Clearing Assessment Report – CPS 818

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M031 Northam Cranbrook 45-65 SLK
Wheatbelt Region
EOS 2463

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1 PROPOSAL

1.1 Purpose and Justification

Northam Cranbrook Road is a strategic freight, tourist and inter-town route. The efficiency and reliability of Northam Cranbrook Road is vital to the mining and agricultural sectors of the Wheatbelt and Great Southern regions.

Main Roads proposes to upgrade Northam Cranbrook Road (M031) between 45.3 and 65.4 Straight Line Kilometre (SLK) to improve safety and efficacy of the road in this location, primarily by widening of the existing nominal 6.4m seal to 9.0m on existing formation width (8 – 8.6 m) inclusive of a one metre sealed shoulder on each side of the road.

Although works will primarily remain within the current maintenance zone, seven mature trees will need to be removed within 5.5 metres of the road centreline for safety reasons.

Between the towns of York and Beverley, for the period 2019-2023, 10 crashes were recorded, resulting in three fatalities, 1 major injury and 2 hospital admissions requiring medical attention.

The proposed upgrade will greatly improve road user safety by reducing the estimated Killed or Seriously Injured crash rate by more than 50%, as well as increase the safety and efficiency of freight movements.

1.1.1 Main Roads Approach to Road Safety and the Environment

Main Roads is committed to minimising the environmental impacts of all of 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 and enhancing 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 Work Scope

Main Roads proposes to upgrade a 20 km section of Northam Cranbrook Road (M031) between 45.3 SLK and 65.4 SLK to improve road safety and improve a strategic freight route. The upgrade will comprise the following components:

- Widening to achieve 10 m seal on a 10 m wide formation; and
- Upgrades to drainage infrastructure.

1.3 Proposal Location

The Proposal area (Approved Clearing Area) is located on Northam Cranbrook Road (M031) between 53.2 SLK and 58.9 SLK in the Shires of York and Beverley and will involve the clearing of seven mature trees as shown in Figure 1.

MGA reference: GDA 2020 MGA Z50
Northern extent: 116.807446 -32.039539
Southern extent: 116.851634 -32.086083

The location and boundaries of the study area (10 km radius) for the Proposal are shown in Figure 2.

1.4 Clearing Details

Proposed Clearing to be undertaken using CPS 818: Up to 0.05 ha, Approved Clearing Area Shapefile: D24#633723.

Areas of Native Vegetation Clearing:
The areas of native vegetation to be cleared are shown in Appendix 2.

Type of Native Vegetation:
The type of vegetation to be cleared under this Proposal comprise of seven York Gum (*Eucalyptus loxophleba*) as shown in Appendix 1.

