



mainroads
WESTERN AUSTRALIA

Clearing Desktop Report – CPS 818

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Western Australia.*

GNH Realignment Airport Side-track

August 2022

EOS# 2045

Contents

1	PURPOSE	4
2	SCOPE	4
2.1	Project Scope	4
2.2	Desktop Assessment Scope	4
2.3	Alternatives to Clearing	7
2.4	Measures to Avoid, Minimise, Mitigate and Manage Project Clearing Impacts	7
2.5	Approved Policies and Planning Instruments	9
3	METHODOLOGY	10
3.1	Desktop Study	10
4	VEGETATION DETAILS	10
4.1.1	Project Site Vegetation Description	10
5	ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES	11
6	ADDITIONAL ACTIONS REQUIRED	18
7	VEGETATION MANAGEMENT	18
8	REFERENCES	19
9	APPENDICES	20
	Appendix A: DBCA Threatened Flora and Fauna Database Searches	21

Amendments

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Environment Officer	Draft v1	24/08/2022
Reviewer:	Senior Environment Officer	Rev 0	30/08/2022

1 PURPOSE

This Clearing Desktop Report (CDR) is a desktop assessment of native vegetation clearing that is proposed to be cleared using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

2 SCOPE

2.1 Project Scope

Project Name: Side Track for the GNH airport realignment project

Project Purpose / Components: The project is for a Side-track construction which effectively comprises widening and overlay of existing Over Size Over Mass (OSOM) bypass. It is the minor southern widening portion that will require extra clearing.

The proposed clearing under CPS 818 is : up to 0.35ha (within a project area of 1.24ha, that is otherwise already cleared).

The proposed temporary clearing under CPS 818 is: 0

Project Location(s): The project area is located on Great Northern Highway (H006), 1616 SLK, Town of Port Hedland as shown in Figure 1.

- MGA reference: 50K 671864, 7745245

The location of the proposed works is at Figure 1.

2.2 Desktop Assessment Scope

The assessment/study area is confined to a local area of a 40 km radius, as shown in Figure 2.

