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Clearing Assessment Report and Vegetation Management Plan – CPS 818

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Western Australia.*

Great Eastern Highway (H005 - SLK 28.41- 28.70)
&
Seaborne St (1062022 - SLK 0.00 to 0.20)
Intersection Upgrade Project
Metropolitan Region
EOS: 2235

D25#670285
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1 PROPOSAL

1.1 Purpose and Justification

Between January 2014 and December 2018, there have been approximately 12 right-angle crashes at the intersection of Great Eastern Highway (GEH) and Seaborne Street. Main Roads is proposing to upgrade the intersection to improve safety and reduce the number of crashes.

1.1.1 Main Roads Approach to Road Safety and the Environment

Main Roads is committed to minimising the environmental impacts of all its activities and manages the State Road network to achieve balanced economic, social, safety and environmental benefits for the community. Main Roads recognises that Western Australia's environment is significant from a global perspective and the unique conservation values that are contained within its road reserve. Main Roads Road network often adjoins natural areas, and, in some locations, the reserve itself hosts remnant vegetation with high environmental values. Although the reserves were not established for this purpose, Main Roads recognises that it has a responsibility to conserve the environmental values that occur within the State's Road network and minimise the impact its proposals have on the environment. In addition to providing a safe and efficient road network for all people using the roads under its control, Main Roads is also committed to protecting the natural environment.

In accordance with National and State Government road safety policies, Main Roads is also committed to substantially reducing road trauma on the road network through Safe System principles. The Safe System approach acknowledges that more than two thirds of all serious crashes are due to human error rather than deliberate risk taking (e.g. speeding or drink driving) and seeks to improve behaviour through education and enforcement while managing the safety of vehicles, speeds and the road and road infrastructure. It is shown that improving sub-optimal road formation will substantially reduce the likelihood and severity of road crashes. For example, according to the Road Safety Management Guideline, increasing the sealed shoulder from 0.5 m to 2 m will reduce Killed and Seriously Injured numbers by more than 50%.

As the statutory authority responsible for providing and managing a safe and efficient main road network in Western Australia, Main Roads focuses on improving road safety by thoroughly considering all environmental, economic and community benefits and impacts. It operates on a hierarchy of avoiding, minimising, reducing and then, if required, offsetting our environmental impacts. This has been achieved through changes in proposal scope and design. Main Roads regularly reduces its clearing footprint by restricting earthworks limits for proposals, steepening batters, installing barriers, establishing borrow pits in cleared paddocks and avoiding temporary clearing for storage, stockpiles and turn around bays to avoid and minimise its impacts.

Further details on measures to avoid, minimise and reduce are provided in Section 1.5.

1.2 Proposal Scope

The proposed intersection upgrade includes channelizing the left and right turn lanes from Seaborne Street onto GEH and providing an improved left slip lane from GEH (northwest) onto Seaborne Street under give-way control. The specific works involved in this upgrade include:

- Treating verge approaches and the road alignment of Seaborne St to improve sight lines.
- Tree removal and pruning for traffic safety improvements.
- Service Relocation works

- Embankment construction to allow for Slip-Lane

1.3 Proposal Location

The Clearing Area is located at the intersection of Great Eastern Highway (H005 - SLK 28.41-28.70) and Seaborne Street (1062022 - SLK 0.00 to 0.20) as shown in Figure 1.

Latitude: 31° 53.8695'S

Longitude: 116° 8.4907'E

1.4 Clearing Details

Proposed Clearing to be undertaken using CPS 818:

The proposal will require clearing of up to 0.13 ha of remnant native vegetation as shown in Figure 1.

Type of Native Vegetation:

The native vegetation proposed to be cleared is described by Ecologia (2025) as *Eucalyptus* mid woodland (EmAb) consisting of *Eucalyptus marginata* subsp. *marginata* mid woodland; **Avena barbata*, **Briza maxima*, **Vinca major* low tussock grassland/herbland.

Vegetation condition within the Clearing Area was rated as 'Degraded' according to the EPA (2016) vegetation condition scale, due to historical clearing and weed infestation .

* Introduced Plant



Figure 1: Native Vegetation Clearing Area

1.5 Alternatives to Native Vegetation Clearing Considered During Proposal Development

The following alternatives to clearing were considered during the development of the proposal:

- Preferentially locating the new alignment in cleared areas on the right-hand side of Seaborne St., however this was considered cost prohibitive due to cost of relocating power infrastructure.
- Do not upgrade the road, however this will potentially result in a poorer safety outcome and may result in future fatalities or serious injuries and further degradation of the State Road asset.
- Main Roads retains frangible vegetation where a clear zone is to be established for road projects. For this project, however, clearing will only be required to accommodate the road formation, with no clear zone being established. Accordingly, the retention of frangible vegetation does not apply to this proposal.
- Reducing the speed limit to minimise clearing requirements, while still balancing safety (driver fatigue) and freight efficiency. Speed Limits are an essential mechanism to ensure the safe and efficient operation of road networks. The application of appropriate speed limits and other traffic management measures is a key mechanism in managing vehicle speeds to achieve desired safety, mobility, traffic management, local amenity, and road user expectations. There are several factors involved in road safety, including road conditions, driver behaviour and overall road design. Except in special situations, reducing speed limits below national standards on state and national roads is not typically supported as it has the potential to contribute to driver frustration, impatience, tiredness and recklessness. The environmental values protected by reducing the speed limit, do not justify the impacts on freight efficiencies nor road user safety. Accordingly, the reduction of the speed limits to avoid clearing of native vegetation for this proposal is not proposed.

1.6 Measures to Avoid, Minimise, Reduce and Manage Proposal Clearing Impacts

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

Table 1. Measures Undertaken to Avoid, Minimise, Reduce and Manage the Proposal Clearing Impacts

Design or Management Measure	Discussion and Justification
Alternative alignment located within pasture or degraded areas	There are no alternative alignments applicable to upgrade the intersection to achieve the desired road safety objectives.
Simplification of design to reduce number of lanes and/or complexity of intersections	The scope of works cannot be further simplified whilst retaining the necessary safety benefits of the intersection upgrade.
Use of existing cleared areas for access tracks, construction storage and stockpiling	The Proposal will utilise areas that are already disturbed as much as practically possible to reduce the extent of native vegetation clearing required.
Drainage modification	The Project is not expected to alter the natural drainage profile of the surrounding environment. Minor drainage modifications have been included in the design to ensure road safety. New drainage systems (culverts and silt traps) are designed to manage runoff.

1.7 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, Main Roads has also had regard to the below instruments where relevant.