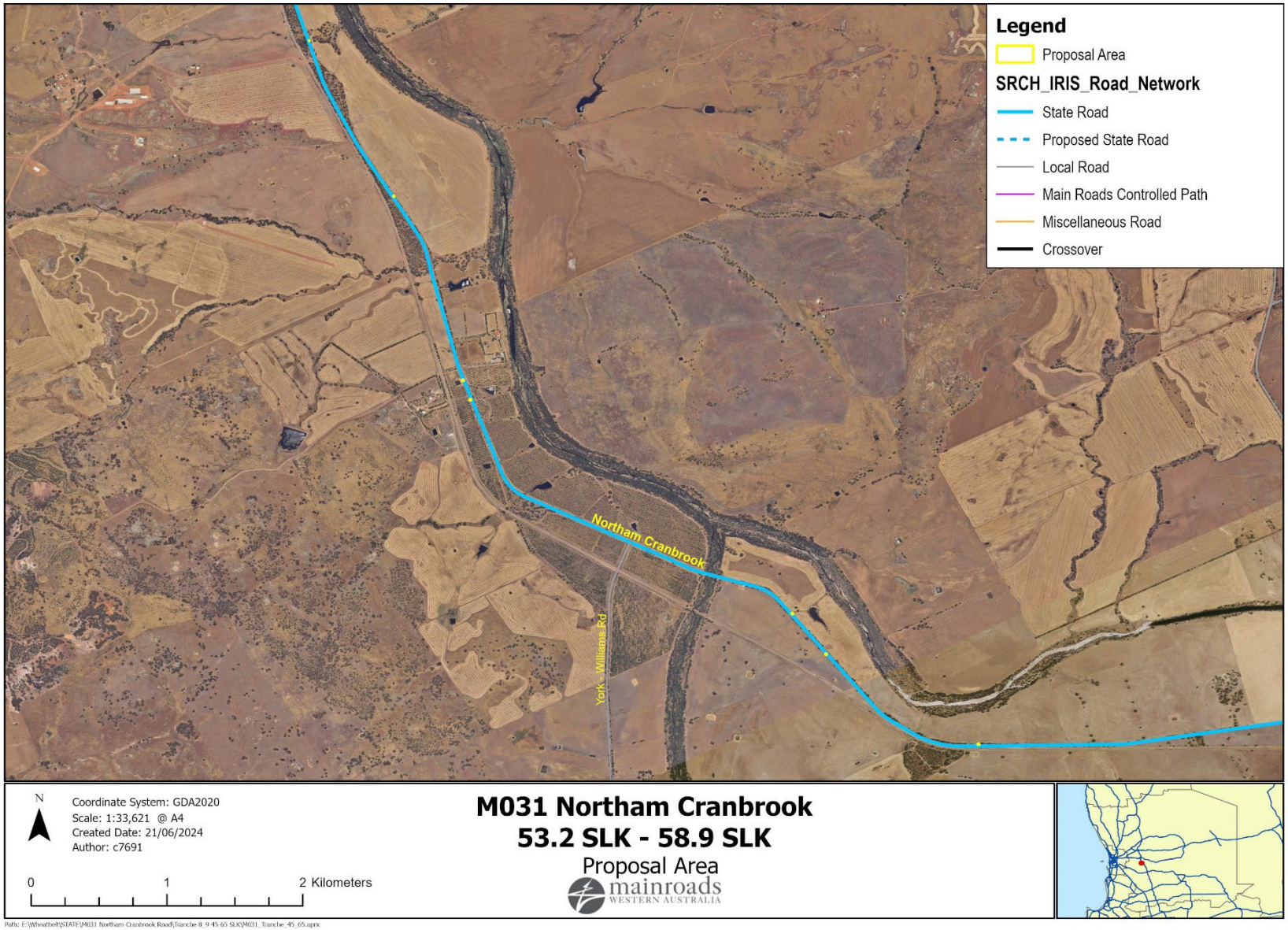

Figure 1. Proposal area

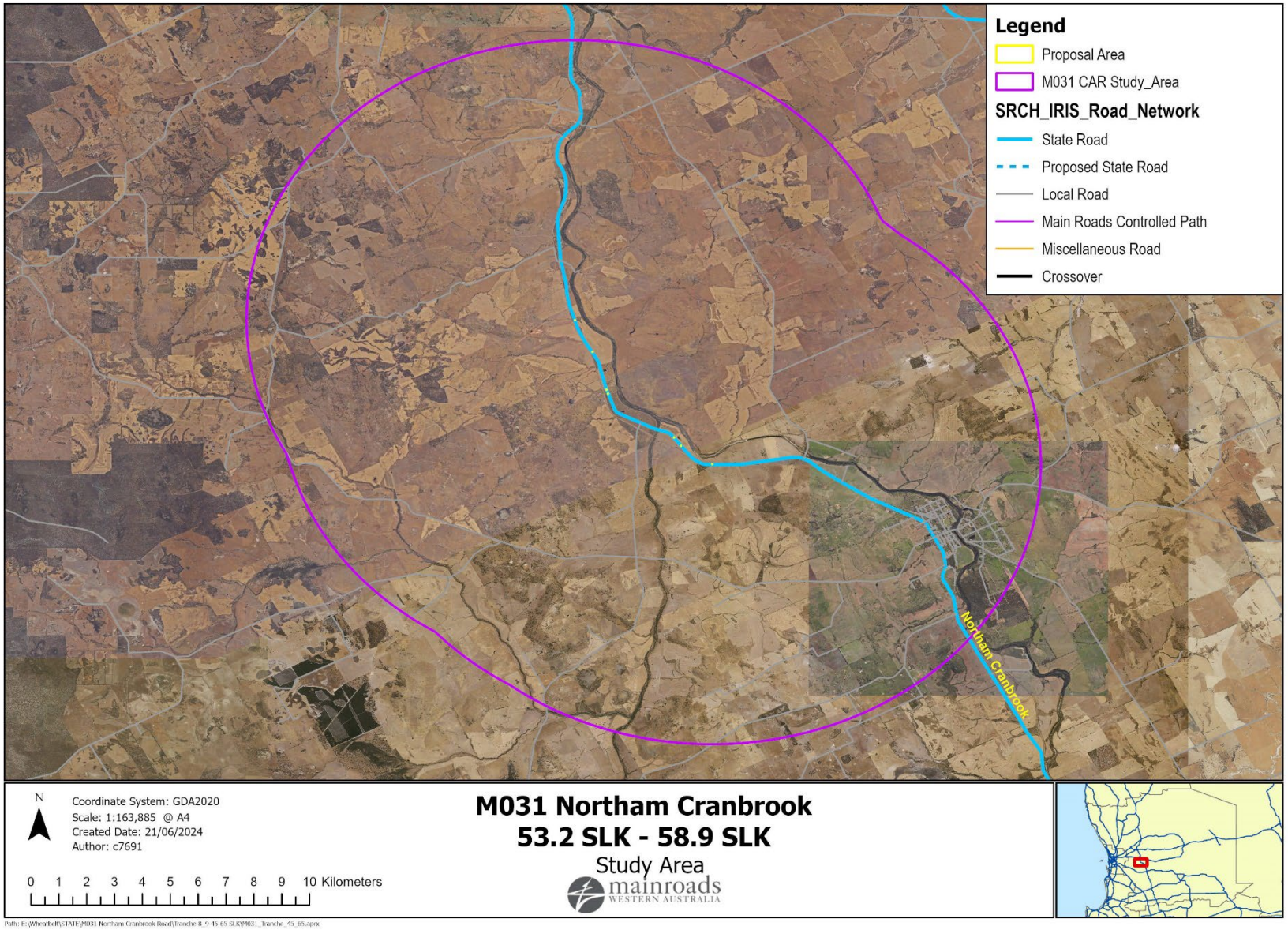

Figure 2. Study area

1.5 Alternatives to Native Vegetation Clearing Considered During Works Development

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

- Preferentially locating the new alignment in cleared pasture areas over the existing road reserve, however this was considered cost prohibitive e.g. due to cost of resumption of farmland and construction of completely new road rather than widening in existing alignment and premature redundancy of State road asset, lack of adequate funding, stakeholder engagement, resource requirements. Under this option, clearing would still be required for tie-ins to the existing road network.
- Upgrading other alternative routes that are less vegetated and environmentally constrained, however these are not suitable due to longer travel times, sensitive local receptors (such as residences) or other planning issues.
- 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
Alignment to one side of existing road	The shoulder sealing works on Northam Cranbrook Road will occur on either side of the existing road (predominantly within the maintenance zone), thereby minimising the amount of vegetation required to be cleared.
Alternative alignment located within pasture or degraded areas	The scope of works is shoulder sealing works on Northam Cranbrook Road along its existing alignment. Realignment would result in a greater amount of clearing.
Simplification of design to reduce number of lanes and/or complexity of intersections	The upgrade of this section of the Northam Cranbrook Road will utilise the existing maintenance zone as far as practical, with only minor clearing required to widen Northam Cranbrook Road to the full design extent.
Steepen batter slopes	Due to the traffic volumes, vehicle types and posted speeds these batters cannot be changed significantly. Further, the existing terrain correlates to the potential batter slope without changing the shape of the batter.
Installation of barriers	The installation of safety barriers would not reduce the clearing required due to the requirements of roadside drainage.
Installation of kerbing	Kerbing does not apply for this section of road, as it becomes a hazard to road users due to existing level differences.
Use of existing cleared areas for access tracks, construction storage and stockpiling	No side tracks are required. One lane of the road will be closed at a time to allow traffic to pass. Construction storage and stockpiling will be restricted to existing cleared or highly disturbed areas.
Drainage modification	Drainage has been considered and will be upgraded to meet current standards, although will not affect the hydraulic load to nearby vegetated areas.

