



Clearing Desktop Report – CPS 818

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Western Australia.*

Great Northern Hwy (H006) Heavy
Vehicle Rest Area Upgrades SLK
[REDACTED] and [REDACTED]

September 2021

EOS Number 2256

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Amendments

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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: Great Northern Hwy (H006) Truck Bay Upgrades [REDACTED] SLK and [REDACTED] SLK.

Project Purpose / Components: Extend and seal two existing parking bays at [REDACTED] SLK and [REDACTED] SLK to Heavy Vehicle Rest area (HVRA) standards, with additional unsealed light vehicle parking.

The project will involve clearing of vegetation around existing bays. One laydown area will be required at [REDACTED] SLK. This will be located on an existing cleared area but will require some additional clearing. Laydown areas cleared will remain after construction for light vehicle parking and future projects.

This will provide facilities for truck drivers to take mandatory rest breaks and check their vehicles, thereby reducing driver fatigue and decreasing runoff road accidents.

The proposed clearing under CPS 818 is: 1.2 ha

HVRA location	Area to be cleared
[REDACTED] SLK	0.7 ha
[REDACTED] SLK	0.5 ha

The proposed temporary clearing under CPS 818 is: none.

Project Location(s): The project area is located Great Northern Hwy (H006) [REDACTED] SLK, and [REDACTED] SLK in the Shire of Yalgoo as shown in Figure 1.

- [REDACTED] SLK: Longitude: [REDACTED]; Latitude: [REDACTED] Decimal Degrees
- [REDACTED] SLK: Longitude: [REDACTED]; Latitude: [REDACTED] Decimal Degrees

2.2 Desktop Assessment Scope

The assessment area is confined to a local area of a 20 km radius, as shown in Figure 2.

IMAGE
[REDACTED]

Figure 1. Project Location

IMAGE
[REDACTED]

Figure 2. Project Location and Study Area

IMAGE
[REDACTED]

Figure 3. SLK [REDACTED] Project Area

IMAGE
[REDACTED]

2.3 Alternatives to Clearing

No alternatives exist to achieve the project outcome. Extension of the existing rest areas is required to meet design standards for HVRAs.

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.

Impacts to vegetation will be minimised through the implementation of the following measures:

- Location of HVRAs over existing rest areas to minimise clearing;
- Existing cleared areas will be used for laydown areas to minimise clearing;
- Clearing area will be demarcated prior to the commencement of native vegetation clearing;
- Where possible, vegetation will be pruned as opposed to removed;
- Implementation of the Main Roads Principal Environmental Management Requirements:
 - clearing and access control measures (such as demarcation of clearing boundaries);
 - weed management;
 - landscaping of earth-worked areas;
 - erosion and sediment control;
 - waste and fire management;
 - topsoil management;
 - dust control; and
 - tree and vegetation retention where possible.

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

Design or Management Measure	Discussion and Justification
Steepen batter slopes	Not implemented. Batter Slopes are to align with the MRWA safety and maintenance standards. At SLK 372.20 batter slopes will need to be shallower to allow access to the non-sealed light vehicle parking and aggregate laydown areas for plant equipment for future projects. The shallow batters will not significantly increase clearing as the area is largely already cleared.
Installation of safety barriers	Given that the civil elements that are being designed are truck parking bays (low speed environments), installation of safety barriers would not be justified.
Alignment to one side of existing road	Not relevant to project as each HVRA is aligned to only one side of the road
Alternative alignment to follow existing road (or) to preferentially locate within pasture or a degraded areas	Truck bays are being located on existing rest areas that are partially cleared and disturbed to minimise clearing of native vegetation.
Installation of kerbing	Kerbing is not used in this design as this would lead to concentration of runoff from the project site. The preferred method to deal with runoff generated from the site is to allow runoff to sheet flow across the sealed area into pervious areas.
Simplification of design to reduce number of lanes and/or complexity of intersections	Where possible, the footprint for the HVRAs was optimised to minimise the footprint, costs and vegetation to be cleared.
Preferential use of existing cleared areas for access tracks, construction storage and stockpiling	<p>The existing light vehicle parking and aggregate laydown area at SLK 372 will be used for construction storage and stockpiling to minimise clearing for these areas. Laydown areas will remain after construction for light vehicle parking and future projects.</p> <p style="text-align: center;">IMAGE [REDACTED]</p>

Design or Management Measure	Discussion and Justification
Drainage modification	Runoff generated from the sealed areas is designed to sheet across and flow into previous areas and infiltrate into sandy soils.