Other Legislation potentially relevant 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 and D Act)
- *Soil and Land Conservation Act 1945* (WA)
- *Rights in Water and Irrigation Act 1914* (WA) (RIWI Act)
- *Aboriginal Heritage Act 1972* (WA).

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 (DER, 2014)
- Procedure: Native vegetation clearing permits (DWER, 2021)
- Environmental Offsets Guidelines (Government of Western Australia, 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.
- Referral guideline for 3 WA threatened black cockatoo species (DAWE, 2022).

2 SCOPE AND METHODOLOGY ASSESSMENT OF CLEARING

Native vegetation will be cleared to accommodate this Proposal. This clearing will be undertaken using the Main Roads Statewide Clearing Permit CPS 818/17.

To comply with CPS 818, Main Roads must prepare a Clearing Assessment Report (CAR).

The CAR outlines the key activities associated with the Proposal, the existing environment and an assessment of native vegetation clearing. This assessment provides an evaluation of the vegetation clearing impacts associated with the Proposal using the ten Clearing Principles listed under s51 of the *Environmental Protection Act 1986* (EP Act) and strategies used to manage vegetation clearing.

2.1 Report Terminology and Sources

The following terms are used in this Clearing Report:

- **Native Vegetation Clearing Area (Clearing Area)** – The maximum amount of native vegetation to be cleared for the Proposal that will accommodate the designed earthworks and, typically, a nominal buffer to allow for the safe movement of machinery during construction. The Clearing Area for this Proposal is 0.13 ha.
- **Study Area** – Area covered by the Desktop Assessment. The Study Area for the Proposal is confined to a local area of a 5 km radius.
- **Survey Area** - Area covered by the Biological Survey, which is typically larger than the Clearing Area.

2.2 Desktop Assessment

A desktop assessment of the Clearing Area was undertaken by viewing internal datasets and other government agency managed databases, and consulting with relevant stakeholders where necessary.

GIS layer viewing and mapping is done using ArcMap and/or Main Roads corporate mapping system known as iMaps. 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, which are found under References in Section 10.

2.3 Surveys and Assessments

Biological and targeted surveys conducted for the proposal are outlined in Table 2 and a summary of the findings in these reports are presented in Section 3.

Table 2. Summary of Biological Surveys and Assessments relevant to the Proposal

Consultant and Survey Name	Survey Details
Ecologia, 2025 Seaborne Street, Mahogany Creek Intersection Upgrade Biological Survey	Survey Area: Approximately 0.97 ha between Great Eastern Highway (H005 - SLK 28.41-28.70) and Seaborne Street (SLK 0.00 to 0.20). Type: Detailed flora and vegetation survey and basic fauna survey and fauna habitat assessment. The survey identified and mapped the dominant vegetation units, assessed vegetation condition and completed opportunistic searches for conservation significant fauna taxa. Timing: Fieldwork conducted on 21st November 2024 Survey Results Shapefile TRIM Ref: D25#144262 Document TRIM Ref: D25#144086
Main Roads, Western Australia, 2025 Environmental Site Inspection Report	Survey Area: Seaborne Street; SLK 28.41 – 28.70; Shire of Mundaring. Type: Environmental Site Inspection Timing: 17 November 2025 Survey Results Shapefile TRIM Ref: N/A Document TRIM Ref: D25#1355647

3 SURVEY RESULTS

In accordance with CPS 818 condition 8 (e) (iii), a copy of the relevant sections of the executive summary and report conclusions from the biological survey and/or field assessments are provided in Appendix 1

3.1 Summary and Analysis of Seaborne Street, Mahogany Creek Intersection Upgrade Biological Survey (Ecologia, 2025)

Flora and Vegetation Assessment

A total of 21 vascular plant taxa representing 11 families and 21 genera were recorded within the survey area. Seventeen introduced plant species were recorded, none of which are listed as Declared Pests. One Weed of National Significance (WONS) was recorded; *Genista linifolia*. No EPBC Act or BC Act listed Threatened or DBCA listed Priority species were recorded.

Seven sampling sites (three quadrats and four vegetation descriptions) resulted in the classification of one vegetation type which consisted of *Eucalyptus marginata* subsp. *marginata* mid woodland over **Avena barbata*, **Briza maxima*, **Vinca major* low tussock grassland/herbland. Vegetation condition ranged from 'Degraded' to 'Completely Degraded' due to historical clearing and the infestation of weeds.

There was no plant communities observed that corresponded to any state (BC Act) or Commonwealth (EPBC Act) listed Threatened Ecological Community (TEC), nor any state listed Priority Ecological Community (PEC). The vegetation type described was not significant at the national, state, regional, or local scales.

Fauna and Fauna Habitat Assessment

A fauna habitat assessment was undertaken within the Survey Area to describe representative habitat types of present. Closed Eucalypt woodland was the only fauna habitat type identified in the Survey Area, and it is considered generally common at a local and regional level. Habitat condition was 'Very Poor' and degradation from weeds, noise pollution and clearing was evident. The remainder of the survey area was described as cleared (road/road verge).

Seventeen bird species were recorded in the Survey Area, and all fauna identified were generally common and are not restricted to the Survey Area. No introduced species were recorded during the survey. Secondary evidence (feeding debris) of forest red-tailed black cockatoo (*Calyptrorhynchus banksii naso* [Vulnerable EPBC and BC Act]) was detected at the base of a marri tree within the Survey Area. The Quenda, which was previously recorded within the Survey Area, was not recorded during the fauna field survey.

The post-survey likelihood of occurrence assessment identified one bird (forest red-tailed black cockatoo [*Calyptrorhynchus banksii naso*]) and one mammal (Quenda (*Isoodon fusciventer*)) as 'Recorded' in the Survey Area. Two birds (Baudin's black cockatoo (*Zanda baudinii*) and Carnaby's black cockatoo (*Zanda latirostris*)) were considered 'Likely' to occur in the Survey Area. One mammal (Chuditch (*Dasyurus geoffroii*)) and one reptile (Southern death adder (*Acanthophis antarcticus*)) were considered 'Possible to occur' in the Survey Area. Fourteen conservation significant species identified during database searches are considered 'Unlikely' to occur due to absence of suitable habitat and/or age of previous records.

Black Cockatoo Assessment

An assessment was undertaken to investigate potential breeding habitat, night roosting habitat, and foraging habitat for the three black cockatoo species within the Survey Area. A total of 15 potentially suitable habitat trees (> 500 mm Diameter at Breast Height (DBH)) were recorded within the Survey Area. One tree (T08) had a potentially suitable hollow with no signs of use (category 5), and the remaining 14 trees did not support hollows (category 7).