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&D Act)
- *Soil and Land Conservation Act 1945* (WA)
- *Rights in Water and Irrigation Act 1914*
- *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 (Government of WA, December 2014)
- Procedure: Native vegetation clearing permits (Government of WA, October 2019)
- 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.
- Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt (Department of the Environment, 2015)
- Carnaby's Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan (Department of Parks and Wildlife, 2013)
- Referral guideline for 3 WA threatened black cockatoo species (DCCEEW, 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.

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:

- **Proposal Area (Approved Clearing Area)** – The maximum amount of native vegetation to be cleared for the Proposal and is based on the tree canopy of the overstorey trees.
- **Study Area** – Area covered by the Desktop Assessment. The Study Area for the Proposal is confined to a local area of a 10km radius.
- **Survey Area** – Area covered by the Biological Survey, which is typically larger that the Proposal area.

2.2 Desktop Assessment

A desktop assessment of the Proposal 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 9.

2.3 Surveys and Assessments

The following surveys/assessments were undertaken to inform this CAR:

- Ecoscape (2022) M031 Northam-Cranbrook Road Widening SLK 57 -99 Biological Survey,
- An informal inspection by Main Roads Environmental Officers on 12 April 2024.

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 Sections 3.1 to 3.2. Note that Ecoscape (2022) survey SLK 57-99 only captured three (of seven) trees in the Proposal area, and we have extrapolated data (condition, habitat types etc) for the remaining four trees based on the results the Ecoscape survey and the Main Roads site inspection.

Table 2. Summary of Biological and Targeted Surveys Relevant to the Proposal

Consultant & Survey Name	Survey/Assessment Details
Ecoscape (2022) M031 Northam-Cranbrook Road Widening SLK 57 -99 Biological Survey	**Survey Area:** Survey Area comprised of 159.93 ha along Northam-Cranbrook Road SLK 57 – 99. Three of seven trees surveyed. **Type:** Desktop assessment, Detailed flora and vegetation survey and Basic fauna survey, including identifying key sensitivities of and impacts to Threatened and Priority Flora, Fauna and Ecological Communities. **Timing:** Fieldwork conducted on 18, 28-31 Oct 2021 (flora) 20-21 Oct 2021 (fauna). **Survey Results Shapefile TRIM Ref:** D23#1302881 **Document TRIM Reference:** D22#1051365
Main Roads Site Inspection (2024)	Seven York Gum trees found to be in Degraded to Completely Degraded condition and no hollows (Refer Appendix 1).