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 areas 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.

GIS layer viewing and mapping is done using ArcMap and / or Main Roads Integrated Mapping System (IMS). Referencing of the GIS layers accessed is done under the relevant methodology section of each clearing principle. Government managed databases were searched to locate additional information, these are referenced in Section 8.

4 VEGETATION DETAILS

4.1.1 Project Site Vegetation Description

A site inspection of the project areas was undertaken on 10 June 2021 and vegetation descriptions and impacts are based on the inspection, aerial photography and a desktop assessment.

The areas under application are partly cleared and disturbed by existing vehicle resting areas and a laydown/stockpile area at SLK [REDACTED]. Remnant vegetation within the project areas is of variable condition, ranging from very good to completely degraded, consisting predominantly of *Acacia* trees and scattered smaller shrubs. Some weed infestation is also occurring and evidence of anthropogenic disturbance such as litter, fire, camping and additional vehicle tracks. Native vegetation was contiguous with surrounding vegetation and was not restricted to the road reserve.

Tables 2 and 3 provide details of the Pre-European Vegetation Associations with the project areas 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 269 Low Woodland over scrub; mulga over bowgada scrub (369 and 372)	Clearing of up to 1.2 ha for extension and upgrade of two HVRAs	Very Good to Completely Degraded (EPA 2016)	Vegetation description and condition determined from Main Roads site visit on 10 June 2021 and 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. 269	Statewide	180,490.58	180,461.66	99.98	2.52
	IBRA Bioregion Yalgoo	37,588.77	37,559.85	99.92	9.28
	IBRA Sub-region Tallering	37,588.77	37,559.85	99.92	9.28
	Local Government Authority Shire of Yalgoo	37,588.77	37,559.85	99.92	9.28

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>Both project areas are partly cleared and disturbed by existing vehicle rest areas and a laydown/stockpile area at SLK [REDACTED]. Remnant vegetation within the project areas is of variable condition, ranging from very good to completely degraded, consisting predominantly of <i>Acacia</i> trees and scattered smaller shrubs. Some weed infestation is also occurring and evidence of historical disturbance such as litter and additional vehicle tracks. Native vegetation was contiguous with surrounding vegetation and was not restricted to the road reserve.</p> <ul style="list-style-type: none"> • SLK [REDACTED]– up to 0.7 ha of remnant vegetation will be cleared in this project area. Vegetation comprised open high shrubland, with a mostly bare understory or with some scattered low native shrubs or weeds. Dominant genuses include <i>Acacia</i>, <i>Hakea</i>, <i>Grevillea</i> and <i>Eremophila</i>. Vegetation condition ranged from very good to degraded. The vegetation surrounding the existing parking bay was degraded from historical clearing and anthropogenic disturbances with evidence of vehicle tracks, litter, fire and camping. Vegetation condition improved moving away from the existing parking bay, in particular near roadside drains where water runoff was higher. These areas are outside the proposed clearing area and are unlikely to be significantly affected by project activities. • SLK [REDACTED]– up to 0.5 ha of remnant vegetation will be cleared in this project area. Vegetation comprised open tall shrubland over low shrubland, and low shrubland. Vegetation is dominated by <i>Acacia</i> species with <i>Grevillea</i>, <i>Hakea</i> and <i>Eremophila</i>. Vegetation condition in the project area ranged from very good to completely degraded. The vegetation surrounding the parking bay was patchy due to historical clearing. Condition in the vicinity of the stockpile area was degraded to completely degraded with patches in better condition further from the stockpile area. There was evidence of vehicle tracks and litter throughout. All clearing will be in the vicinity of the existing parking bays and consist of mostly degraded vegetation. <p>According to GIS datasets and NatureMap, no significant flora have been previously recorded within the project areas. Six Rare (refer to Principle C for further detail) and 21 Priority flora have been recorded in the study area. The majority of these species are unlikely to occur in the project areas due to lack of suitable habitat. Eight Priority species have the potential to occur within the project areas:</p> <ul style="list-style-type: none"> • <i>Eucalyptus educta</i> (P2) • <i>Allocasuarina tessellata</i> (P3) • <i>Euryomyrtus recurva</i> (P3) • <i>Grevillea globosa</i> (P3) • <i>Grevillea granulosa</i> (P3) • <i>Grevillea scabrida</i> (P3) • <i>Grevillea subtiliflora</i> (P3).