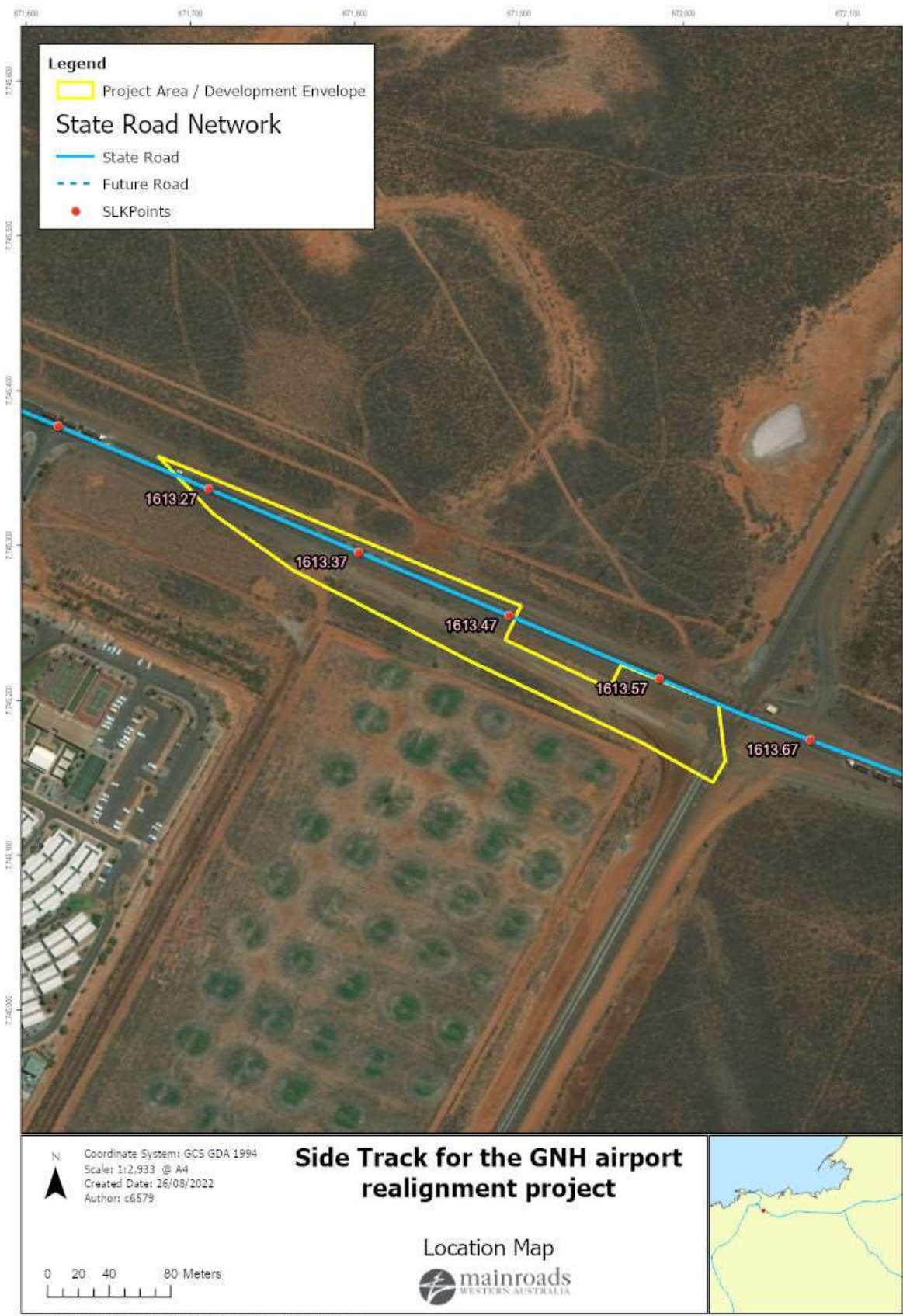


Figure 1. Project Area/Development Envelope



Figure 2. Project Location and Study Area

2.3 Alternatives to Clearing

The alternative to clearing is not conducting the GNH airport realignment, due to the positioning of the rail crossing this is the only location the side track can be located to conduct the works safely.

2.4 Measures to Avoid, Minimise, Mitigate and Manage Project Clearing Impacts

The design and management measures implemented to avoid and minimise the project clearing impacts are provided in Table 1.

- The access track is designed to utilise cleared areas as much as possible.
- Where cleared areas are not available disturbed fragmented roadside vegetation will be disturbed.
- The clearing area will be demarcated prior to the commencement of project activities and prior to the commencement of native vegetation clearing

Table 1. Justification of Avoiding, Minimising, Mitigating and Managing Project Clearing Impacts

Design or Management Measure	Discussion and Justification
Steepen batter slopes	Due to the traffic volumes, vehicle type and posted speeds these batters cannot be changed significantly. This road will not be sealed and minimal batter and maximum slopes will be used.
Installation of safety barriers	NA
Alignment to one side of existing road	NA
Alternative alignment to follow existing road (or) to preferentially locate within pasture or a degraded areas	The proposed side track is staying to existing cleared or disturbed areas.
Installation of kerbing	NA
Simplification of design to reduce number of lanes and/or complexity of intersections	NA
Preferential use of existing cleared areas for access tracks, construction storage and stockpiling	The proposed side track is staying to existing cleared or disturbed areas.
Drainage modification	NA

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

EPPs

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

Relevant other policies and guidance documents:

- The Western Australian Environmental Offsets Policy (Government of Western Australia, 2011)
- A guide to the assessment of applications to clear native vegetation (DWER, 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

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

3 Methodology

3.1 Desktop Study

A desktop assessment of the project area and an assessment of native vegetation clearing were undertaken by reviewing a number of government agency managed databases, viewing GIS shapefiles and consulting with relevant stakeholders where necessary. Results from searches can be found in the relevant Appendix.