3 SURVEY RESULTS

3.1 Summary of Flora and Vegetation Surveys

Vegetation

Ecoscape (2022) mapped two native vegetation units within the Proposal area are shown in Table 3.

Table 3. Vegetation Units within the Proposal area

Vegetation Unit	Number of trees in Proposal area	Condition
Eucalyptus loxophleba mid woodland	1 tree	Degraded
Eucalyptus salmonophloia mid open forest	2 trees	Degraded

Ecological communities

Ecoscape (2022) did not record any patches of vegetation in the Proposal area that were considered to meet the criteria to be a TEC/PEC.

Significant flora

Ecoscape (2022) did not record any EPBC Act Threatened species, threatened or Priority flora species within the Proposal area.

3.2 Summary of Fauna Surveys

Fauna habitats

Ecoscape (2022) mapped two fauna habitat types in the Proposal area as shown in Table 4.

Table 4: Fauna Habitat in Proposal area

Habitat	Comments	No of trees
Woodland (York Gum)	Low-moderate quality BC foraging habitat	1
Woodland (Roadside Trees)		2

Significant fauna

Ecoscape (2022) reported that no conservation-listed species were recorded in the field. Following post survey re-evaluation of the desktop likelihood of occurrence assessment, one conservation listed species may occur: Carnaby's Cockatoo.

Black Cockatoo Habitat Assessment

Ecoscape (2022) mapped 441 DDH trees in its wider (42 km) survey area (three of which occur within the Proposal area) and mapped 41 DBH trees within the survey area between 57 and 66 SLK (one of which occurs within the Proposal area and did not contain any suitable hollows).

The Woodland habitat was considered to represent low-moderate quality foraging habitat due to the lack of preferred foraging species and represents potential Carnaby's Cockatoo roosting habitat as confirmed by the proximity of two DBCA confirmed roost sites, one approximately 14.5 km northwest of the Ecoscape survey area and the other approximately 16.7 km north (to the buffer edge). The Proposal area is inferred to have low-moderate quality foraging habitat based on the presence of similar habitat.

Carnaby's Cockatoo were not recorded during the Ecoscape field survey and no evidence of their presence was observed. The low number of potential breeding trees (18) in the 42 km survey area, and the low-moderate quality of foraging habitat, including only small numbers of favoured foraging species (e.g. *Banksia* spp.) plants and only small-fruited Eucalypts across the survey area reduces the likelihood of occurrence from high ('Likely to occur') to medium ('May occur') and Carnaby's Cockatoo are more likely to be occasional visitors, roosting and foraging rather than breeding.

4 VEGETATION DETAILS

4.1 Proposal Site Vegetation Description

Table 5 and Table 6 provide details of the vegetation types and their condition within the Proposal area and the remaining extents of these associations.

For a full description of the existing vegetation, refer to the Biological Reports referenced in Table 2.

Table 5. Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association	Clearing Description	Vegetation Condition	Comments
Vegetation Association 352 described as Medium woodland; York gum	Clearing of up to 0.05 ha of native vegetation for the purposes of upgrade of Northam Cranbrook Road	Degraded to Completely Degraded	Vegetation description and condition determined from biological survey (Ecoscape (2022) and site inspection by MRWA staff (2024))

Based on the above spreadsheet, this equates to 0.05 ha of native vegetation within a 0.05 ha Proposal area.

Table 6: Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale:	Pre–European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No 352	**Statewide**	724,268	142,012	19.61	8.92
	IBRA Bioregion Avon Wheatbelt	630,577	108,887	17.27	9.36
	IBRA Sub-region Katanning	337,871	36,295	10.74	2.13
	Local Government Authority Shire of York	89,947	8,583	9.54	0.64
	Local Government Authority Shire of Beverley	73,497	8,996	12.24	12.08

5 ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES

In assessing whether the 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 assessment has determined that the proposed clearing is not at variance or not likely to be at variance to all of the clearing principles.

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

Proposed clearing is not at variance to this Principle.

Assessment

The proposed clearing will result in the removal of up to 0.05 ha of native vegetation (seven York Gum) along Northam Cranbrook Road. The condition of the vegetation ranges from Degraded to Completely Degraded. The Proposal area comprises the following two vegetation types, which are considered typical of the local area:

- *Eucalyptus loxophleba* mid woodland;
- *Eucalyptus salmonophloia* mid open forest.