- *Dodonaea amplisemina* (P4).

These species are more widespread outside of the study area with many of their records in surrounding nature reserves. Given the degraded condition of most of the vegetation to be cleared and the large amount of better condition vegetation adjacent to the project areas, it is unlikely project activities would have a significant impact on the conservation status of these species. The highest diversity areas, based on the locations of most Priority and Rare species in the study area, appears to be associated with the peaks of Mt Singleton and Warrdagga Hill which will not be affected by project activities.

The vegetation does not form part of an ecological link as it is directly adjacent to previously cleared areas and surrounded by mostly remnant vegetation (refer to Figures 3 and 4).

GIS datasets indicate that HVRA SLK [REDACTED] is located within the Priority 1 PEC Ninghan calcrete groundwater assemblage type on Moore Paleodrainage on Ninghan Station, referring to the unique assemblages of invertebrates identified in the groundwater calcretes. This PEC will not be affected by the project as groundwater abstraction will not be undertaken in this location (existing licenced bores at SLK [REDACTED] and SLK [REDACTED] will be utilised if required). The Mount Gibson Range vegetation complexes (banded iron formation) PEC is also mapped as occurring with the study area and will not be affected by the Project. The PEC is associated with the ironstone hills and slopes and as this does not occur within the project areas, the vegetation is unlikely to be representative of this PEC.

No ESAs occur within the study area.

A total of 1.2 ha of mostly degraded vegetation is proposed to be cleared for these two HVRA's. Given the above, it is unlikely to be an area that comprises a high level of biological diversity compared to the surrounding large areas of remnant vegetation. As such, the proposed clearing is not likely to be at variance to this principle.

Methodology

DBCA shapefiles
 Department of Natural Resources and Environment (2002)
 EPA (2016, 2020)
 Government of WA (2013)
 Main Roads GIS Shapefiles
 Main Roads Site Inspection (10/06/2021)
 NatureMap (Accessed 19/07/2021)

(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

Comments

No Threatened or Priority fauna have been previously recorded within the project areas. The following Threatened fauna have been recorded within the study area:

- *Idiosoma nigrum* (Shield-backed Trapdoor Spider) – four records with the closest record approximately 1.5 km from SLK [REDACTED] within the road reserve. However, the arid Midwest populations are generally associated with rocky habitats, primarily in positions with increased moisture retention properties like gullies and drainage lines on southern facing slopes (DAWE 2021a) There are no habitats within the project area that align with these criteria and so it unlikely this species will be significantly impacted by the project.
- *Leipoa ocellata* (Malleefowl) – four records with the closest record approximately 6 km from SLK [REDACTED]. Malleefowl require a sandy substrate and abundance of leaf litter to build nesting mounds (DAWE 2021b). No malleefowl mounds or suitable habitat for mounds were observed within

project areas during the site inspection. As such, the small amount clearing required for the truck bays, largely in degraded condition and adjacent to a busy highway, is unlikely to comprise habitat considered significant for the species.

In addition, an assessment of EPBC listed species with the potential to occur was undertaken and identified the following species with potential to occur in the project area:

- Western Spiny-tailed Skink (*Egernia stokesii badia*) – closest record on NatureMap is approximately 50 km from the project area (outside of study area). Species occurs in open eucalypt woodlands and Acacia-dominated shrublands in semi-arid to arid areas of south-western WA (Geraldton Sandplains and Yalgoo IBRA) (DEC 2012a); as such it could potentially occur in the project area. However, ideal colony sites are situated in very large York gums (*Eucalyptus loxophleba*), and occasionally very large melaleucas, have both narrow and broad hollows, raised branches for basking and an abundance of dense shrubs (often *Eremophila* spp.) around the tree (DWER 2021) and these habitat characteristics were not observed during the site inspection. Given the lack of preferred habitat, lack of close records and the small amount of clearing of mostly degraded vegetation required, the species is unlikely to be significantly affected by the project activities.

No other significant fauna has been identified as potentially occurring in the study area.

It is unlikely that the project areas provide significant habitat for fauna, being partly cleared, adjacent to cleared areas and with evidence of disturbance throughout. As such, the proposal is unlikely to be at variance to this principle.