GIS layer viewing and mapping is done using ArcMap a. Referencing of the GIS layers accessed is done under the relevant methodology section of each clearing principle.

4 VEGETATION DETAILS

4.1.1 Project Site Vegetation Description

The vegetation proposed to be cleared has not been surveyed but based on aerial photos and a site visit, the vegetation appears similar to the vegetation mapped on the adjacent side of the road. The vegetation type mapped on the adjacent side of the road: VT1 *Triodia epactia*, *Eragrostis* sp., *Acacia stellaticeps* low shrubland / herbfield in degraded condition GHD assessment (21-23/9/2015). 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 647 described as a Hummock grasslands, dwarf-shrub steppe; <i>Acacia translucens</i> over soft spinifex (Government of Western Australia, 2018)	Clearing of up to 0.35ha for a side track.	Degraded	Vegetation description and condition determined from aerial imagery.

Table 3. Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 647	Statewide 647	195,860.89	191,711.41	97.88	0
	IBRA Bioregion Pilbara	195,859.95	191,710.92	97.88	0
	IBRA Sub-region Roebourne Pil4	188,901.32	184,774.70	97.82	0
	Local Government Authority Town of Port Hedland	180,908.49	176,759.02	97.71	0

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* (EP Act), Schedule 5).

Each principle has been assessed in accordance with DWER's 'A Guide to the Assessment of Applications to Clear Native Vegetation'.

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.

Proposed clearing is not likely to be at variance to this Principle
<p>Comments</p> <p>The pre-European vegetation association 647 occurs within the project area, which is described as Hummock grasslands, dwarf-shrub steppe; <i>Acacia translucens</i> over soft spinifex. This vegetation association is widespread throughout the Pilbara and is not restricted to the study area.</p> <p>The proposed clearing area is not covered by a biological survey, however some of the surrounding areas have been surveyed. The vegetation type mapped on the adjacent side of the road is (VT1) <i>Triodia epactia</i>, <i>Eragrostis</i> sp., <i>Acacia stellaticeps</i> low shrubland / herbfield (HD assessment (21-23/9/2015)). From aerial imagery analysis this vegetation appears to be consistent with the vegetation within the project area in degraded condition.</p> <p>Field surveys conducted adjacent to the project over 197ha recorded 67 flora taxa representing 29 families and 49 genera (GHD assessment (21-23/9/2015)). This total comprised 65 native and two introduced (exotic) species.</p> <p>No flora taxa listed as threatened under the EPBC Act or BC Act are known or likely to occur within the project area, and none have been recorded in the surveys for the wider project GHD assessment (21-23/9/2015).</p> <p>No priority flora have been located in the proposed side-track project area however four currently DBCA Priority-listed flora species were recorded in the adjacent project area: <i>Tephrosia rosea</i> var. Port Hedland (P1), <i>Gomphrena leptophylla</i> (P3), <i>Goodenia nuda</i> (P4) and <i>Abutilon</i> sp. <i>Pritzelianum</i> (P3). The proposed clearing area represents marginally suitable habitat for the species but considering the very small scale of proposed clearing (0.35 ha) and the degraded nature, it is unlikely that these species would be present. Further details on these species are provided below:</p> <ul style="list-style-type: none"> Approximately 70 individuals of <i>Goodenia nuda</i> (P4) were recorded in the south east of the adjacent project area (GHD 2015). This species has a wide distribution (Gascoyne, Little Sandy Desert, Pilbara bioregions), with 107 known records in FloraBase, including more than 400 individuals. Suitable habitat for the species in similar or better condition occur within the study area and general Pilbara region. Given the linear nature of the side-track clearing, the very small clearing area and the wide distribution of the species and its habitat, the project clearing is unlikely to significantly impact the species if it was present. 4234 individuals of <i>Tephrosia rosea</i> var. Port Hedland (P1) were found within the adjacent project area (Pilbara Environmental 2020, Pilbara Environmental 2021). <i>Tephrosia rosea</i> var. Port Hedland has previously been recorded within 620 m of the adjacent survey area. This species habitat includes loamy sand to sand soils on coastal dunes, sandy plains and road verges on plains. This species occurs within one IBRA region and is locally common where it is recorded. Recent Main Roads biological surveys for the Buttweid Rd project found approximately 2000 individuals approximately 2.5km south. Buttweid Rd surveys indicates that the species is a disturbance

specialist. Due to the large locally known population (>6000 individuals) and the very small scale of the proposed clearing, this project is unlikely to significantly impact this species if it was present.