Black cockatoo foraging habitat within the Survey Area was assessed as moderate quality for Carnaby's black cockatoo as their primary food source (*Banksia*, *Hakea* and *Grevillea* species) was absent and no foraging evidence was recorded. Foraging habitat was assessed as moderate for Baudin's black cockatoo as no foraging evidence was recorded; however, their primary food source, marri (*Corymbia calophylla*) and jarrah (*Eucalyptus marginata subsp. marginata*) were present. The foraging habitat within the survey area was assessed as moderate to high quality for the forest red-tailed black cockatoo as mature marri and jarrah trees were recorded and foraging evidence was recorded. However, as the potential foraging habitat in the survey area is less than one hectare, it is unlikely to be considered significant for any black cockatoo species.

3.2 Summary and Analysis Environmental Inspection

Main Roads personnel undertook an environmental inspection within the Clearing Area to determine whether DBH tree T08, as identified by Ecologia (2025), contained a hollow suitable for Black Cockatoo use.

The inspection confirmed that DBH tree T08 does not contain any hollows suitable for use by Black Cockatoos. The potentially suitable hollow that Ecologia (2025) had recommended for further inspection was in fact the remnants of a severed tree branch, as opposed to a useable hollow.

4 DESKTOP ASSESSMENT OF VEGETATION

4.1 Desktop Vegetation Description

The Proposal is located within the Jarrah Forest IBRA bioregion within Shire of Mundaring. A total of 0.12 ha of native vegetation was mapped with the Biological Survey area (Ecologia, 2025). One vegetation community was identified within both the Survey Area and the Clearing Area, as described in Table 3.

Table 3. Summary of Vegetation Types within the Clearing Area

Vegetation Type	Extent within Clearing Area (ha)	Total Extent Mapped (ha) within Survey Area	Vegetation condition within Clearing Area
<i>Eucalyptus</i> mid woodland (EmAb) consisting of <i>Eucalyptus marginata</i> subsp. <i>marginata</i> mid woodland; * <i>Avena barbata</i> , * <i>Briza maxima</i> , * <i>Vinca major</i> low tussock grassland/herbland	0.13	0.12	Degraded

Table 4 and Table 5 below provide details of the Pre-European Vegetation Associations within the Clearing Area and the remaining extents of these associations. Vegetation Association (3) retains >70% of its pre-European extent within the Shire of Mundaring area and just under 80 % within the Northern Jarrah Forest IBRA region.

Table 4. Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European Extent (ha)	Current Extent (ha)	% Remaining	% Current Extent in DBCA Managed Land (proportion of pre-European Extent)
Veg Association No. 3 - Medium Forest: Jarrah-Marri	Statewide	2,661,404.62	1,803, 437.48	67.76	55.23
	IBRA Bioregion				54.35
	Jarrah Forest IBRA region	2,390,591.54	1,604,101.56	67.10	
	IBRA Sub-region				66.95
	Northern Jarrah Forest	908,099.69	723,445.91	79.67	
	Local Government Authority				37.51
	Shire of Mundaring	31,706.83	22,967.36	72.44	

4.2 Vegetation Complexes and Representation

The vegetation complexes within the Native Vegetation Clearing Area are provided in Table 5.

Table 5. Vegetation Complexes (Hedde/Mattiske) within the Clearing Area

Hedde/Mattiske Veg Complex	Pre-European Extent (ha)	Current Extent (ha)	% Remaining
Yarragil 1	80,202.95	64,927.06	80.95

5 ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES

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

Each principle has been assessed in accordance with the former Department of Environment Regulation (now Department of Water and Environmental Regulation (DWER) '[A Guide to the Assessment of Applications to Clear Native Vegetation](#)' (Department of Environment Regulation, 2014) and other relevant clearing permit application decision reports prepared by DWER.

The proposed clearing is at variance to Principle (b) and is not at variance, or not likely to be at variance, to the remaining 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.

Vegetation and Flora

Of the 21 plant taxa recorded within the Ecologia (2025) Survey Area, 17 were introduced flora species (81 %). No species are listed as Declared Pests under the BAM Act. One Weed of National Significance (WoNS); *Genista linifolia* (Flaxleaf broom) was recorded.

One vegetation community, Eucalyptus mid woodland (EmAb), was mapped within the 0.13 ha Clearing Area. The EmAb vegetation community is not representative of a Threatened Ecological Community (TEC) or a Priority Ecological Community (PEC). Ecologia (2025) concluded that the EmAb vegetation community is not significant at the national, state, regional or local scale.

Prior to undertaking the field survey, Ecologia (2025) undertook a desktop assessment and identified 28 significant flora taxa within a 5 km radius of the Survey Area (Study Area). These taxa comprise 13 species listed as Threatened under the BC Act, nine Priority Three species, and six Priority Four species as classified by DBCA. None of these taxa were identified in the field survey and all were considered unlikely to occur in the post survey likelihood of occurrence.

The Clearing Area is dominated by introduced flora species and does not comprise a high level of floristic diversity in comparison to better condition Jarrah forest areas both locally and regionally. Ecologia (2025) concluded that overall species diversity and floristic composition of the survey area is typical of the landforms present and of degraded roadside vegetation in the Jarrah Forest IBRA region.

Fauna

The Clearing Area consists of one fauna habitat type; closed woodland. The habitat identified is considered generally common at a local scale and within the Northern Jarrah Forest IBRA subregion. Habitat within the Survey Area was 'Very Poor' with evidence of clearing, weeds and noise pollution (Ecologia, 2025).

Ecologia (2025) identified 17 native bird species during the basic fauna and fauna habitat assessment of the Survey Area. The fauna assemblage recorded is considered typical for the habitat types observed within the Survey Area.

The main fauna habitat value of the Clearing Area is its moderate to high quality foraging value for conservation significant Black Cockatoo species. However, in a local context, the 0.13 ha of proposed clearing represents less than 0.002 % of the available foraging resource within the 5 km

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radius Study Area (4,632 ha). The significance of fauna habitat in the Clearing Area is further assessed in Clearing Principle (b). The 0.13 ha of narrow, roadside vegetation proposed for clearing is unlikely to support a higher level of fauna diversity than other areas locally or regionally, particularly in comparison to large, intact areas of DBCA conservation estate within the Study Area (such as John Forrest National Park, Parkerville Nature Reserve, Zamia State Forest and Beelu National Park).

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

Methodology

- Ecologia (2025)
- Government GIS Shapefiles (Accessed 03/07/2025):
 - DBCA Threatened and Priority Ecological Community database search.
 - DBCA Threatened and Priority flora database search.
 - DBCA Threatened and Priority fauna database search
- WA Herbarium Threatened and Priority flora

(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.

Proposed clearing is at variance to this Principle.