DBCA database searches indicate that three Threatened and twelve Priority (two P1, seven P3 and three P4) Flora Species have been recorded within 10km of the Proposal area, as shown below:

- *Eleocharis keigheryi* (T)
- *Glyceria drummondii* (T)
- *Thomasia montana* (T)
- *Caladenia cristata* (P1
- *Eremophila glabra* subsp. York (P.G. Wilson 12172 B) (P1)
- *Anigozanthos bicolor* subsp. Exstans (P3)
- *Cryptandra beverleyensis* (P3)
- *Eutaxia rubricarina* (P3)
- *Hibbertia subvillosa* (P3)
- *Levenhookia pulcherrima* (P3)
- *Schoenus capillifolius* (P3)
- *Thysanotus tenuis* (P3)
- *Acacia cuneifolia* (P4)
- *Hemigenia platyphylla* (P4)
- *Stylidium tenuicarpum* (P4)

The closest mapped record *Hemigenia platyphylla* (P4) was more than 3km from the Proposal area. Ecoscape (2022) did not record any Threatened and Priority Flora Species in or near the Proposal area and considered all significant flora species were unlikely to occur. The potential occurrence of conservation significant flora within the proposed area of disturbance is considered to be unlikely due to the Degraded to Completely Degraded condition of vegetation (refer to attached Figures in Appendix 1). As such there is unlikely to be any significant direct or indirect impact on conservation significant flora associated with clearing.

While the vegetation to be cleared meets some of the key diagnostic characteristics of the *Eucalypt Woodlands of the Western Australian Wheatbelt* TEC/PEC *(Priority 3 PEC, Critically Endangered TEC)*, the trees occur in patches of vegetation observed to be in a Degraded to Completely Degraded condition and therefore, would not meet the minimum condition thresholds for roadside patches of the TEC/PEC.

In addition, Ecoscape did not map the three trees located in its survey area as occurring within the TEC/PEC. According to the DBCA TEC/PEC GIS layer, all seven trees in the Proposal area are not mapped as being in a TEC/PEC.

The Proposal area comprises two fauna habitat types:

- Woodland (York Gum),
- Woodland (Roadside Trees).

DBCA Threatened and Priority fauna database searches indicate that six Threatened, four Priority and one Conservation Dependent Fauna Species have been recorded within 10km of the Proposal area. The closest mapped record (Carter's Freshwater Mussel) was more than 1.3km from the Proposal area. No habitat for Carter's Freshwater Mussel is present within the Proposal area. Ecoscape (2022) did not record any conservation-listed species in the field. Following post survey re-evaluation of the desktop likelihood of occurrence assessment, Ecoscape considered that only one significant listed species may occur: Carnaby's Cockatoo. A site visit by Main Roads to the Proposal area characterised the vegetation as Degraded to Completely Degraded York Gum woodland and Roadside trees, aligning with the results of the Ecoscape survey. From these observations and the outcomes of the Ecoscape survey, the Proposal area provides only

potential habitat for one conservation listed species - Carnaby's Cockatoo. The Proposal will result in clearing 0.05ha of low-moderate quality foraging habitat and five DBH trees and 2 non DBH trees (all with no hollows).

The Proposal area does not provide a high level of biological diversity with no significant flora species recorded, no TEC/PECs present, and only one fauna species (Carnaby's Cockatoo) that may occur.

Assessed Outcome:
The proposed clearing is not at variance to this Principle.

Methodology

- Biological Survey (Ecoscape, 2022)
- MRWA Site Inspection (12 April 2024)
- DCCEEW Protected Matters Search Tool Report
- Department of Natural Resources and Environment (2002)
- Government GIS Shapefiles:
  - DBCA Threatened Fauna database search (Accessed 20-May-2024)
  - DBCA Threatened and Priority flora database search (Accessed 20-Mapy-2024)

(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.

Assessment

Fauna habitats

Two fauna habitat types are represented within the Proposal area, including:

- Woodland (York Gum)
- Woodland (Roadside Trees)

Significant fauna

A search of the DBCA Threatened and Priority Fauna database identified the presence/potential presence of eleven conservation significant fauna taxa within the study area, namely:

- Woylie (CE),
- Carnaby's Cockatoo (EN)
- White-tailed Black Cockatoo (EN) – likely Carnaby's Cockatoo,
- Carter's Freshwater Mussel (VU),
- Chuditch (VU),
- Malleefowl (VU),
- Beverley Shield-back Trapdoor Spider (P),
- Mortlock River Shield-backed Trapdoor Spider (P),
- Water-rat (P), and
- Western Brush Wallaby (P).

The closest mapped record (Carter's Freshwater Mussel) was more than 1.3km from the Proposal area. No habitat for Carter's Freshwater Mussel is present within the Proposal area. Ecoscape (2022) did not record any conservation-listed species in the field. Following post survey re-evaluation of the desktop likelihood of occurrence assessment, Ecoscape considered that only one conservation listed species may occur: Carnaby's Cockatoo. A site visit to the proposal area characterised the vegetation as degraded to completely degraded York Gum woodland and Roadside trees, aligning with the results of the Ecoscape survey. The Proposal area provides only potential habitat for one conservation listed species - Carnaby's Cockatoo.

Carnaby's Cockatoo

According to the DSEWPAC (2012) Black Cockatoo Referral Guidelines, the Proposal area is not located in the modelled range of Baudin's Cockatoo and Forest Red-tailed Black Cockatoos but is located within the breeding range for Carnaby's Cockatoo. According to the DBCA Black Cockatoo Roost database, the closest

record was 11.2 km west of the Proposal area. According to the DBCA White Tailed Black Cockatoo Breeding Site database, the closest records were more than 35 km north west and south west of the Proposal area.