- One individual of *Abutilon* sp. Pritzelianum (P3) was located within the wider project area (Pilbara Environmental 2020). The species is known to be locally abundant with 96 known records within the 40 km study area (DBCA Shapefiles). Considering this and the very small scale of the proposed clearing in degraded condition, it is unlikely the proposed access track would result in significant impacts on the species if it was present.
- More than 278 individuals of *Gomphrena leptophylla* (P3) were recorded within the adjacent project area (Pilbara Environmental 2020). The species is not considered locally abundant with only 3 individuals recorded within the 40km study area according the DBCA GIS data. The species has a relatively wide distribution (Dampierland, Ord Victoria Plain, Pilbara bioregions; WA Herbarium 2020). In total there are 8 known sites of *G. leptophylla* in FloraBase (WA Herbarium 2020). The species is likely under-reported as it is an annual herb. Considering the known records in the adjacent project area, and the very small scale of the proposed clearing in degraded condition, it is unlikely the proposed clearing would result in significant impacts on the species if it was present.

ArcMap and the EPBC PMST database searches did not identify any Commonwealth or State listed TECs or PECs within the study area. No Commonwealth or State listed TECs or PECs were identified within the adjacent project area during the field surveys.

Database searches identified 66 conservation significant fauna species within the study area. No fauna species of conservation significance were recorded during the field surveys within the adjacent project area.

A likelihood of occurrence assessment identified the Peregrine Falcon, Barn Swallow, Rainbow Bee-eater and Brush-tailed Mulgara and Bilby as potentially occurring within the project area. As the proposed clearing is very small in scale, degraded and linear in nature, and similar or better quality habitat is readily available in the local area, the clearing for the project is not expected to significantly impact these species or other native fauna.

Given the vegetation to be cleared is not expected to have a high level of biological diversity in the local context, the clearing is linear in nature and the clearing area is very small in local context, the clearing for the project is not likely to be at variance to this principle.

Methodology

GHD assessment (21-23/9/2015)
 Pilbara Environmental (2020)
 DBCA shapefiles
 MRWA GIS Shapefiles
 FloraBase (WA Herbarium 2022)

(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

Two main fauna habitat types were recorded during the field survey of the adjacent project area consistent with the vegetation types: native grasslands and low Samphire (*Tecticornia* sp.). From aerial imagery and site photos, the side track clearing area would be considered native grasslands in degraded condition.

Thirty-six fauna species were recorded within the adjacent project area including: 23 birds; eight mammals; and five reptiles; none of which were of conservation significance. Five introduced mammal species were recorded.

A likelihood of occurrence assessment identified the Peregrine Falcon (S), Barn Swallow (IA), Rainbow Bee-eater (T), Brush-tailed Mulgara (P4) and Bilby (T) as potentially occurring within the project area. All of these other than Bilby and Brush-tailed Mulgara are highly mobile and are able to move away from disturbance.

The habitat within the project area has been impacted to some degree by past and present disturbances. This habitat is not considered to be exclusive to the project area and when aligned with the vegetation associations, the habitat of the project area is considered to be well represented at a local and regional scale.

The habitat proposed to be cleared is very small in scale, linear in nature and fragmented by existing roads and other disturbances; it is well represented within the study area and region and no significant fauna are considered to be reliant on the clearing area. Given this, the project clearing is not expected to comprise of, or be necessary for the maintenance of, a significant habitat for native fauna. Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology

DBCA Shapefiles

GHD assessment (21-23/9/2015)

Pilbara Environmental 2020

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

Proposal is not at variance to this Principle

Comments

Database searches did not identify any threatened flora species listed under the *Biodiversity Conservation Act 2016* (BC Act) within the 40 km study area. A likelihood of occurrence assessment did not identify any species listed under the BC Act as likely or possibly occurring within the project area. No listed species were recorded during the surveys of the adjacent project area.

