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WESTERN AUSTRALIA

Clearing Assessment Report/ Vegetation Management Plan (VMP) CPS 818

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Western Australia.*

Hardey East Road, Pulchella Street and Slate Street Upgrades
Metropolitan Region
EOS 3333

D26#218334
April 2026

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1 PROPOSAL

1.1 Purpose and Justification

The proposal incorporates work required to widen existing roads, build a section of new road to allow movement of buses, and to upgrade associated road infrastructure to ensure the road network meets safety, operational and asset-management standards.

Work will involve the widening and extension of Pulchella Street from Hardey East Road through to Slate Street through the rear section of former Lot of 268 Hale Road, Wattle Grove, now Road reserve R 53709.

This project is required to cater for a change in the 281 school bus service that will be diverted to run along Hardey East Road before turning right onto Pulchella street then left onto Slate Street before turning right onto Hale Road.

The City of Kalamunda obtained approval from the Western Australian Planning Commission for a revised structure plan on 16 March 2001. The revision includes the proposed extension of Pulchella Street through to Slate Street. The work was postponed pending the necessary land transfer and the creation of new Road reserve R 53709.

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 1.6.

1.2 Proposal Scope

Main Roads proposes to undertake the following works as part of this clearing Proposal:

- Hardey East Road and Slate Street tie-in to Pulchella Street.
- Pulchella Street widening and extension to allow for bus movements.

1.3 Proposal Location

The Proposal Area is in the City of Kalamunda, Wattle Grove, on Hardey East Road, Pulchella Street and Slate Street at the SLK start and finish points as follows.

- Hardey East Road (1020007) – SLK start 0.15 to SLK finish 0.25
- Pulchella Street (1021160) – SLK start 0.0 to SLK finish 0.2
- Slate Street (1021287) – SLK start 0.0 to SLK finish 0.12

Figure 1 shows the location of the Proposal. The centre of the Proposal is at coordinate 115°59'29.7"E and 31°59'44.9"S.

Land acquired for the extension of Pulchella Street was formerly Lot 268 Hale Rd, Wattle Gove and is now Road reserve R 53709.

1.4 Clearing Details

Proposed Clearing to be undertaken using CPS 818:

The proposal will require up to 0.029 ha of native vegetation clearing. The area of native vegetation to be cleared is shown in Figure 1.

Type of Native Vegetation:

The vegetation to be cleared under this Proposal consists of four *Eucalyptus rudis* and two *Corymbia calophylla*. The vegetation is parkland cleared.

Within the broader area, the two species to be cleared commonly occur within the pre European vegetation association described by Beard (1990) as 'Bassendean (968) - Medium woodland; *Eucalyptus marginata*, *Corymbia calophylla*, and *Eucalyptus wandoo*.

The area is mapped as occurring within the vegetation complexes of the Swan Coastal Plain – Southern River Complex described as 'Open woodland of *Corymbia calophylla* (Marri) - *Eucalyptus marginata* (Jarrah) - *Banksia* species with fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca raphiophylla* (Swamp Paperbark) along creek beds'.

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 proposal planning:

- Preferentially locating the new alignment in cleared land within the road reserve. This was considered cost prohibitive e.g. due to the cost of a new road rather than widening within the existing road alignment. Aligning the road within cleared land would require additional land acquisition to increase the road reserve, cause encroachment into the Woodlupine Brook reserve and create a longer route for buses/traffic.
- Upgrading other alternative bus routes that are less environmentally constrained, however these were not deemed suitable due to the longer travel times caused by the need for the route to double back.
- The 'Do Nothing' option was considered; however this would potentially result in increased long-term liability.

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 Clearing Impacts

Design or Management Measure	Discussion and Justification
Alternative alignment located within pasture or degraded areas	Following an options analysis, it was determined that the Proposal cannot be constructed on an alternative alignment without considerable increases in the travel time for school bus route 281, increases in cost due a longer road (rather than widening within the existing alignment), additional land acquisition for road reserves, and additional encroachment into the Woodlupine Brook reserve. A less environmentally constrained alternative is not available. Impact to adjacent native vegetation and environmental aspects have been minimised as far as practicable whilst meeting the appropriate geometric standards for the governing speed limit zone.
Simplification of design to reduce number of lanes and/or complexity of intersections	The design has been simplified so that road widening will be limited to one lane whilst still meeting the Main Roads' road and traffic design standards. By limiting the road width to one lane and removing bus bays from the design, Main roads can avoid encroachment into the Woodlupine Brook reserve. The current design will result in potential minor traffic delays as vehicles wait for buses to stop for passengers.
Installation of kerbing	Kerbing has been implemented in the design. Kerbing design and profiles will be constructed in accordance with the Main Roads' document <i>Design of Kerbing</i> . Kerbing will improve stormwater control, protect vegetation from vehicle and pedestrian encroachment, and help manage edge erosion and weed spread.