According to the DBCA Threatened and Priority Fauna layer, ten records exist (from 1979 to 2012) for either a Carnaby's or White tailed Black Cockatoo within the 10km study area, with the closest record being 2.1 km from the Proposal area (in 1978).

EcoScape (2022) reported that Carnaby's Cockatoo are large, highly mobile birds that are present in the Wheatbelt during their breeding season from July until early summer, generally December. They nest predominantly in Wandoo and Salmon Gum trees (DPaW 2013) but are also known to use other Eucalypt species (DSEWPaC 2012). List of plants used by Carnaby's black cockatoo (armadale.wa.gov.au) advise that York Gum is used by Carnaby's Cockatoo for feeding and nesting but is considered to be a low priority for planting. Ecoscape (2022) reported that the survey area (where the three southern trees located) is considered to be low to moderate value foraging habitat for Carnaby's cockatoo (when using the Bamford (2020) foraging value tool).

Carnaby's Cockatoo were not recorded during the Ecoscape (2022) field survey and no evidence of their presence was observed. No individuals were recorded utilising habitat during the 12 April 2024 Main Roads site inspection, and no secondary evidence of use was recorded. Five DBH trees occur within the Proposal area. None of the seven trees were observed to contain hollows. If Carnaby's Cockatoo were to occur in the Proposal area, they would likely only be occasional visitors to the Proposal area for foraging purposes.

The proposed clearing of 0.05 ha (five DBH, two non DBH trees) represents 0.0006% of the mapped remnant vegetation within the 10km study area based on greater than 8000 ha remaining. The small scale of clearing proposed and amount of similar sized or larger York Gum that will remain immediately adjacent to the trees proposed to be removed, is unlikely to impact Black Cockatoos based on the low to moderate quality foraging habitat of the Proposal area, lack of nearby records and absence of evidence of use.

The Proposal area does not comprise the whole or a part of, and is not necessary for the maintenance of fauna indigenous to Western Australia based on the low quality foraging habitat of the proposal area, lack of nearby records and absence of evidence of use.

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

Methodology

- DCCEEW Protected Matters Search Tool Report
- DEC (2011) List of plants used by Carnaby's black cockatoo (armadale.wa.gov.au) (Accessed 20-May-2024)
- DSEWPaC (2012)
- MRWA Site Inspection (12 April 2024)
- Biological Survey (Ecoscape, 2022)
- Government GIS Shapefiles:
  - DBCA Threatened and Priority fauna database search (Accessed 20-May-2024)

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

Proposal is not at variance to this Principle.

Assessment

A search of DBCA Threatened and Priority flora database identified the presence/potential presence of three conservation significant flora taxa within the study area. No Threatened flora were identified within the Proposal area by Ecologia (2022) or mapped within 3km of the Proposal area. Furthermore, following the field survey, Ecoscape considered all conservation significant species identified in their desktop assessment as unlikely to occur within the wider survey area. The potential occurrence of conservation significant flora within the proposed area of disturbance is considered to be unlikely due to the Degraded to Completely

Degraded condition of vegetation (refer to attached Figures in Appendix 1). As such there is unlikely to be any significant direct or indirect impact on conservation significant flora associated with clearing.

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

Methodology

- Biological Survey (Ecoscape, 2022)
- Main Roads Site Inspection (12 April 2024)
- Government GIS shapefiles:
  - DBCA Threatened flora database layer (Accessed 20-May-2024)
  - DBCA Herbarium database layer (Accessed 20-May-2024)

(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.

Assessment
According to the DBA TEC/PEC layer, the Proposal area is not mapped within mapped occurrences, or the buffers of TEC. While the vegetation to be cleared meets some of the key diagnostic characteristics of the *Eucalypt Woodlands of the Western Australian Wheatbelt* Critically Endangered TEC, the trees occur in patches of vegetation observed to be in a Degraded to Completely Degraded condition and therefore would not meet the minimum condition thresholds for roadside patches of the TEC.

The Proposal area does not comprise the whole or a part of and is not necessary for the maintenance of a TEC.

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

Methodology

- Biological Survey (Ecoscape, 2022)
- Main Roads Site Inspection (12 April 2024)
- Government GIS shapefiles:
  - DBCA TEC/PEC database layer (Accessed 20-May-2024)

(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 likely to be at variance to this Principle.

Assessment
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 biological diversity is to be protected (Commonwealth of Australia 2001) except in constrained areas (Perth & Peel) where 10% representation should be maintained.

