia. D20#830909.

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Government of Western Australia. (2019). 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions, Perth. Available online from: <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>

## 10 APPENDICES

Appendix	Title
<b>Appendix 1</b>	Biological Survey
<b>Appendix 2</b>	DBCA Threatened Flora and Fauna Database Searches
<b>Appendix 3</b>	Vegetation Management Plan



## **Appendix 1: Biological Survey**

Refer to TRIM D20#830909

## Appendix 2: DBCA Threatened Flora and Fauna Database Searches

Redacted

## Appendix 3: Vegetation Management Plan

### Introduction

This Vegetation Management Plan (VMP) has been prepared by Main Roads for the purpose of managing native vegetation clearing impacts associated with the project. In specified circumstances, Main Roads VMP is required to be approved by DWER as a condition of Main Roads Statewide Clearing Permit CPS 818.

### Scope of the Vegetation Management Plan

The VMP highlights the key project management issues and provides actions required to be undertaken by Main Roads before, during and following project completion. The aim of the VMP is to provide actions to manage the clearing impacts, to allocate areas of responsibility required for the implementation of management actions identified and to provide mechanisms to report on compliance with those actions. Timeframes for the completion of actions and monitoring are also provided.

When preparing the VMP an emphasis has been placed on management actions regarding the native vegetation clearing impacts, being determined by the variance level to the clearing principles ('Seriously at Variance', 'At Variance' and 'May be at Variance').

The VMP actions will be incorporated into the project specific Environmental Management Plan (EMP). Construction contractors are also required to comply with Main Roads' standard environmental management contract specifications (required for Type C and D projects).

### Scope of the Project Activities

This project involves the investigation of a total of ~783 hectares of leased pastoral land to identify any potential naturally occurring road building materials for Borrow / Basecourse. If suitable material is located during the investigation, stockpiling will be staged as per project requirements.

### Communication

Native vegetation clearing and vegetation management will be communicated at induction, toolbox and/or contract meetings. Information located in the VMP will be communicated to all project and construction personnel, (including sub-contractors) prior to the commencement of project activities and during all phases of project implementation. Where necessary, Main Roads will liaise with the DWER to obtain further advice regarding vegetation management

### VMP Accountability

Name	Role	Contact Details
	Materials Manager	
	Environment Officer	

**VEGETATION MANAGEMENT PLAN**

<b>Project Component</b>	<b>Management Action</b>	<b>Monitoring/Maintenance Program</b>	<b>Responsible Person</b>	<b>Completion Timeframe</b>
<b>Standard Vegetation Clearing and Fauna Management</b>				
<b>Avoid and manage project clearing</b>	<ul style="list-style-type: none"> <li>Minimise vegetation clearing within the approved clearing envelope where possible and by utilising existing cleared area where possible.</li> </ul>	<ul style="list-style-type: none"> <li>Extent of clearing for project is recorded within one week and entered in EOS, once it is available.</li> </ul>	Environment Officer	Within one week once clearing has been completed
	<ul style="list-style-type: none"> <li>At the pre-start meeting (or equivalent) – Provide clear maps (and spatial data) indicating the areas approved to be cleared (limited to the project area described in the Assessment Report) to the crew undertaking the clearing works.</li> </ul>	<ul style="list-style-type: none"> <li>One compliance inspection will occur prior to clearing. Record sheet will be signed at the pre-start meeting by all personnel and emailed to the Environment Officer within two weeks of contract completion.</li> </ul>	Project Manager	Prior to clearing commencing
	<ul style="list-style-type: none"> <li>Have on site a copy , and implement actions within the ECD.</li> </ul>	<ul style="list-style-type: none"> <li>One compliance inspection will occur prior to clearing.</li> </ul>	Project Manager / Environment Officer	Prior to clearing commencing
	<ul style="list-style-type: none"> <li>Vegetation shall be conserved as far as practicable, and shall not be disturbed for such temporary works as campsites or site offices.</li> </ul>	<ul style="list-style-type: none"> <li>One compliance inspection will occur within two weeks of contract completion. The project area will be driven/walked to ensure the extent of clearing was not exceeded and where possible/safe mature trees retained.</li> </ul>	Project Manager / Environment Officer	Within two weeks of contract completion
	<ul style="list-style-type: none"> <li>Any over clearing shall be recorded and reported immediately to Environment Branch.</li> <li>Any damage caused (beyond the extent of approvals) during the construction to vegetation, landforms, or fauna habitat shall be rehabilitated to the pre-clearing condition in consultation with the Environment Officer.</li> </ul>	<ul style="list-style-type: none"> <li>One compliance inspection will occur within two weeks of contract completion. The project area will be driven to ensure no damage to vegetation, landforms or habitats occurred during construction.</li> </ul>	Project Manager / Environment Officer	Within two weeks of contract completion
	<ul style="list-style-type: none"> <li>Burning of cleared vegetative materials or burning within the road reserve will not be permitted under any circumstances.</li> <li>Cleared vegetation will be used during any rehabilitation activities and either mulched or respread according to the Revegetation Plan. If Main Roads has no use for stockpiled vegetation, this material may be made available for use by members of the public.</li> </ul>	<ul style="list-style-type: none"> <li>One compliance inspection will occur prior contract completion.</li> </ul>	Project Manager / Environment Officer	Prior to contract completion
	<ul style="list-style-type: none"> <li>Clearing is to be undertaken progressively, limited to the clearing of an area required for extraction.</li> <li>Clearing to be staged to ensure that natural surface drainage is maintained where practicable to ensure significant soil erosion does not result</li> </ul>	<ul style="list-style-type: none"> <li>Annual monitoring and reporting</li> </ul>	Environment Officer	On-going for life of pit