Methodology

Main Roads Site Inspection (10/06/2021)
 DBCA Shapefiles
 DBCA website
 EPA (2016, 2020)

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

Proposal is not likely to be at variance to this Principle

Comments

According to GIS datasets and NatureMap, no Rare flora have been previously recorded within the project areas. Furthermore, no significant flora species were identified during the site inspection. The following Rare flora have been recorded in the study area (unless otherwise stated, habitat descriptions are taken from Florabase:

- *Acacia imitans* (Critically Endangered) – restricted to rocky areas around Mt Singleton to the south. There is no similar habitat within the project areas, so this species is considered unlikely to occur.
- *Acacia unguicula* (Critically Endangered) – restricted to rocky clay or loam on the upper slopes and summit of Mt Singleton to the south. Suitable habitat is not present within the project areas, so species is considered unlikely to occur.
- *Dasymalla axillaris* (Critically Endangered) – recorded on edge of study area within a salt lake. Record appears to be an outlier as species is known from only eight populations in the Morawa area (DAWE 2021c), to the west. As such, this species is unlikely to occur within project area.
- *Cyphanthera odgersii* subsp. *Occidentalis* (Critically Endangered) – appears to be an anomalous record on NatureMap. Species is restricted to a single population in the Avon Mortlock District (DAWE 2021d) over 150 km to the south of project area, as such it is considered unlikely to occur.
- *Hybanthus cymulosus* (Critically Endangered) – restricted to rocky areas around Mt Singleton, to the south. There is no similar habitat within the project areas, so this species is considered unlikely to occur.

- *Eucalyptus crucis* subsp. *praecipua* (Endangered) – restricted to a single granite rock approximately 15 km to the east of the project area. As suitable habitat does not occur within the project area this species is unlikely to occur.

All Rare flora previously recorded in the study area are unlikely to occur in the project areas as preferred habitats do not occur within these areas. As such the proposal is not likely to be at variance to this Principle.

Methodology

DBCA shapefiles
 Florabase (Accessed 21/07/2021)
 NatureMap Accessed 19/07/2021)
 Main Roads Site Inspection (10/06/2021)

(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

No TECs occur within or in the vicinity of the project areas. Project activities will not be at variance to this principle.

Methodology

DBCA shapefiles
 Main Roads Site Inspection (10/06/2021)

(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

The mapped vegetation association and table outlining the percentage of vegetation remaining are included below. From those tables it is clear that the project areas do not represent an area that has been extensively cleared as they have been classified as Vegetation Association 269 - Low Woodland over scrub; mulga over bowgada scrub, which has over 99% of its pre-European extent remaining (Government of Western Australia 2019). Only 1.2 ha will be cleared for this project which will not significantly affect the amount of vegetation remaining.

In addition, it is noted from aerial imagery (Figure 2) that the study area contains a significant proportion of remnant vegetation surrounding the project area that is likely in a better condition and the small amount of clearing required in the road reserve is not likely to diminish any linkages of native vegetation across the landscape. As such the proposed clearing is not at variance to this principle.

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

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 269 Low Woodland over scrub; mulga over bowgada scrub	Clearing of up to 1.2 ha for extension and upgrade of two HVRAs	Very Good to Completely Degraded (EPA 2016)	Vegetation description and condition determined from Main Roads site visit on 10 June 2021 and aerial imagery.

Pre-European Vegetation Representation					
Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 269	Statewide	180,490.58	180,461.66	99.98	2.52
	IBRA Bioregion Yalgoo	37,588.77	37,559.85	99.92	9.28
	IBRA Sub-region Tallering	37,588.77	37,559.85	99.92	9.28
	Local Government Authority Shire of Yalgoo	37,588.77	37,559.85	99.92	9.28

Methodology
 Aerial photography
 EPA (2016)
 Government of Western Australia (2019)
 Main Roads Site Inspection (10/06/2021)
 Shepherd (2009)