Design or Management Measure	Discussion and Justification
Use of existing cleared areas for access tracks, construction storage and stockpiling	The project will be constructed without the need to clear for temporary access, construction storage or stockpiling.

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 given 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)
- Approved conservation advice under section 266B of the EPBC Act for threatened flora/fauna/vegetation communities.

A development application for the works will be submitted to the City of Kalamunda.

2 SCOPE AND METHODOLOGY ASSESSMENT OF CLEARING

Native vegetation will be cleared to accommodate this Proposal. The 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. The 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 provides strategies to be 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 0.029 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.

2.2 Desktop Assessment

A desktop assessment of the Study 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 surveys and assessments 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

Author and Survey/Assessment Name	Survey/Assessment Details
Main Roads (2026) Environmental Site Inspection Report	Survey Area: 268 Hale Road, Wattle Grove. Type: Environmental Site Inspection Timing: 20 February 2026 Survey Results Shapefile TRIM Ref: N/A Document TRIM Ref: D26#316701

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 Environmental Site Inspection

Main Roads personnel met with the landowner of the former 268 Hale Rd, Wattle Grove. Vegetation within the proposed road corridor was photographed, Diameter at Breast Height (DBH) measurements taken and leaves and fruit collected for botanical identification purposes where necessary. Each tree was visually inspected from the ground, by scanning the trunk and major limbs for visible hollows, cavities, or scuff marks that could indicate wildlife use.

Discussion was had with the landowner regarding previous land use, incidental fauna sitings, and any observations of fauna using the trees. A sketch of the location of each tree was drawn to later digitise.

The condition rating of the native vegetation was assessed according to the scale described by Keighery (1994).

The inspection confirmed that the extension of Pulchella Street will require the Clearing of two Marri trees (*Corymbia calophylla*) and four Flooded Gum trees (*Eucalyptus rudis*). None of the trees proposed to be cleared contain hollows or cavities that could be used as nesting hollows for Black Cockatoos. The size of each species of tree to be cleared is below:

Tree Species, DBH and Hollow Assessment

Species	DBH (cm)	Hollows
<i>Eucalyptus rudis</i>	47.75	No hollows
<i>Eucalyptus rudis</i>	50.93	No hollows
<i>Eucalyptus rudis</i>	38.20	No hollows
<i>Eucalyptus rudis</i>	41.38	No hollows
<i>Corymbia calophylla</i>	47.11	No hollows
<i>Corymbia calophylla</i>	44.56	No hollows

The DBH of the two *Corymbia calophylla* are <50 cm and are not considered suitable for developing potential breeding hollows in the medium term.

An inspection of the fallen fruit beneath the trees identified a high incidence of the distinctive chew marks attributable to Black Cockatoos beneath the *Corymbia calophylla*, providing clear evidence of their foraging activity at the site.

3.2 Black Cockatoos

Main Roads has commissioned Australian Black Cockatoo Specialists (ABCS) to provide a species list for plant species utilised by Black Cockatoos: "Plants used by Black Cockatoos in the South-West of Western Australia" (ABCS, 2025).

The resultant list has been compiled from a variety of sources, including 18 referenced publications (including Bamford and Groom) and the professional expertise of the author, Rick Dawson. The

comprehensive list of flora species utilised by Black Cockatoo identifies a High, Medium, or Low value to each of the three Black Cockatoo species for the factors of foraging, roosting, and nesting.

According to ABCS (2025), Marri (*Corymbia calophylla*) is a High value foraging, roosting and nesting tree species for all three species of Black Cockatoo. Flooded Gum (*Eucalyptus rudis*) is of no foraging value for any three species of Black Cockatoo and is a low value roosting and nesting tree species for Carnaby’s Cockatoo only.

4 DESKTOP ASSESSMENT OF VEGETATION

4.1 Desktop Vegetation Description

Table 2 and Table 3 provide details of the vegetation type and its condition within the Clearing Area.