One Vegetation Association (VA) of Beard (1976) has been mapped over the Proposal area, namely:

- VA 352 described as Medium woodland; York gum

Vegetation extents and percentage for each Bio Region and Sub Region are provided below:

Pre-European Vegetation Association	Scale:	Pre–European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No 352	**Statewide**	724,268	142,012	19.61	8.92

	IBRA Bioregion Avon Wheatbelt	630,577	108,887	17.27	9.36
	IBRA Sub-region Katanning	337,871	36,295	10.74	2.13
	Local Government Authority Shire of York	89,947	8,583	9.54	0.64
	Local Government Authority Shire of Beverley	73,497	8,996	12.24	12.08

The vegetation association has less than 30% of its pre-European extent remaining at the state, IBRA region and subregion, and LGA scales. Regional mapping of remnant vegetation (GIS Database) indicates approximately 12% of native vegetation remains in the local area (within 10 km of the Proposal), indicating the Proposal is located in an extensively cleared landscape.

Although less than 30% of the mapped vegetation association remains, the vegetation is in a Degraded to Completely Degraded condition representing 0.0009% of the mapped remnant vegetation within the 10km study area, and less than 0.0006% of this mapped Vegetation Association at a LGA (Shire of Beverley) level.

It is unlikely that the removal of 0.05 ha of native vegetation (seven trees) along the 5.7 km stretch of the existing road that is linear in nature, will reduce the ecosystem functioning and is unlikely to change the existing linkages between these remnant patches, and does not represent clearing of significant remnants.

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

Methodology

- Commonwealth of Australia (2001)
- Biological Survey (Ecoscape, 2022)
- Main Roads Site Inspection (12 April 2024)
- Government GIS shapefiles:
  - Pre-European vegetation complexes (Accessed 20-May-2024)
- Statewide Vegetation Statistics (Government of Western Australia, 2019)

(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.

Assessment
Seven *Eucalyptus loxophleba* (York Gum) trees are proposed to be cleared.

The Atlas of Living Australia reports that *Eucalyptus loxophleba* woodlands are found across a broad swathe of Western Australia from the Mid-West south through the Wheatbelt and east into the Goldfields Esperance region of the state. It is found among rocky outcrops and on flats, rises, slopes, hilltops, near salt lakes and along drainage lines.

The nearest mapped watercourse to any of the seven trees is 270m. The nearest mapped wetland is more than 10km from the Proposal area. York Gum is not considered to be a riparian species and these trees are not growing in, or in association with and environment associated with a watercourse or wetland.

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

Methodology

- Atlas of Living Australia (Accessed 20-May-2024)
- Biological Survey (Ecoscape, 2022)

- Main Roads Site Inspection (2024)
- Florabase (1998-)
- Government GIS shapefiles:
  - Directory of Important Wetlands in Australia - Western Australia (DBCA-045) (Accessed 20-May-2024)
  - Ramsar Wetlands (Accessed 20-May-2024)
  - Surface_HydroLines_Regional (Accessed 20-May-2024)

(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.

Assessment

Natural Resource Management Soil Systems and CSIRO risk mapping indicates the soils of the Proposal area have a:

- low risk of land instability,
- moderate to high risk of wind erosion,
- low risk of water erosion,
- moderate risk of salinity,
- low risk of flood hazard,
- moderate risk of waterlogging and inundation,
- low risk of surface acidity, and
- low to extremely low risk of acid sulphate soils.

Given the minor nature of clearing consisting of seven trees over a 20km road proposal area with surrounding vegetation to be retained, the proposed clearing is not likely to cause appreciable land degradation.

Assessed Outcome:

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

Methodology

- CSIRO Acid Sulphate Soils risk mapping (Accessed 20-May-2024)
- Natural Resource Management SLIP Soil Systems
  - Soil landscape land quality – Water Erosion Risk (Accessed 20-May-2024)
  - Soil landscape land quality – Wind Erosion Risk (Accessed 20-May-2024)
  - Soil landscape land quality – Salinity Risk (Accessed 20-May-2024)
  - Soil landscape land quality – Surface Acidity (Accessed 20-May-2024)
  - Soil landscape land quality – Waterlogging Risk (Accessed 20-May-2024)
  - Soil landscape land quality – Flood Risk (DPIRD-007) (Accessed 20-May-2024)

(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.

Assessment

There are no DBCA managed lands or Lands of Interest in the 10km study area (GIS Database). At this distance, the proposed clearing will not impact on the values of a conservation reserve.

The proposed clearing of 0.05 ha of native vegetation along 5.7km of road will not remove or diminish any ecological linkages or buffers around any conservation reserves.

Assessed Outcome:

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

Methodology

- Government GIS Shapefiles:
  - DBCA Legislated Lands and Waters & Lands of Interest (Accessed 20-May-2024)

(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.

Assessment

Less than 100 m^3 of soil disturbance will be required to undertake the proposed clearing.

According to Surface_HydroLines_Regional GIS layer, no watercourses are mapped within 270m of the Proposal area. A review of aerial photography around the trees does not indicate the presence of a watercourse.

The Proposal area is not located within a CAWS catchment, Public Drinking Water Source Area, or Groundwater Proclamation Areas. It is located within the Avon River Catchment Area, a surface water area proclaimed under the *Rights to Water and Irrigation Act 1914*. The trees to be cleared are not located in proximity of watercourses that would result in deterioration in the quality of surface or groundwater.