(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 likely to be at variance to this Principle</p>
<p>Comments</p> <p>A search of ArcGIS datasets indicates that several minor non-perennial water courses occur in the study area; however, none of these minor rivers intercept the two project areas. The closest drainage lines are approximately 2 km to the southwest of SLK [REDACTED] and 2.5 km to the south of SLK [REDACTED] and the proposed works will not disturb or interrupt these minor waterways or any natural drainage.</p> <p>A search of ArcGIS datasets indicates no wetlands (RAMSAR, geomorphic, etc.) are located within the vicinity of the project areas. The nearest small wetlands (non-perennial) are over 8 km away from the project areas with major non-perennial lakes of Lake Moore and Mongers Lake over 10 km from the project areas.</p> <p>The site inspection did not identify any water bodies within the project areas, nor was there any evidence of riparian vegetation.</p> <p>Given that no riparian vegetation was identified during the site visit and the project’s distance to the nearest watercourse and wetlands it is considered unlikely that the native vegetation to be cleared is growing in or in association with a watercourse or wetland.</p> <p>The proposed clearing is not likely to be at variance to this Principle.</p>
<p>Methodology</p> <p>DWER and DBCA shapefiles Main Roads Site Inspection (10/06/2021)</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 project is an area of low rainfall (mean annual rainfall of 285 mm [BoM 2021]); as such, it is unlikely that water erosion or waterlogging will be significantly increased as a result of this clearing. As the project is only extending existing truck bays, that are surrounded by remnant vegetation the project is unlikely to increase wind erosion near the project areas.</p> <p>The SLIP/ASRIS database indicates SLK [REDACTED] and [REDACTED] are classified as extremely low probability of ASS occurring. As no dewatering or excavation below the water table is planned, no further investigations are required.</p> <p>Given that the project areas are relatively flat in a highly vegetated area it is unlikely that the clearing will increase land degradation; therefore, the project clearing is not likely to be at variance to this Principle.</p>
<p>Methodology</p> <p>BoM (2021) Main Roads Site Inspection (10/06/2021) Natural Resource Management SLIP Soil Systems (Accessed 10/08/2021)</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.

<p>Proposed clearing is not at variance to this Principle</p>
<p>Comments Two DBCA managed areas occur within the study area, ex Thundelarra former leasehold ex Warriedar former leasehold, located approximately 15 km to the north and 17 km to the northwest respectively. Both areas will not be affected by project activities, nor will any ecological linkages be affected as the proposed clearing is only 1.2 ha and adjacent to the road reserve in an area with high native vegetation retention.</p> <p>Given the distance to the nearest known conservation area the proposal is not at variance to this Principle.</p>
<p>Methodology DBCA shapefiles EPA (2016) Main Roads Site Inspection (10/06/2021)</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.

<p>Proposed clearing is not likely to be at variance to this Principle</p>
<p>Comments The project areas are not within a PDWSA.</p> <p>A search of ArcGIS datasets indicates that several minor non-perennial rivers occur in the study area; however, the project areas do not intersect any of these minor rivers and the proposed works at SLK [REDACTED] and [REDACTED] will not disturb or interrupt these minor waterways or any natural drainage.</p> <p>The project areas are within the East Murchison proclaimed groundwater area. No dewatering or drainage modifications are required, and the proposed works are considered minor in nature. Therefore, changes to groundwater level or quality are considered unlikely in the project areas.</p> <p>Two licenced bores have been identified in the vicinity of the project that can be used for the project water source, at SLK [REDACTED] and SLK [REDACTED]. Groundwater will be abstracted in accordance with existing licences.</p> <p>The Proposal is not likely to be at variance to this Principle.</p>
<p>Methodology DWER and DBCA shapefiles EPA (2016) Main Roads Site Inspection (10/06/2021)</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
Comments The project areas are characterised as having an arid climate area (mean annual rainfall of 285 mm [BoM 2021]). There are no watercourses or other surface water features in the areas to be cleared. The small amount of clearing in an area that is already partly cleared but surrounded by large amounts of remnant vegetation is likely to have a negligible effect on the incidence or intensity of flooding. The proposed clearing is not likely to be at variance to this principle.
Methodology BoM (2021) Main Roads Site Inspection (10/06/2021) Natural Resource Management SLIP Soil Systems (Accessed 10/08/2021)

6 ADDITIONAL ACTIONS REQUIRED

The clearing associated with the proposal is unlikely 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	<i>Further Action Required</i>
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	No further action required
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	Proceed with standard Vehicle and Plant management actions from PEMR's and Vehicle and Plant Hygiene Checklists.

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

Australian Government. EPBC Act referral guidelines for three threatened black cockatoo species (2012). Department of Sustainability, Environment, Water, Population and Communities.

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.

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