Table 2. Native Vegetation Types to be Cleared Under CPS 818

Vegetation Type	Description	Proposed Clearing Area (ha)
Vegetation Association 968	Medium woodland; jarrah, marri & wandoo	0.029

Table 3. Native Vegetation Condition to be Cleared Under CPS 818

Vegetation condition (EPA, 2019)	Proposed Clearing Area (ha)
Degraded to Completely Degraded	0.029
Total	0.029

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), may be at variance to Principle (f) and is not at variance, or not likely to be at variance, with the remaining 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.

The project will require the clearing of up to 0.029 ha of native vegetation comprised of four mature *Eucalyptus rudis* trees and two *Corymbia calophylla* trees with no mid story or understory, except for non-native grasses and introduced *Asteraceae* sp. Condition of the vegetation proposed to be cleared is Degraded to Completely Degraded on the scale described by Keighery (1994).

Desktop searches of the EPBC Act Protected Matters Search Tool (PMST) and DBCA TEC and PEC Database returned 14 significant communities that have records in (or buffers that intersect) a 5 km buffer of the Clearing Area. These are listed at Clearing Principle (d). None of the TECs/PECs intersect the Clearing Area. The nearest TECs/PECs (within 500 m of the Clearing Area) are FCT 20a, 20b and/or Banksia Woodlands of the Swan Coastal Plain.

Eucalyptus rudis is commonly found in wetter, low-lying sites that can occur within or adjacent to *Banksia attenuata* communities. Similarly, *Corymbia calophylla* can be present in the Banksia Woodlands TEC and in low-lying/seasonally wet variants of *Banksia attenuata* woodlands; however, these two species are not a characteristic canopy species of *Banksia attenuata* woodland (FCT 20a) and the Clearing Area is not representative of any of the TEC/PECs identified within the Study Area.

Despite only being of medium height, the *Corymbia calophylla* provides high foraging value for Carnaby's Cockatoo and Forest Red-tailed Cockatoo. *Eucalyptus rudis* provides no foraging value for any Black Cockatoo species (ABCS, 2025). The Clearing Area is outside of the range of Baudin's Cockatoo.

Marri is recognised as a high value breeding and roosting habitat tree species for all three species of Black Cockatoos, whilst Flooded Gum is a low value nesting and roosting tree species for Carnaby's Cockatoo only (ABCS, 2025). However, none of the trees proposed to be cleared contain hollows or cavities that could be used or even develop into nesting hollows for Black Cockatoos in the medium term (Main Roads, 2026).

The Clearing Area comprises a similar density and biological diversity as the adjoining Woodlupine Brook Reserve. However, remnant native vegetation within Hartfield Park, only 120 m away at its closest point, contains much more and higher quality remnant vegetation and provides far greater biological diversity and conservation value.

Noting that the Clearing Area consists only of six trees, none of which are of conservation significance, or contain hollows to support Black Cockatoo breeding activities, the Clearing Area is not reflective of an area of high biological diversity.

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

Methodology

- ABCS (2025)
- DCCEEW (2026)
- Main Roads (2026)
- Government GIS Shapefiles:
 - DBCA Threatened and Priority Ecological Community database search (Accessed 17/2/2026)
 - DBCA Threatened and Priority flora database search (Accessed 17/2/2026)
 - Bush Forever (Region Scheme - Special Areas) (Accessed 17/2/2026)
 - Ecological Linkages (Accessed 17/2/2026)

(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.

The project will require the clearing of up to 0.029 ha of native vegetation comprised of four mature *Eucalyptus rudis* trees (0.019 ha) and two *Corymbia calophylla* trees (0.010 ha) with no mid story or understory, except for non-native grasses and introduced *Asteraceae* sp. The condition of the vegetation proposed to be cleared is Degraded to Completely Degraded.

The desktop assessment identified two conservation significant fauna species present within the Study Area:

- Carnaby's Cockatoo (*Zanda latirostris*) – listed as Endangered under the EPBC Act and BC Act
- Forest Red-tailed Black-Cockatoo (*Calyptrorhynchus banksii naso*) – listed as Vulnerable under the EPBC Act and BC Act

Black-Cockatoos

The Clearing Area is within the known distribution and range of Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo, with a high incidence of the distinctive chew marks on fallen fruit from the *Corymbia calophylla* attributable to Black Cockatoos, providing clear evidence of their foraging activity at the site during the Main Roads site inspection in February 2026. The two *Corymbia calophylla* provide high foraging value for Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo, whilst the four *Eucalyptus rudis* provide no foraging value for any Black Cockatoo species (ABCS, 2025). The Clearing Area is outside the range of Baudin's Cockatoo.