The DWER/ASRIS ASS risk mapping indicates that the area is classified as "*Low Probability of Occurrence*'.

Assessed Outcome:

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

Methodology

- Government GIS Shapefiles:
  - DWER/ASRIS ASS risk mapping (Accessed 20-May-2024)
  - RIWI Act, Surface Water Areas and Irrigation Districts (Accessed 20-May-2024)
  - CAWSA Part 2A Clearing Control Catchments (Accessed 20-May-2024)
  - RIWI Act, Groundwater Areas (Accessed 20-May-2024)
  - Surface_HydroLines_Regional (Accessed 20-May-2024)

(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.

Assessment

Beverley averages 416 mm of rainfall per year (BOM, 2024). Natural Resource Management Soil Systems risk mapping indicates the soils of the proposal area have a:

- low risk of water erosion,
- low risk of flood hazard, and
- moderate risk of waterlogging and inundation.

Due to the minor nature of clearing spread over a 20km area, relatively flat terrain, and low rainfall, clearing is unlikely to cause or exacerbate the incidence or intensity of flooding.

Assessed Outcome:

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

Methodology

- BoM Website (Accessed 20-May-2024)
- Natural Resource Management SLIP Soil Systems
  - Soil landscape land quality – Water Erosion Risk (Accessed 20-May-2024)
  - Soil landscape land quality – Waterlogging Risk (Accessed 20-May-2024)
  - Soil landscape land quality – Flood Risk (Accessed 20-May-2024)

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.

7 REHABILITATION, REVEGETATION & OFFSETS

7.1 Revegetation and Rehabilitation

No temporary clearing will be undertaken as part of the Proposal activities.

7.2 Offset Proposal

No offset proposal is required as the proposed clearing will not result in significant residual impacts to native vegetation within the region.

8 STAKEHOLDER CONSULTATION

Main Roads will undertake stakeholder consultation in accordance with CPS 818 Condition 8.

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.	**No**	No further action required.
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,	**No**	Standard Vehicle and Plant management actions from Annexure 204B (TABLE 204B.9.1), Hygiene Checklists *(D17#859669)* and Vehicle, Plant and Machinery Hygiene Register Template *(D23#179551)* will be applied.

Impact of Clearing	Yes/No or NA	Further Action Required
• 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.		
5b. Do the proposed works require clearing within or adjacent to DBCA managed lands in non-dry conditions?	**No**	No 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 Declared Pest and Weed of National Significance were recorded in or close to the Proposal area.
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.

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11 APPENDICES

Appendix 1: Vegetation within the Proposal area

Trees to be removed for road works (notes from site inspection on 12 April 2024)

Tree SLK	LHS	RHS	Distance from edge of lane	Comments
53.23			1.9 m	York Gum, 8m high, Completely Degraded, Bendy stem, leaning away from road, in batter, no scars or hollows, DBH 30 cm, just south of Fleays Bridge (Br0302), 0.01 ha canopy
54.49			1.9 m	York Gum, 10m high, Completely Degraded, single stem, has been pruned, small hollow on cut end, termite impacted, no scars but damaged, DBH 65 cm, next to Shire of York sign, 0.008 ha canopy
54.73			2.0 m	York Gum, 10m high, on lean, no scars or hollows, Completely Degraded, DBH 44 cm, 0.007 ha canopy
54.58			1.9 m	York Gum, 12m high, two stems, Completely Degraded, leaning away from road, near dam, previous pruning, DBH 52 cm, 0.01 ha canopy
57.37			2.0 m	York Gum, 10m high, Completely Degraded, Past pruning, no hollows or scars, DBH 69 cm, 0.009 ha canopy
57.77			1.8 m	York Gum, 10m high, two stems, Completely Degraded, Past pruning, no hollows or scars, DBH 64 and 46 cm, 0.004 ha canopy
58.97			1.6 m	York Gum, 12m high, three stems, Completely Degraded, 2 x 50mm hollows, no scars, limb 4.8m from centreline, DBH 59, 59, 55 cm, 0.001 ha canopy

Tree 1 – 53.23 LHS
Tree will be 1.9m from the edge line marking LHS.
Tree is 5.4m from CL

Tree 2 – 54.49 LHS
Tree will be 1.9m from the edge line marking LHS.
Tree is 5.4m from CL

Tree 3 – 54.56 RHS
Tree will be 2.0m from the edge line marking RHS.
Tree is 5.5m from CL

Tree 4 – 54.72 RHS
Tree will be 1.9m from the edge line marking RHS.
Tree is 5.4m from CL

Tree 5 – 57.39 LHS
Tree will be 2.0m from the edge line marking LHS.
Tree is 5.5m from CL

Tree 6 – 57.76 RHS
Tree will be 1.8m from the edge line marking RHS.
Tree is 5.3m from CL

Tree 7 – 58.98 LHS
Tree will be 1.6m from the edge line marking LHS.
Tree is 5.1m from CL