**VEGETATION MANAGEMENT PLAN**

<b>Project Component</b>	<b>Management Action</b>	<b>Monitoring/Maintenance Program</b>	<b>Responsible Person</b>	<b>Completion Timeframe</b>
<b>Avoid and manage impacts to fauna.</b>	<ul style="list-style-type: none"> <li>Commence clearing in such a way as to allow fauna to move out of the clearing area if possible</li> <li>No pets, traps or firearms are allowed within the project area.</li> <li>Fauna are not to be fed or intentionally harmed or killed.</li> <li>In the event that sick, injured or orphaned native wildlife are located on the project site, the WILDCARE Helpline ((08) 9474 9055) will be contacted for assistance.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring will be undertaken through the corporate audit process and remedial actions managed through Main Roads internal incident management process.</li> </ul>	Management Action - Project Manager  Monitoring Program – Environment Branch	Project lifespan/ ongoing
<b>Weed Control</b>	<ul style="list-style-type: none"> <li>Remove or kill any serious environmental weeds growing in project area that are likely to spread and result in environmental harm to adjacent areas of native vegetation that are in good or better condition.</li> </ul>	<ul style="list-style-type: none"> <li>One annual compliance inspection undertaken to manage spread of weeds.</li> </ul>	Project Manager	<ul style="list-style-type: none"> <li>Prior to clearing</li> <li>Within five years from commencement of clearing</li> </ul>
<b>Standard Record Keeping Management</b>				
<b>Record Keeping - Clearing</b>	Maintain the following records for the areas cleared: <ul style="list-style-type: none"> <li>a map and an ESRI Shapefile showing the location of the areas cleared (clearing of 0.5 hectares or less will only require a single GPS coordinate);</li> <li>the size of the area cleared (in hectares); and</li> <li>the dates on which the clearing was done in day/month/year format.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring will be undertaken through the corporate audit process and remedial actions managed through Main Roads internal incident management process.</li> </ul>	Environment Officer	Records maintained during construction and finalised within 2 weeks of contract completion
<b>Record Keeping – VMP</b>	Maintain the following records for the project area: <ul style="list-style-type: none"> <li>the location of the area to which the VMP has had action applied;</li> <li>an ESRI Shapefile showing the locations of the areas of clearing for project activities;</li> <li>a description of the management actions implemented; and</li> <li>the size of the area to which the management actions were applied (in hectares).</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring will be undertaken through the corporate audit process and remedial actions managed through Main Roads internal incident management process.</li> </ul>	Environment Officer	Records maintained during vegetation management activities and finalised within 2 weeks of contract completion.
<b>Standard Monitoring Actions</b>				
<b>Monitoring</b>	Monitor compliance with; <ul style="list-style-type: none"> <li>the VMP/ECD</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring will be undertaken through the corporate audit process and remedial actions managed through Main Roads internal incident management process.</li> </ul>	Environment Officer	Project lifespan/ ongoing