Marri is recognised as a high value breeding and roosting habitat tree species for all three species of Black Cockatoos, whilst Flooded Gum is a low value nesting and roosting tree species for Carnaby's Cockatoo only (ABCS, 2025). However, none of the trees proposed to be cleared contain hollows or cavities that could be used or even develop into nesting hollows for Black Cockatoos in the medium term (Main Roads, 2026).

The size and species of each tree to be cleared is below:

Tree Species, DBH and Hollow Assessment

Species	DBH (cm)	Hollows
<i>Eucalyptus rudis</i>	47.75	No hollows
<i>Eucalyptus rudis</i>	50.93	No hollows
<i>Eucalyptus rudis</i>	38.20	No hollows
<i>Eucalyptus rudis</i>	41.38	No hollows
<i>Corymbia calophylla</i>	47.11	No hollows
<i>Corymbia calophylla</i>	44.56	No hollows

Black-Cockatoos were not observed roosting during the site inspection within the Clearing Area and the private property owner anecdotally reported that no Black Cockatoos had ever been observed roosting in these trees during the 30+ years of their occupancy. The Clearing Area occurs within the 1km buffer of a known Carnaby's Cockatoo roosting site within Hartfield Park.

The Clearing Area is within the 10 km buffer for Carnaby's Cockatoo Confirmed Breeding Areas within the Swan Coastal Plain and Jarrah Forest IBRA Regions. The nearest Forest Red-tailed Black Cockatoo confirmed breeding area is approximately 29 km to the southeast.

Apart from representing Black Cockatoo habitat, the isolated trees proposed for clearing are unlikely to constitute significant habitat for any other fauna species, noting that there is approximately 1,360 ha of remnant native vegetation mapped as occurring within the Study Area (5 km radius). The proposed clearing represents approximately 0.002 % of remnant vegetation remaining within the Study Area.

Given the proposed clearing includes 0.010 ha of high value foraging habitat for Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo, the proposed clearing is at variance to this Principle.

Methodology

- ABCS (2025)
- Main Roads (2026)
- Government GIS Shapefiles:
 - DBCA Carnabys Cockatoo Confirmed Breeding Areas within the Swan Coastal Plain and Jarrah Forest IBRA Regions (Accessed 13/4/2026)
 - DBCA Black Cockatoo Breeding Sites – Buffered; Carnabys Breeding Sites - Buffered 2 km (Accessed 14/4/2026)
 - DBCA Forest Red Tailed Black Cockatoo Breeding Sites (Accessed 14/4/2026)
 - DBCA White Tailed Black Cockatoo Breeding Sites (Accessed 14/4/2026)
 - DWER Swan Coastal Plain and Perth-Peel Native Vegetation Extent 2024 Accessed 15/4/2026)

(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.

The Clearing Area contains four mature *Eucalyptus rudis* trees and two *Corymbia calophylla* trees over an understory of non-native grasses and introduced *Asteraceae sp* (Main Roads, 2026). Neither tree species proposed for clearing is a listed Threatened flora species.

The proposed clearing is not at variance to this Principle.

Methodology

- Main Roads (2026)
- Government GIS Shapefiles:
 - DBCA Threatened and Priority flora database search (Accessed 17/2/2026)

(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.

The proposed clearing of up to 0.029 ha of native vegetation comprises four mature *Eucalyptus rudis* trees and two *Corymbia calophylla* trees. Condition of the vegetation is Degraded to Completely Degraded on the scale described by Keighery (1994).

Desktop searches of the EPBC Act Protected Matters Search Tool (PMST) and DBCA TEC and PEC Database returned 14 significant communities that have records in (or buffers that intersect) a 5 km buffer of the Clearing Area.