Habitat type

As outlined in Clearing Principle (a), the 0.13 ha Clearing Area consists of one fauna habitat type; closed woodland. This habitat type provides on ground and arboreal foraging and shelter opportunities for bird, mammal and reptile species. However, the habitat in the Clearing Area is in Degraded condition, owing to its proximity to existing roads, dominance of weeds and evidence of previous disturbance. Habitat is not likely to be significant, noting it is considered generally common at a local scale and within the Northern Jarrah Forest IBRA subregion (Ecologia, 2025). By way of context, there is an estimated 4,632 ha of remnant vegetation within the 5 km Study Area, including vast tracts in better condition in DBCA managed lands, as outlined in Clearing Principle (a).

Black Cockatoos

Ecologia (2025) identified 17 native bird species during the basic fauna and fauna habitat assessment of the Survey Area. None of these species are of conservation significance except for the Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*), which is listed as Vulnerable under both the EPBC Act and BC Act. Evidence of this species was observed in the form of feeding debris. Twenty-three confirmed roost sites and no Forest Red-tailed Black Cockatoo breeding site records occur within five km of the Survey Area. Despite containing 12 DBH trees (none with hollows), the Clearing Area does not contain any confirmed breeding or roosting habitat for any Black Cockatoo species.

Whilst not recorded by primary or secondary evidence during the field survey, Ecologia's (2025) likelihood of occurrence assessment identified Carnaby's Black Cockatoo (*Zanda latirostris*) and Baudin's Black Cockatoo (*Zanda baudinii*), both listed as Endangered under the EPBC Act and BC Act, as being 'Likely' to occur within the Survey Area. This assessment is based on 174 desktop records of Carnaby's Black Cockatoo (most recent in 2023) and 133 records of Baudin's Black Cockatoo (most recent in 2019) within five kilometres of the Survey Area, including five confirmed breeding locations and 17 confirmed roost sites for white-tailed black cockatoos within five kilometres of the Survey Area and the presence of suitable foraging habitat.

An assessment was undertaken of the foraging habitat value of the Clearing Area for Black Cockatoos using the Bamford Consulting Ecologists (BCE) foraging habitat scoring tool. In summary, the Clearing Area provides moderate to high-quality foraging habitat for Black Cockatoos, with scores ranging from 5 to 6/10. Carnaby's and Baudin's Cockatoo habitats were rated 5 based on Eucalyptus woodland and primary food sources like Marri and Jarrah. The Forest Red-tailed Black Cockatoo habitat was assessed as moderate to high quality (score of 6) due to mature trees, observed foraging evidence and overlap with the species breeding range (refer to Appendix 3 for a detailed description of the foraging scores).

Impacts to Black Cockatoo foraging habitat from the proposed clearing are not significant, noting the proposed clearing (0.13 ha) constitutes less than 0.002 per cent of the vegetation remaining within the 5km radius local area (4,632 ha).

Other fauna species of conservation significance

Although Quenda (*Isodon fusciventer*), listed as Priority 4 by DBCA, was not recorded during the current survey, the species was previously recorded in the Survey Area in 2006, and suitable foraging and dispersal habitat is present within the Survey Area. The proposed clearing of 0.13 ha of Degraded roadside vegetation, which is largely devoid of native understorey, is unlikely to impact significant habitat for Quenda given the abundance of remnant vegetation in the local area (> 4,600 ha within 5 km).

The Western Quoll/Chuditch (*Dasyurus geoffroii*), listed as Vulnerable under both the EPBC Act and BC Act, and the Southern Death Adder (*Acanthophis antarcticus*), listed as Priority 3 by DBCA, were assessed as 'Possible' to occur in Ecologia's (2025) Likelihood of Occurrence Assessment, based on the presence of potentially suitable habitat and records in the vicinity of the Survey Area.

Western Quoll/ Chuditch: There are 30 desktop database records (most recent 2022) of this species within 5 km of the Clearing Area, with one record from 1986 approximately 500 m away. No evidence of Chuditch was recorded during the fauna field survey. Ecologia (2025) concluded that Chuditch may use the Survey Area to disperse and hunt for prey, however the openness of the Survey Area and presence of domesticated pets (i.e., cats and dogs) in adjacent properties may deter Chuditch from utilising the area due to the threat of predation. Ecologia (2025) also concluded that permanent denning habitat is unlikely to be present in the Survey Area.

Southern Death Adder: Ecologia (2025) report that there is one record of this species approximately 2.5 km east of the Survey Area; however, the record is not dated so it is uncertain whether it is historic or recent. No evidence of Southern Death Adder was recorded in the fauna field survey. Suitable habitat occurs in the Clearing Area. However, the 0.13 ha of roadside clearing is unlikely to impact significant habitat for this species in the context of the local area (5 km radius), which retains approximately 4,632 ha of remnant native vegetation.

Summary

Based on the Clearing Area containing 0.13 ha of foraging habitat for conservation significant Black Cockatoo species, the proposed clearing is at variance to this Principle. However, impacts to Black Cockatoo foraging habitat are not significant, noting the proposed clearing (0.13 ha) constitutes less than 0.002 per cent of the vegetation remaining within the 5km radius local area (4,632 ha).

Methodology

- DAWE (2022)
- Ecologia (2025)
- EPA (2016)
- Main Roads (2025)
- Government GIS Shapefiles (Accessed 03/07/2025):
 - Black Cockatoo Breeding Sites
 - Black Cockatoo Roosting Sites
 - DBCA Threatened and Priority fauna database search

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

Proposed clearing is not at variance to this Principle.

Ecologia (2025) identified no Threatened flora in the Clearing Area or broader Survey Area, and the post survey likelihood of occurrence assessment concluded none were likely to occur.

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

Methodology

- Ecologia (2025)
- Government GIS shapefiles (Accessed 03/07/2025):
 - DBCA Threatened flora database search (DBCA)
 - WA Herbarium Threatened and Priority flora (WAHERB)

(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.

Ecologia (2025) advise that desktop database searches identified no State or Commonwealth Threatened Ecological Communities (TECs) within 5 km of the Survey Area. Ecologia's field survey did not identify any TECs within the Clearing Area or Survey Area.

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

Methodology

- Ecologia (2025)
- Government GIS shapefiles (Accessed 03/07/2025):
 - DBCA Threatened Ecological Community database search

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

Proposed clearing is not at variance to this Principle.

The National Objectives and Targets for Biodiversity Conservation recognise that the retention of 30% or more of the pre-clearing extent of each ecological community is necessary if Australia's biodiversity is to be protected (Commonwealth of Australia, 2001) except in constrained areas (Perth and Peel) where 10% representation should be maintained.