Given no BC Act listed species have been previously recorded within the project area and none are likely to occur within the adjacent project area, the clearing for the project is unlikely to impact on threatened/rare flora. As such, the clearing of native vegetation for this project is not at variance to this Principle.

Methodology

DBCA shapefiles

GHD assessment (21-23/9/2015)

Pilbara Environmental 2020

(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 at variance to this Principle

Comments

Database searches did not identify any State listed TECs within the study area. No State listed TECs were identified in the adjacent survey and none are expected to occur in the proposed clearing area. The nearest TEC to the project area is located approximately 350 km south of the project area.

Given no TECs are likely to occur within the project area and the distance from the nearest known TEC, this project is not at variance to this Principle.

Methodology

DBCA shapefiles

GHD assessment (21-23/9/2015)

Pilbara Environmental 2020

(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

Comments

This project proposes to clear up to 0.35ha of native vegetation in degraded condition. The project area is mapped as pre-European vegetation association 647; Hummock grasslands, dwarf-shrub steppe; *Acacia translucens* over soft spinifex.

Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
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Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
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	IBRA Bioregion Pilbara	195,859.95	191,710.92	97.88	0
	IBRA Sub-region Roebourne Pil4	188,901.32	184,774.70	97.82	0
	Local Government Authority Town of Port Hedland	180,908.49	176,759.02	97.71	0

It is evident from the table above that the vegetation in the local area is well represented with more than 97 % of vegetation remaining. As a result, this area does not represent an area that has been extensively cleared.

This vegetation is not significant as a remnant as there is a large amount of well represented vegetation within the study area and region. The vegetation proposed to be cleared is fragmented and in degraded condition, and the proposed clearing is not expected to significantly reduce ecological functioning or impact linkages in the area.

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

<p>Methodology</p> <p>GHD assessment (21-23/9/2015)</p> <p>Pilbara Environmental (2020)</p> <p>Government of Western Australia (2020)</p> <p>Aerial photography</p>
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(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

<p>Proposed clearing is not at variance to this Principle</p>
<p>Comments</p> <p>Numerous major and minor watercourses occur within the 40 km study area. One lake occurs 13 km south of the project area. Clearing for the project is not expected to impact the lake.</p> <p>No watercourses or wetlands are located in or directly adjacent to the proposed side -track clearing.</p> <p>Given the above, the proposed clearing is not at variance to this Principle</p>
<p>Methodology</p> <p>DWER shapefiles</p> <p>GHD assessment (21-23/9/2015)</p> <p>Pilbara Environmental (2020)</p>

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

<p>Proposed clearing is not likely to be at variance to this Principle</p>
<p>Comments</p> <p>The proposed clearing is within Uaroo System (281Ua) soil subsystem and is described as broad sandy plains, pebbly plains and drainage tracts supporting hard and soft spinifex hummock grasslands with scattered Acacia shrubs.</p> <p>According to available databases, the clearing area is not within an area subject to inundation. Based on the mapped land degradation risk, the application area has a relatively low likelihood of salinity and subsurface acidification (Schoknecht et al. 2004). The proposed clearing is not planning to penetrate the surface however the ASRIS Acid Sulfate Soils (ASS) database indicates that the project area occurs in areas classified as having an 'extremely low probability of occurrence'.</p> <p>Wind erosion is considered a potential risk but the linear nature of the project and retention of native vegetation in surrounding areas reduce this risk. Further, the CEMP will cover erosion and will ensure no appreciable land degradation will occur.</p> <p>Based on the above, and considering the very small area of vegetation proposed to be cleared, the project clearing is not likely to be at variance to this clearing principle.</p>
<p>Methodology</p> <p>GHD assessment (21-23/9/2015)</p> <p>Pilbara Environmental (2020)</p> <p>ASRIS (2020)</p> <p>Natural Resource Management SLIP Soil Systems</p>