- *Banksia attenuata* woodlands over species rich dense shrublands FCT 20a (BC Act - Critically Endangered, EPBC Act - Endangered)
- *Banksia attenuata* and/or *Eucalyptus marginata* woodlands of the eastern side of the Swan Coastal Plain — FCT 20b (BC Act – Critically Endangered, EPBC Act – Endangered)
- Banksia Woodlands of the Swan Coastal Plain ecological community (EPBC Act – Endangered)
- Low lying *Banksia attenuata* woodlands or shrublands (EPBC Act – Endangered)
- Central Northern Darling Scarp Granite Shrubland Community (Priority 4 listing by DBCA)
- *Corymbia calophylla* – *Kingia australis* woodlands on heavy soils — FCT 3a (BC Act – Critically Endangered, EPBC Act – Endangered)
- *Corymbia calophylla* — *Eucalyptus marginata* woodlands on sandy clay soils of the southern Swan Coastal Plain — FCT 3b (BC Act – Endangered)
- *Corymbia calophylla* — *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain — FCT 3c (BC Act – Endangered, EPBC Act – Endangered)
- Herb rich saline shrublands in clay pans — FCT 7 (BC Act – Endangered, EPBC Act – Critically Endangered)
- Herb rich shrublands in clay pans — FCT 8 (BC Act – Endangered, EPBC Act – Critically Endangered)
- Shrublands and woodlands of the eastern side of the Swan Coastal Plain — FCT 20c (BC Act – Critically Endangered, EPBC Act – Endangered)
- Shrublands and woodlands on Muchea Limestone of the Swan Coastal Plain (BC Act – Endangered, EPBC Act – Endangered)
- Shrublands on dry clay flats — FCT 10a (BC Act – Endangered, EPBC Act – Critically Endangered)
- Southern wet shrublands, Swan Coastal Plain — FCT 2 (BC Act – Critically Endangered)

None of the mapped TECs intersect the Clearing Area. The nearest (within 500 m of the Clearing Area) FCT's are FCT 20a, 20b and/or Banksia Woodlands of the Swan Coastal Plain.

Based on the vegetation structure, species composition, and site condition, the Clearing Area does not represent remnants of any Threatened Ecological Community (TEC) or Priority Ecological Community (PEC) listed under the *Biodiversity Conservation Act 2016* (BC Act) or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The justification is provided below.

- None of the listed communities are characterised or diagnosed by the presence of *Eucalyptus rudis* or *Corymbia calophylla* alone. Both species are widespread, generalist

canopy trees occurring across a broad range of habitats on the Swan Coastal Plain and Darling Scarp.

- The absence of *Banksia attenuata*, *B. menziesii*, *B. ilicifolia*, or *B. prionotes* excludes all Banksia-dominated TECs.
- Corymbia-dominated TECs are defined by co-dominance with *Kingia australis*, *Xanthorrhoea preissii*, *Eucalyptus marginata*, or *Banksia grandis*, as well as requiring an intact mid-storey and understorey structure which are missing within the Clearing Area so that any of the Corymbia-dominated TEC cannot be assigned.
- Claypan TECs can't be assigned due to the absence of claypan flora and hydrology.
- The Granite shrubland PEC is excluded due to absence of granite outcrop features.

Vegetation condition and structure do not meet TEC thresholds. All TECs listed require vegetation in Good condition or better, with intact canopy, characteristic mid-storey, diagnostic understorey species and representative species richness which are not characteristic of the Clearing Area.

Based on the absence of diagnostic species, lack of appropriate landforms, absence of Banksia species, and the degraded vegetation structure, the four *Eucalyptus rudis* and two *Corymbia calophylla* individuals recorded within the Clearing Area do not constitute remnants of any TEC listed under the BC Act or EPBC Act.

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

Methodology

- DCCEEW (2026)
- Keighery (1994)
- Main Roads (2026)
- Government GIS Shapefiles:
 - DBCA Threatened and Priority Ecological Community database search (Accessed 17/2/2026)

(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 Clearing Area is located within the Swan Coastal Plain IBRA region and Perth subregion (SWA02). A search of government databases shows there is approximately 1,360 ha of remnant native vegetation mapped as occurring within the Study Area (5 km radius).

One Beard (1990) vegetation association (968) is mapped as occurring within the Clearing Area and is described as: Medium woodland; *Eucalyptus marginata*, *Corymbia calophylla*, and *Eucalyptus wandoo*. Within the Swan Coastal Plain IBRA region and the Perth IBRA subregion, this Beard vegetation association is underrepresented, with less than 10 % of its pre-European extent remaining.