The Clearing Area is located within the Jarrah Forest Bioregion, which retains approximately 67.10 per cent of the pre-European extent (Government of Western Australia, 2019) (see Table 4). The vegetation proposed to be cleared is broadly mapped as Vegetation Association 3, Medium forest; Jarrah-marri. The remaining extent of this Vegetation Association is well above the 30 % retention target at the Statewide, IBRA bioregion, IBRA subregion and Local Government Authority Scales (see Table 4).

Approximately 4,632 ha of native vegetation remains within a 5 km radius of the Clearing Area. The clearing of up to 0.13 ha of native vegetation will not cause the remaining extent of Vegetation Association 3 to drop below the 30 % threshold target. The native vegetation in the Clearing Area is less than 0.002 per cent of the total remnant native vegetation in the Study Area; and therefore, is not significant as a remnant of native vegetation in an area that has been extensively cleared.

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

Methodology

- Commonwealth of Australia (2001)
- Government of Western Australia (2019)
- Government GIS shapefiles (Accessed 03/07/2025):
 - Pre-European vegetation
 - Vegetation complexes

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

Proposed clearing is not at variance to this Principle.

According to available hydrology GIS datasets, Mahogany Creek, a minor non-perennial watercourse, intersects the northern-most extent of the Clearing Area. Analysis of aerial and Google Streetview imagery indicates this creek flows in an east to west direction and flows through an existing culvert beneath Seaborne Street. The Creek is visible as a diagonal tree-lined watercourse on freehold properties located to the east of the Clearing Area.

The Clearing Area consists of roadside *Eucalyptus marginata* subsp. *marginata* and *Corymbia calophylla* mid woodland over *Avena barbata*, *Briza maxima*, *Vinca major* low tussock grassland/herbland. Ecologia (2025) noted that the vegetation is not riparian in nature and is not occurring in association with a wetland.

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

Methodology

- Ecologia (2025)
- Government GIS shapefiles (Accessed 03/07/2025):
 - Geomorphic Wetlands
 - Ramsar Wetlands
 - Important Wetlands
 - Watercourses
 - RIWI Act Rivers

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

Proposed clearing is not at variance to this Principle.

Review of the available GIS datasets indicates that the application area is situated within the Western Darling Range Zone, a region characterized by a moderately dissected lateritic plateau on granite with deeply incised valleys and the Darling Scarp on its western margin. The underlying geology consists of soils formed in laterite, lateritic colluvium, and weathered in-situ granite and gneiss. Specifically, the area is mapped within the 255-Darling Plateau System and the Yarragil 1 Phase, which features very gentle to moderately inclined concave side slopes. The soil profiles typically comprise moderately well-drained yellow duplex soils alongside yellow and brown massive earths and gravels. The associated vegetation is dominated by woodlands of *Eucalyptus wandoo*, *E. marginata* (Jarrah), and *E. accedens*, with *Casuarina obesa* occurring in localized salt-affected zones.

The Clearing Area is located within an area that has an extremely low probability of acid sulphate soil occurrence and clearing will not involve disturbance of soil below the water table. It is highly unlikely the clearing of a small area of vegetation immediately adjacent to the existing road, within a thin linear strip, will increase the potential for erosion resulting in appreciable land degradation.

Analysis of land degradation risks for the map unit (GIS dataset) shows that less than 3% of the area is subject to moderate to high flood risk, salinity risk, or land instability (all coded as L1). Similarly, less than 3% of the unit is at risk of moderate to very high waterlogging or high to extreme water erosion (L1). While high to extreme wind erosion risk (M1) is mapped over 10–30% of the broader unit, the scale of the proposed activity, clearing of 0.13 hectares of remnant vegetation in a thin linear strip adjacent to Seaborne Street, is not expected to cause or exacerbate these factors. Consequently, the proposed clearing is not anticipated to result in appreciable land degradation or significant environmental impact.

General vegetation management actions for clearing are in the Vegetation Management Plan which will reduce the likelihood of the clearing exacerbating the incidence or intensity of land degradation. These include:

- Natural drainage pathways will not be obstructed from stockpile gravel, crushed rock and excavated material.
- The Contractor will ensure that clearing of native vegetation is only undertaken in dry conditions, unless otherwise approved and / or directed by the Superintendent.

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

Methodology

- Government GIS Shapefiles (Accessed 03/07/2025):
 - Acid Sulfate Soil Risk Map
 - Soil Landscape mapping – Zones
 - Soil Landscape mapping- Best Available
 - Soil Landscape mapping - Systems
 - Soil landscape land quality – Water Erosion Risk
 - Soil landscape land quality – Wind Erosion Risk
 - Soil landscape land quality – Salinity Risk

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- Soil landscape land quality – Waterlogging Risk
- Soil landscape land quality – Flood Risk
- Soil landscape land quality – land Instability Risk

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

Proposed clearing is not at variance to this Principle.

According to available GIS datasets, five DBCA managed lands and waters are present within the Study Area, however there are no conservation areas within one kilometre of the Clearing Area. The proposed clearing of 0.13 ha will not sever an ecological linkage or corridor to any conservation areas.

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

Methodology

- Government GIS Shapefiles (Accessed 03/07/2025):
 - DBCA Legislated Lands and Waters & Lands of Interest
 - DBCA Lands of Interest
 - Geomorphic Wetlands (conservation category wetlands only)
 - Ramsar Wetlands
 - Important Wetlands

(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.

According to available GIS databases, the Clearing Area is not located within a Public Drinking Water Source Area, Country Areas Water Supply Act Clearing Control Catchment or RIWI Act proclaimed Groundwater Area. The Clearing Area is located within the RIWI Act proclaimed Swan River System Surface Water Area.

As discussed in Clearing Principle (f), Mahogany Creek, a minor non-perennial watercourse, intersects the northern-most extent of the Clearing Area. Analysis of aerial and Google Streetview imagery indicates this creek flows in an east to west direction and flows through an existing culvert beneath Seaborne Street. The Creek is visible as a diagonal tree-lined watercourse on freehold properties located to the east of the Clearing Area. The proposed clearing is not likely to cause deterioration in the quality of water within Mahogany Creek, noting the general vegetation management actions for clearing included in the Vegetation Management Plan, such as:

- Natural drainage pathways will not be obstructed from stockpile gravel, crushed rock and excavated material.
- All recently cleared, exposed and loose surface areas shall be protected from wind, water and soil erosion.
- The Contractor will ensure that clearing of native vegetation is only undertaken in dry conditions, unless otherwise approved and / or directed by the Superintendent.

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

Methodology

- Government GIS Shapefiles (Accessed 03/07/2025):
 - RIWI Act, Surface Water Areas and Irrigation Districts
 - CAWSA Part 2A Clearing Control Catchments
 - RIWI Act, Groundwater Areas
 - Soil landscape land quality - Salinity Risk
 - Groundwater Salinity Statewide
 - Soil Mapping
 - Acid Sulfate Soil risk mapping
 - Soil landscape land quality - Subsurface Acidification Risk

(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 at variance to this Principle.