(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
<p>Comments</p> <p>No conservation areas are located within the 40km study area. The nearest conservation area is North Turtle Island Nature Reserve which is located 60 km north of the project area (offshore). Given the distance to the nearest conservation area and the nature of the project activities it is unlikely that any conservation area will be directly or indirectly impacted by the project.</p> <p>Given the above the proposed clearing is not at variance to this Principle.</p>
<p>Methodology</p> <p>DBCA shapefiles</p>

(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
<p>Comments</p> <p>The climate of the Pilbara is described as arid-tropical with two distinct seasons. Rainfall in the Pilbara is highly variable and may occur during both seasons. Average long-term annual rainfall for the area is 317 mm (Port Hedland Airport, station number 4032) which can occur in heavy localised falls (BoM 2022). Based on very high annual evaporation rates, any surface runoff resulting from rainfall events is likely to be relatively short lived. In addition the project area is largely surrounded by native vegetation and it is likely that a large proportion of runoff will be absorbed by this natural environment.</p> <p>The NRM SLIP database identified that there are no known risks of flooding, water logging or salinity to occur within the proposed clearing area.</p> <p>A search of Department of Water and Environmental Regulation (DWER) database has confirmed that the project area occurs within the Pilbara Groundwater Area and the Pilbara Surface Water Area as listed under the Rights in Water and Irrigation Act 1914 (RIWI Act). The nearest Public Drinking Water Source Area is the Yule River Water Reserve located approximately 40 km from the project area. Clearing for the project will not impact the Water Reserve.</p> <p>Control measures will be in place to manage the risks of erosion within the project area. Measures to control erosion will be covered in the CEMP.</p> <p>With the low levels of rainfall, erosion control measures and the high evaporation rates, the limited linear clearing of native vegetation in a mostly vegetated setting is unlikely to cause appreciable deterioration in the quality of surface or underground water and is therefore not likely to be at variance with this clearing principle.</p>
<p>Methodology</p> <p>DWER shapefiles BOM (2022)</p>

(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
<p>The NRM SLIP database identified that there are no known risks of flooding or water logging to occur within the project area. This project proposes to clear up to 0.35 ha of degraded vegetation across a fragmented narrow linear area. It is unlikely that the proposed clearing would increase the incidence or intensity of flooding.</p> <p>Therefore this project clearing is not likely to be at variance to this Principle.</p>
<p>Methodology GHD assessment (21-23/9/2015) Natural Resource Management SLIP Soil Systems (Accessed 25/8/2022)</p>

6 ADDITIONAL ACTIONS REQUIRED

The clearing associated with the proposal is not likely or not at variance with the Clearing Principles. Additional management actions under CPS 818 are detailed in Table 6.

Table 6. Summary of Additional Management Actions Required by Permit CPS 818

Impact of Clearing	Yes/No or NA	Further Action Required
1. The project involves clearing for temporary works (as defined by CPS 818).	No	No further action required.
2 a. Project is within Region that: <ul style="list-style-type: none"> - Has rainfall greater than 400mm and - Is South of the 26th parallel and - Works are in 'Other than dry conditions' and - Works have potential for uninfested areas to be impacted 	No	Proceed with standard Vehicle and Plant management actions from PEMR's and Vehicle and Plant Hygiene Checklists
3. 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	No	No further action required.
4. 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	No	No further action required.

7 VEGETATION MANAGEMENT

Main Roads will avoid clearing native vegetation where possible. Where clearing cannot be avoided then this clearing is kept to a minimum. Vegetation will be managed in accordance with the Principal Environmental Management Requirements (PEMR's).

8 REFERENCES

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9 APPENDICES

Appendix	Title
Appendix A	DBCA Threatened Flora and Fauna Database Searches

Appendix A: DBCA Threatened Flora and Fauna Database Searches

REDACTED