Vegetation Association (Beard 1990) within the Clearing Area

Pre-European Vegetation Association	Scale	Pre-European Extent (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 968	Statewide	296,877.84	95,048.82	32.02	18.45
	IBRA Bioregion Swan Coastal Plain	136,117.32	8,570.43	6.62	1.52
	BRA Sub-region Perth	136,117.32	8,570.43	6.62	1.52
	Local Government Authority Shire of Kalamunda	663.60	95.05	14.34	0.18

One Heddle et al. (1980) complex, the Southern River Complex, occurs within the Clearing Area, and is summarised as: Open woodland of *Corymbia calophylla* (Marri) - *Eucalyptus marginata* (Jarrah) - Banksia species with fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca raphiophylla* (Swamp Paperbark) along creek beds. The Southern River Complex has 17.53 % of its pre-European extent remaining.

Vegetation Complex (Heddle et al 1980) within the Clearing Area

Heddle/Mattiske Veg Complex	Pre-European Extent (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Southern River Complex	58,781.48	10,302.86	17.53	2.39

The national objectives and targets for biodiversity conservation in Australia have a target to prevent clearance of ecological communities with an extent below 30 % of that present pre-1750, below which, species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). In WA, the 30 % retention target is typically applied at the scale of vegetation complexes, particularly on the Swan Coastal Plain and in the South West.

Under DER (2014), a constrained area is defined as a region where extensive historical clearing has resulted in less than 30 % of the pre-European extent of a vegetation complex remaining. In such cases, the national 30 % target is no longer achievable. Therefore, a revised minimum retention target of 10 % is applied for regulatory assessment purposes.

The Clearing Area occurs within a constrained area therefore, a minimum retention target of 10% applies (DER, 2014). The Southern River Complex currently retains approximately 17.53 % of its pre-European extent, which exceeds the 10 % threshold and is considered to meet the retention target.

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

Methodology

- Commonwealth of Australia (2001)
- DER (2014)
- Government of Western Australia (2019)
- Main Roads (2026)
- Government GIS Shapefiles:
 - DBCA Threatened and Priority Ecological Community database search (Accessed 17/2/2026)
 - DWER Swan Coastal Plain and Perth-Peel Native Vegetation Extent 2024 Accessed 15/4/2026)

(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 may be at variance to this Principle.

Watercourses

The Clearing Area is situated within 10 metres of Woodlupine Brook at the closest point. Woodlupine Brook is a seasonal watercourse that functions partly as a drainage channel to the surrounding suburbs.

Wetlands

According to DBCA's Geomorphic Wetlands of the Swan Coastal Plain Dataset (1:25,000 scale mapping), one multiple use wetland (UFI 15253) is mapped as intersecting with the Clearing Area. However, multiple use wetlands, by definition, are degraded to the extent that they are not a priority for conservation and have few remaining important attributes and functions. The small extent of the proposed clearing (0.029 ha) will not have a significant impact on the already highly modified palusplain (167 ha).

A conservation category palusplain wetland (UFI 15020) is located approximately 120 m from the Clearing Area, however it is on the opposite side of Hale Road and won't be directly or indirectly impacted by the proposed clearing

Vegetation proposed for clearing

The vegetation proposed for clearing consists of four mature *Eucalyptus rudis* (Flooded Gum) trees and two *Corymbia calophylla* (Marri) trees. Flooded Gums are often associated with sandy or loam soils in wet areas. Given the Clearing Area's proximity to Woodlupine Brook and the local area being mapped as a palusplain wetland, the vegetation proposed for clearing may be growing in association with an environment associated with a watercourse or wetland.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology

- Main Roads (2026)
- Government GIS shapefiles:
 - Geomorphic Wetlands (Accessed 18/03/2026)
 - Ramsar Wetlands (Accessed 18/03/2026)
 - Important Wetlands (Accessed 18/03/2026)
 - Watercourses (Accessed 18/03/2026)
 - RIWI Act Rivers (Accessed 18/03/2026)

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

Proposed clearing is not likely to be at variance to this Principle.