The Clearing Area is located in the Shire of Mundaring and is characterised by a warm mediterranean climate with an average annual rainfall of 1,300 mm on the escarpment to 700 mm in the east and north. Rainfall at Mundaring over the 12 months prior to the Ecologia (2025) survey was approximately 87.6% of mean annual rainfall (1060.7 mm).

Analysis of aerial imagery, Google Streetview imagery and GIS datasets indicates there are no permanent watercourses or waterbodies within the Clearing Area. Mahogany Creek, a minor non-perennial watercourse, intersects the northern-most extent of the Clearing Area and flows in a south-westerly direction through freehold property, after crossing beneath Seaborne Street via an existing culvert.

According to available GIS datasets, < 3 % of the map unit has a moderate to high flood risk and < 3 % has a moderate to very high waterlogging risk. General vegetation management actions for clearing are in the Vegetation Management Plan which reduce the likelihood of the clearing exacerbating the incidence or intensity of flooding. These include:

- Natural drainage pathways will not be obstructed from stockpile gravel, crushed rock and excavated material.
- The Contractor will ensure that clearing of native vegetation is only undertaken in dry conditions, unless otherwise approved and / or directed by the Superintendent.

The proposed clearing consists of a small, narrow roadside strip of vegetation that is unlikely to significantly change existing surface water run off patterns.

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

Methodology

- Aerial photography
- Bureau of Meteorology Australia (2025)
- Government GIS Shapefiles (Accessed 03/07/2025):
 - Soil Mapping
 - Contours
 - Soil landscape land quality - Waterlogging Risk
 - Soil landscape land quality - Flood Risk

6 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 Proposal (refer to Appendix 2).

7 REHABILITATION, REVEGETATION AND OFFSETS

7.1 Revegetation and Rehabilitation

No temporary clearing will be undertaken as part of the Proposal activities and therefore no revegetation or rehabilitation will be conducted under CPS 818.

7.2 Offset Proposal

In accordance with CPS 818/17 condition 11(a), as the proposal is at variance to Principle b) an offset proposal is required to be provided to the CEO for approval, unless advised in writing by the CEO that an offset proposal is not required.

In accordance with CPS 818 condition 11(a), Main Roads is seeking an exemption from submitting an offset proposal as there are no significant residual impacts required to be offset.

8 STAKEHOLDER CONSULTATION

Main Roads has undertaken stakeholder consultation in accordance with CPS 818 Condition 8.

Main Roads received submissions from the following stakeholders:

- Shire of Mundaring
- Department of Water and Environmental Regulation

Table 6 details the key issues raised and Main Roads response to these key issues

Table 6. Summary of Main Roads Responses to Stakeholder Submissions

Name of Stakeholder	Date of Consultation	Key issues/Comment	Main Roads response/Comment
Department of Water and Environmental Regulation (DWER)	02 June 2026	Mapping of tree canopy	CAR updated based on DWER assessment comments.
Shire of Mundaring	19 May 2026	Opportunities for landscaping.	Road safety constraints prevent landscaping in this location.

9 COMPLIANCE WITH CPS 818

Table 7 summarises what further pre-clearing impact assessment is required in accordance with CPS 818.

Table 7. Summary of Additional Management Actions Required by CPS 818

Impact of Clearing	Yes/No or NA	Further Action Required
1. The CAR indicates that the clearing is 'At Variance' or 'May be at Variance' with one or more of the Clearing Principles.	Yes	1. Clearing Report to be published on website and submissions sought for 21 days. 2. Submissions invited from relevant parties, including the LGA, the owner or occupier of the land and other stakeholders in accordance with Condition 8 of CPS 818. 3. VMP has been completed, refer to Appendix 2. 4. An offset exemption has been sought. Summary of submissions and a statement addressing each of those submissions to be published on website.
2. 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.	No	No further action required.
3. Clearing is at variance with Clearing Principle (g) land degradation, (i) surface or underground water quality and (j) the incidence of flooding.	No	No further action required.
4. The Proposal involves clearing for temporary works (as defined by CPS 818).	No	No further action required.
5a. Proposal is within a Region that: • has rainfall greater than 400mm; and, • is South of the 26th parallel; and, • works are necessary in 'Other than dry conditions'; and, • works have potential for Uninfested areas to be impacted.	No	Standard Vehicle and Plant management actions from Annexure 204B, <u>Hygiene Checklists</u> and <u>Vehicle, Plant and Machinery Hygiene Register Template</u> will be applied.
5b. Do the proposed works require clearing within or adjacent to DBCA managed lands in non-dry conditions?	No	No further action required.

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Impact of Clearing	Yes/No or NA	Further Action Required
6. 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.
7. Weeds are 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.
8. Did an environmental specialist conduct the survey or field assessment?	Yes	The Environmental Specialist undertaking the biological assessments was suitably qualified and had more than three years' experience.
9. Did an environmental specialist prepare the Assessment Report and any other associated documentation including the VMP, Dieback Management Plan or Offset Proposal?	Yes	The Environmental Specialist preparing the Assessment Report and any other associated documentation including the VMP, Dieback Management Plan or Offset Proposal was suitably qualified and had more than three years' experience.

10 REFERENCES

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11 APPENDICES

Appendix 1: CPS 818 condition 8 (e) (iii) Biological Surveys and Field Assessment Executive Summary and Report Conclusions

Ecologia (2025). Main Roads Western Australia: Seaborne Street, Mahogany Creek Intersection Upgrade Biological Survey. Perth, Western Australia

Executive Summary

Main Roads Western Australia (Main Roads) is seeking to progress the Great Eastern Highway (GEH) and Seaborne Street intersection upgrade project from its current stage (15%) to the detailed design stage (IFC). The results of the surveys may be used to assist in the preparation of the Environmental Impact Assessment Documentation. The survey area was 0.97 ha. Ecologia Environment (Ecologia) was engaged by Main Roads to undertake a detailed flora and vegetation survey, targeted significant flora survey, and fauna and fauna habitat assessment, on the Seaborne Street survey area. The survey was undertaken on 21 November 2024.

Flora and Vegetation Assessment

A total of 21 vascular plant taxa representing 11 families and 21 genera were recorded within the survey area. Seventeen introduced plant species were recorded, none of which are listed as Declared Pests. One Weeds of National Significance (WONS) species was recorded: * *Genista linifolia*. No EPBC Act or BC Act listed Threatened and DBCA listed Priority species were recorded.

Seven sampling sites (three quadrats and four relevés) were used to describe one vegetation type within the survey area, which consisted of *Eucalyptus marginata* subsp. *marginata* mid woodland over **Avena barbata*, **Briza maxima*, **Vinca major* low tussock grassland/herbland. Vegetation condition ranged from 'Degraded' to 'Completely Degraded' due to historical clearing and the weed infestation.

There were no plant communities within the survey area that corresponded to any state (BC Act) or Commonwealth (EPBC Act) listed Threatened Ecological Community (TEC), nor any state listed Priority Ecological Community (PEC). The vegetation type described was not significant at the national, state, regional, or local scales.

Fauna and Fauna Habitat Assessment

A fauna habitat assessment was undertaken within the survey area to describe representative habitat types present within the survey area. Eucalypt woodland was the only fauna habitat type identified in the survey area, and it is considered generally common at a local and regional level. Habitat condition was 'Very Poor and' degradation from weeds, noise pollution and clearing was evident. The remainder of the survey area was described as cleared (road/road verge)

Seventeen bird species were recorded in the survey area, and all fauna identified were generally common and are not restricted to the survey area. No introduced species were recorded during the survey. Secondary evidence (feeding debris) of forest red-tailed black cockatoo (*Calyptorhynchus banksii naso* [Vulnerable EPBC and BC Act]) was detected at the base of a marri tree within the survey area. No evidence of quenda, which was previously recorded within the survey area (roadkill), was not recorded during the fauna field survey.

The post-survey likelihood of occurrence assessment identified one bird (forest red-tailed black cockatoo [*Calyptorhynchus banksii naso*]) and one mammal (quenda [*Isodon fusciventer*]) recorded

in the survey area. Two birds (Baudin's black cockatoo [*Zanda baudinii*] and Carnaby's black cockatoo [*Zanda latirostris*]) were considered to have a high likelihood to occur in the survey area. One mammal (Chuditch [*Dasyurus geoffroii*]) and one reptile (southern death adder [*Acanthophis antarcticus*]) were considered to have moderate likelihood to occur in the survey area. Fourteen significant species identified during database searches are considered 'Unlikely' to occur due to absence of suitable habitat or age of records. The survey area is not expected to provide critical habitat for any species identified and all species identified may utilise the survey area to forage.

Black Cockatoo Assessment

An assessment was undertaken to investigate potential breeding habitat, night roosting habitat, and foraging habitat for the three black cockatoo species within the survey area. A total of 15 potentially suitable habitat trees (> 500 mm DBH) were recorded within the survey area. One tree had a potentially suitable hollow with no signs of use (category 5), and the remaining 14 trees did not support hollows (category 7).

Black cockatoo foraging habitat within the survey area was assessed as moderate quality for Carnaby's black cockatoo as their primary food source (*Banksia*, *Hakea* or *Grevillea* species) was absent and no foraging evidence was recorded. Foraging habitat was assessed as moderate for Baudin's black cockatoo as, although no foraging evidence was recorded, their primary food source, marri (*Corymbia calophylla*) and jarrah (*Eucalyptus marginata subsp. marginata*) were present. The foraging habitat within the survey area was assessed as moderate to high quality for the forest red-tailed black cockatoo as mature marri and jarrah trees were recorded and foraging evidence was recorded. However, as the potential foraging habitat in the survey area is less than one hectare, it is unlikely to be considered significant for any black cockatoo species.

Conclusions

The biological surveys were conducted on 21 November 2024 and completed in accordance with Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016b) and Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020). The key findings for the survey area were:

- A total of 21 vascular plant taxa were recorded.
- Seventeen introduced species were recorded, none of which are listed as Declared Pests. One WONS was recorded: **Genista linifolia*.
- No EPBC Act or BC Act listed Threatened and DBCA listed Priority species were recorded.
- One vegetation type was described 'EmAb': *Eucalyptus marginata subsp. marginata* mid woodland; **Avena barbata*, **Briza maxima*, **Vinca major* low tussock grassland/herbland.
- 'EmAb' vegetation type did not correspond with any EPBC Act or BC Act listed TEC, nor to any DBCA listed PEC.
- Vegetation condition ranged from 'Degraded' to 'Completely Degraded'.
- Described vegetation type is not considered to be significant on the national, state, regional, and local scales.
- Eucalypt woodland was the only fauna habitat type identified in the survey area, and it is considered generally common at a local and regional level.

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- Seventeen bird species were recorded. No introduced species were recorded during the survey.
- Secondary evidence (feeding debris) of forest red-tailed black cockatoo (*Calyptrorhynchus banksii naso* [Vulnerable EPBC and BC Act]) was detected at the base of a marri tree within the survey area.
- A total of 15 potentially suitable habitat trees (> 500 mm DBH) were recorded within the survey area. One tree had a potentially suitable hollow with no signs of use (category 5), and the remaining 14 trees did not support hollows (category 7).
- Black cockatoo foraging habitat within the survey area was assessed as:
 - Moderate quality for Carnaby's black cockatoo.
 - Moderate quality for Baudin's black cockatoo.
 - Moderate to high quality for the forest red-tailed black cockatoo.

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Main Roads (2025). Environmental Site Inspection Report – Great Eastern Highway & Seaborne Street, November 2025.

Executive Summary

This report does not contain an Executive Summary.

Conclusions / Summary

Following a detailed site inspection, it has been conclusively determined that the identified tree (T08) branch has been severed and exhibits no observable hollows. This conclusion is based on a comprehensive visual assessment conducted on-site, supported by representative photographs documenting the tree's condition. The assessment was further validated by the Main Roads Internal Zoologist, ensuring expert confirmation of these findings.

The absence of hollows confirms that T08 does not provide suitable nesting habitat for Black Cockatoos

Appendix 2: Vegetation Management Plan

GREAT EASTERN HIGHWAY AND SEABORNE STREET INTERSECTION PROJECT

Purpose and Scope

This Vegetation Management Plan (VMP) has been prepared by Main Roads for the purpose of managing native vegetation clearing impacts associated with the Great Eastern Highway and Seaborne Street intersection upgrade Project.

Between January 2014 and December 2018, there have been approximately 12 right-angle crashes at the intersection of Great Eastern Highway (GEH) and Seaborne Street. To address this issue, the Metropolitan Region is proposing to upgrade the intersection to improve safety and reduce the number of crashes. The proposed upgrade includes channelizing the left and right turn lanes from Seaborne Street onto GEH and providing an improved left slip lane from GEH (northwest) onto Seaborne Street under give-way control.

In specified circumstances, Main Roads VMP is required to be approved by Department of Water and Environmental Regulation (DWER) as a condition of the Main Roads Statewide Clearing Permit CPS 818.