The Department of Primary Industries and Regional Development (DPIRD) provides a series of soil degradation risk mapping at sub-system level. The Clearing Area is located within the Pinjarra soil system (ID 172738) which is described as: 'Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis'. The table below summarises the soil degradation risk within the Clearing Area:

Soil Degradation Risk within the Clearing Area

Aspect	Code	Degradation risk
Wind Erosion	L1	<3% of map unit has a high to extreme wind erosion risk
Waterlogging	H2	>70% of map unit has a moderate to very high waterlogging risk
Water Erosion	L1	<3% of map unit has a high to extreme water erosion risk
Salinity		100% of the map unit has TDS 500 – 1000 mg/L
Flood Risk	L1	<3% of map unit has a moderate to high flood risk
Land Instability	L1	<3% of map unit has a moderate to high hazard
Acid Sulphate Soils	Bi(p4	Low Probability of Occurrence/Low confidence

Waterlogging is the one potential soil degradation aspect relevant to the Clearing Area. The Clearing Area is located near to a gently incised drainage, the Woodlupine Brook, within an extensive Palusplain (multiple use) wetland which is known to be affected by waterlogging even without clearing.

Given the small amount of clearing proposed, it is unlikely that the clearing will cause any increase in waterlogging or any other appreciable land degradation.

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

Methodology

- Government GIS Shapefiles:
 - Acid Sulfate Soil Risk Map (Accessed 18/03/2026)
 - Soil landscape land quality – Water Erosion Risk (Accessed 18/03/2026)
 - Soil landscape land quality – Wind Erosion Risk (Accessed 18/03/2026)
 - Soil landscape land quality – Salinity Risk (Accessed 18/03/2026)
 - Soil landscape land quality – Surface Acidity (Accessed 18/03/2026)
 - Soil landscape land quality – Waterlogging Risk (Accessed 18/03/2026)
 - Soil landscape land quality – Flood Risk (DPIRD-007) (Accessed 18/03/2026)

(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 likely to be at variance to this Principle.**

The proposed clearing area does not intersect with any conservation area. Bush Forever site 320 managed under delegation by the City of Kalamunda, is the nearest conservation area to the Clearing Area, and is situated 120 metres south. Hale Road separates the Clearing Area from Bush Forever Site 320, therefore there is no connectivity or linkage value for ground dwelling fauna.

The nearest DBCA legislated land to the Clearing Area is the Dundas Road Nature Reserve (R 53131), located approximately 1.3 km north. Based on the distance between the Clearing Area and nearest conservation areas, adverse impacts on the environmental values of these areas are unlikely.

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

Methodology

- Government GIS Shapefiles:
 - DBCA Legislated Lands and Waters & Lands of Interest (Accessed 24/03/2026)
 - DBCA Lands of Interest (Accessed 24/03/2026)
 - Geomorphic Wetlands (conservation category wetlands only) (Accessed 18/03/2026)
 - Ramsar Wetlands (Accessed 18/03/2026)
 - Important Wetlands (Accessed 18/03/2026)

(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 at variance to this Principle.

Surface water

The Clearing Area is not located within a RIWI Act Surface Water Area. The Woodlupine Brook, a seasonal watercourse, passes within 10 m of the Clearing Area at the closest point. The clearing of six trees adjacent to the Woodlupine Brook is unlikely to have a significant impact on surface water quality given the standard surface water management measures that will be implemented as part of the Proposal design (refer to measures in the Vegetation Management Plan in Appendix 3).

Groundwater

The Clearing Area is within the Perth Ground Water Area, proclaimed under the RIWI Act. It is not within a Public Drinking Water Source Area (PDWSA). The nearest known groundwater monitoring bore is approximately 150 m west of the Clearing Area. In 2022, groundwater was found to be between 4 and 5 m below ground level and potentially 1.5 m higher during wet periods at this location (Goulder, 2022). The proposed clearing is minor. As such, impact to groundwater quality is unlikely.

According to GIS datasets the Clearing Area has a Low probability/ Very Low Confidence of having acid sulphate soils. Geotechnical investigations of soils approximately 150 m west of the Clearing Area found an inferred low potential risk and no inferred actual acid sulphate soil for 40 samples taken from 0 to 10 m depth (Goulder, 2022).

Salinity risk mapping at surface of the Clearing Area shows 10-30 % of the map unit has a moderate salinity hazard. The Clearing Area has an expected total dissolved solids of 500-1000 mg/L which is considered fresh to slightly saline. The small extent of clearing proposed is not likely to have a measurable influence on salinity.