Actions, and their relevant timeframes, from this VMP will be documented within the relevant Tender Documentation (Specifications), such as:

- Specification 204 Environmental Management
- Specification 301 Vegetation Clearing and Demolition
- Specification 303 Materials and Water
- Specification 304 Revegetation
- Specification 304 Rehabilitation of Disturbed Areas.

Once the Contract has been awarded, the Superintendent's Contract Management Team (or equivalent roles) are to ensure that the requirements are implemented by the Contractor.

Avoiding, Mitigating and Managing the Impacts of Clearing

A number of measures were undertaken to during the development and design of the proposal to reduce its impact the environment.

For further information on the alternatives that were considered during the proposal development, please go to Section 1.5 of the Clearing Assessment Report for the proposal.

For further information on the measures undertaken to avoid, minimise, reduce and manage the proposal's clearing impacts, please go to Section 1.6 of the Clearing Assessment Report for the proposal.

VMP Actions

General vegetation management actions to be undertaken is shown in Table 8, General Vegetation Management Actions for Clearing.

Table 8. General vegetation management actions for clearing

Management Action	Responsibility	Timing
The Contractor must ensure plant, machinery and equipment, is cleaned down prior to arrival to the site.	Superintendent	During construction
Vehicle hygiene inspection checklists will be utilised to manage potential weed/dieback spread on earth-moving machinery.	Superintendent	During construction
No known dieback infested soil, mulch, fill or other material will be permitted into the works area.	Superintendent	During construction
All Clearing must be undertaken in such a way to allow fauna to move out of the Clearing area.	Superintendent	During construction
The Limits of Vegetation Clearing will be demarcated on site prior to the commencement of clearing to prevent entry into areas of native vegetation.	Superintendent	During construction
Natural drainage pathways will not be obstructed from stockpile gravel, crushed rock and excavated material.	Superintendent	During construction
All recently cleared, exposed and loose surface areas shall be protected from wind, water and soil erosion.	Superintendent	During construction
The Contractor will ensure that clearing of native vegetation is only undertaken in dry conditions, unless otherwise approved and / or directed by the Superintendent.	Superintendent	During construction
All Special Environmental Areas will be pegged in accordance with Main Roads' Drawing 201928-0001-1 Construction Peg Colour Code (https://www.mainroads.wa.gov.au/globalassets/technical-commercial/technical-library/standard-contract-drawings/vegetation/construction-environmental-management/201928-0001-construction-peg-colour-code-drawing.pdf?v=49bd3b).	Superintendent	During construction
The Contractor must develop and detail a Site induction training program as part of the CEMP that includes as a minimum, the significant environmental impacts, actual or potential, of work activities associated with the Contract	Superintendent	During construction

Main Roads' preclearing **Hold Point** applies to all projects that require vegetation clearing, as documented within Specification 301 (301.12 PRE-CLEARING PROCESS). Accordingly, all Hold Point actions must be signed off prior to clearing commencing. This Hold Point comprises the following actions:

1. Prior to the commencement of any clearing operations, the Contractor must certify for the Superintendent's verification and approval that the following activities have been completed in accordance with the relevant specification:
 - a) The pegging of limits of vegetation clearing has been undertaken.
 - b) The pegged vegetation clearing area does not exceed the Limits of Vegetation Clearing.
 - c) Mature trees have been conserved as far as practicable.
 - d) The pegging of special environmental areas has been undertaken.
 - f) All pre-clearing weed control has been undertaken.
 - g) All pre-clearing fauna operational controls have been undertaken.
 - h) All pre-clearing dieback operational controls have been undertaken.
 - i) Suitable and unsuitable topsoil zones have been identified.
 - j) Vegetation and topsoil stockpile locations have been identified.
 - o) All clearing machinery is compliant with controls.

Monitoring and Maintenance Program

The Superintendent's Contract Management Team shall monitor the implementation of management actions that are a **Hold Point**. **Hold Point** actions must be signed off by the Superintendent's Representative to confirm it has occurred and recorded within the Superintendent's Contract Management Plan.

Non-Compliance

Non-compliance with management actions will trigger corrective actions, preventative actions and/or an incident investigation. Non-compliances will be recorded with Main Roads incident management system and reviewed by Main Roads Director, Environment and Heritage.

The need for reporting non-compliances with VMP management actions to DWER will be determined as part of an incident investigation.

Revegetation

Revegetation will be undertaken in accordance with Condition 9 of CPS 818. Relevant requirements from Condition 9 have been incorporated into Project Revegetation Plan Template. The elements to be implemented by the Contractor will be incorporated into the relevant Specification 304.

Appendix 3: Black Cockatoo Foraging Quality Assessment

Fauna Habitat Type	Site Condition (out of 6)	Site Context (out of 3)	Species Stocking rate (out of 1)	Total	Comments / Score justification
Baudin's cockatoo (<i>Zanda baudinii</i>)	5	0	0	5	Site condition was assigned moderate to high foraging value due to the relatively high cover of marri-jarrah forest across the remnant vegetation within the survey area. Site context was assigned zero as Baudin's cockatoos are unlikely to breed locally and remnant vegetation is unlikely to exceed 0.1 % of trees within a 15 km radius of the survey area. Although the DBCA Threatened and Priority Fauna Database identified numerous records of Baudin's cockatoo within 5 km of the survey area, no Baudin's cockatoo has been recorded since 2019. Therefore, stocking rate was assigned a zero since the species is observed very infrequently in recent time.
Carnaby's cockatoo (<i>Zanda latirostris</i>)	4	0	1	5	Site condition was assigned a moderate foraging value as no Banksia woodland/low forest occurred in the survey area; however, Eucalypt woodland/forest was present. Site context was assigned zero as Carnaby's cockatoo are unlikely to breed locally and remnant vegetation is unlikely to exceed 0.1 % of trees within a 15 km radius of the survey area. Despite no primary or secondary evidence of Carnaby's cockatoo recorded during the field survey, stocking rate was assigned a score of one as, according to the DBCA Threatened and Priority Fauna Database, numerous, frequent and recent records occur within five km of the survey area.

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Forest red-tailed black cockatoo <i>(Calyptorhynchus banksii naso)</i>	5	0	1	6	Site condition was assigned moderate to high foraging value due to the relatively high cover of marri-jarrah forest across the remnant vegetation within the survey area. Site context was assigned zero as forest red-tailed black cockatoo are likely to breed locally; however, remnant vegetation is unlikely to exceed 0.1 % of trees within a 15 km radius of the survey area. Stocking rate was assigned a score of one as foraging evidence and individuals of forest red-tailed black cockatoo were observed during the field survey, and numerous records within five km of the survey area, according to the DBCA Threatened and Priority Fauna Database.
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