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

Methodology

- Goulder (2022)
- Government GIS Shapefiles:
 - Acid Sulfate Soil risk mapping (Accessed 24/03/2026)
 - Groundwater Salinity Statewide (Accessed 24/03/2026)
 - RIWI Act, Groundwater Areas (Accessed 24/03/2026)
 - RIWI Act, Surface Water Areas and Irrigation Districts (Accessed 24/03/2026)
 - Soil landscape land quality - Salinity Risk (Accessed 24/03/2026)
 - Soil landscape land quality - Subsurface Acidification Risk (Accessed 24/03/2026)
 - Soil Mapping (Accessed 24/03/2026)

(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 of six trees (0.029 ha) is not likely to cause, or exacerbate, the incidence or intensity of flooding. Although the construction of the extension of Pulchella Street between Hardey East Road and Slate Street will increase the road pavement and thereby increase rainfall runoff, the road design includes kerbing and storm water management.

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

Methodology

- Government GIS Shapefiles:
 - Soil Mapping (Accessed 24/03/2026)
 - Soil landscape land quality - Waterlogging Risk (Accessed 23/3/2026)
 - Soil landscape land quality - Flood Risk (Accessed 23/03/2026)

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 3).

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 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.

8 STAKEHOLDER CONSULTATION

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

9 COMPLIANCE WITH CPS 818

Table 4 summarises what further pre-clearing impact assessment is required in accordance with CPS 818.

Table 4. 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. A VMP has been prepared (Appendix 3). 4. An offset proposal for approval by DWER will be prepared. 5. A summary of submissions and a statement addressing each of those submissions will be published on the Main Roads 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 818/17).	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	Works will be within a region that has rainfall greater than 400mm and is south of the 26th parallel. However, Standard Vehicle and Plant management actions from Annexure 204B (TABLE 204B.9.1), Hygiene Checklists and Vehicle, Plant and Machinery Hygiene Register Template will be applied.

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Impact of Clearing	Yes/No or NA	Further Action Required
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 further action required.
8. Did an environmental specialist conduct the survey or field assessment?	Yes	The Environmental Specialist undertaking the site inspection 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.	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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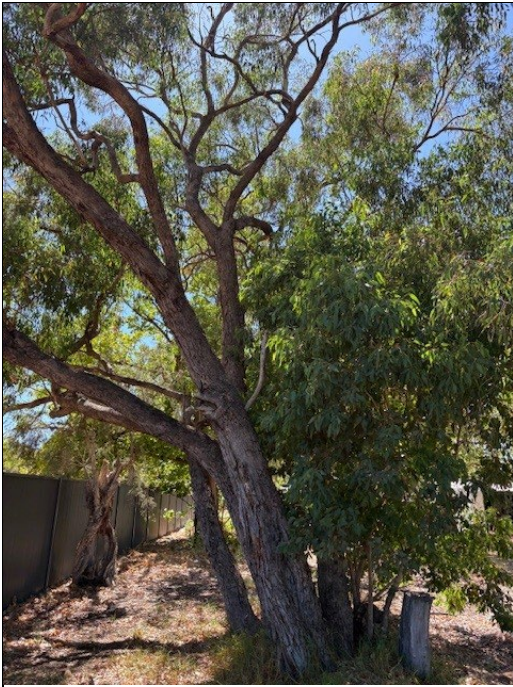
11 APPENDICES

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

Main Roads (2026) - Environmental Site Inspection Report

This report is a memo-style report that does not include an executive summary or report conclusions section. Relevant results of this report are summarised in Section 3.1 and plates included as Appendix 2 of this Clearing Assessment Report.

Appendix 2: Plates of Vegetation within the Clearing Area



Eucalyptus rudis



Eucalyptus rudis



Corymbia calophylla



Corymbia calophylla

Appendix 3: Vegetation Management Plan

HARDEY EAST ROAD, PULCHELLA STREET AND SLATE STREET VMP

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 Hardey East Road, Pulchella Street and Slate Street Upgrades Project.

Main Roads proposes to undertake the following works as part of the Proposal:

- Hardey East Road and Slate Street tie-in to Pulchella Street.
- Pulchella Street widening and extension to allow for bus movements.

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 are described in Appendix 3.1: General Vegetation Management Actions for Clearing.

Appendix 3.1: 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
Prior to any clearing all Hold Point actions must be signed off in accordance with 301.12 (Pre-Clearing Process)	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 by stockpiled 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.	Superintendent	During construction
The Contractor must develop and detail a site induction training program as part of the Construction Environmental Management Plan that includes as a minimum, the significant environmental impacts, (actual or potential), of work activities associated with the Contract	Superintendent	During construction

The above actions will be documented within Specifications 204 and 301.

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 approved 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 Manager Environment.

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.