

Signalling Upgrade - NVCP Supporting Document

22-Aug-2024

Signalling Upgrade - NVCP Supporting Document

Client: MetCONNX Alliance

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Executive Summary

The Public Transport Authority of Western Australia (PTA) (the Applicant) is proposing to clear 0.008 ha of native vegetation for a Signalling upgrade south of the new Byford Station. The upgrade is necessary to ensure the new assets associated with Byford Rail Extension are able to run in parallel with the existing Australind Line.

To avoid and minimise clearing impacts, PTA has reduced their project footprint and sought alternatives for the design and construction of the project, reducing clearing impacts to 0.008 ha.

All clearing in Western Australia must be completed under an approved native vegetation clearing permit (NVCP), unless an exemption applied under the Environmental Protection (Clearing of native Vegetation) Regulations 2004. As there are no NVCP exemptions that apply to this proposal, a NVCP is required.

This application was prepared to support an application for a NVCP (purpose permit) for Signalling upgrades necessary to ensure the Australind Service to Bunbury can resume in parallel with passenger rail services (the project).

An assessment against the 10 clearing principles identified that proposed clearing is not or not likely to be at variance with eight of the clearing principles. Proposed clearing is at variance with principle (d) and may be at variance with principle (e), described below:

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

1.0 Introduction

1.1 Background

The Public Transport Authority of Western Australia (PTA) (the Applicant) is implementing a Signalling upgrade south of the new Byford Station. The upgrade involves installation of approximately 1 kilometre (km) of above ground Main Cable Route (MCR) (the project). This will standardise the infrastructure extending into the Australind Line, a single line used by TransWA services between Perth and Bunbury.

The project is located approximately 26 km south of Perth, in the Shire of Serpentine-Jarrahdale (Figure 1).

1.2 Purpose

This application was prepared to support an application for a Native Vegetation Clearing Permit (NVCP) (purpose permit). The applicant seeks approval to clear up to 0.008 hectare (ha) of native vegetation (clearing area).

1.3 Location

Details of the clearing area are outlined in Table 1 and shown on Figure 1.

Table 1 Site details

Property	Description
Land description	Rail reserve – Land ID 3557417
Property Area	49.0470 ha
Clearing Permit Application Area	0.008 ha
Zoning	N/A
Owner	Shire of Serpentine-Jarrahdale

1.4 Applicant

This NVCP application applies to clearing associated with the Signalling upgrade. The contact for the PTA is:

Table 2 Applicant details

Subject	Detail
Contact	Colin Stedman
Title	Environmental Manager, Office of Major Transport Infrastructure Delivery
Company	Public Transport Authority
Address	34-50 Stirling Street, Perth WA 6000
Postal address	34-50 Stirling Street, Perth WA 6000
Office phone	9326 2053
Email	Colin.Stedman@pta.wa.gov.au



METRONET | Byford Rail Extension
 Figure 1 - Environmental values within Proposed Native Vegetation Clearing Permit CH37850

LEGEND

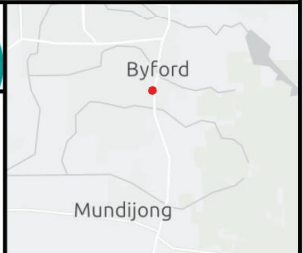
Cadastre (Land) (LGATE218)
 Proposed Native Vegetation Clearing
 Permit CH37850

Native Vegetation FVC, 2022

TEC and PEC: FCT SCP 3a
DBCA-046
 Forrestfield Native Vegetation Complex
DPLH-022
 Bush Forever 2000 - Site no. 350

Black Cockatoo Foraging Habitat AECOM, 2020

Baudin's Cockatoo - Very High Quality
 Carnaby's Cockatoo - Very High Quality
 Forest Red-tailed Black-cockatoo - High Quality
 Baudin's Cockatoo - Low Quality
 Carnaby's Cockatoo - Low Quality



Date Printed: 20/08/2024
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2.0 Measures to Avoid and Minimise Clearing

2.1 Environmental Assessments

PTA commissioned Focused Vision Consulting Pty Ltd (FVC) to undertake two flora and vegetation assessments for the project between 2021-2022. This included:

- Byford Depot (50.25 ha corridor) extending between Soldiers Road and the South Western Highway, from Abernethy Road to Cardup Siding Road (FVC 2022a).
- Cable Route, Byford (23.85 ha corridor) extending along the existing South Western Railway adjacent to Soldiers Road, from Cardup Siding Road to Mundijong Junction (FVC 2022b).

The flora and vegetation assessments included a comprehensive desktop assessment, a two-phase detailed flora and vegetation assessment and targeted searches for significant flora and communities. FVC recorded the *Corymbia calophylla* - *Kingia australis* woodlands on heavy soils Threatened Ecological Community (TEC) along the rail corridor. This TEC is listed as Critically Endangered under the *Biodiversity Conservation Act 2016* (BC Act) and as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

On the request of PTA, FVC refined their vegetation mapping to exclude cleared areas, such as the railway line, previously designated as TEC. The updated data and supporting letter was provided to PTA on 6 June 2024. The biological reports and figures were not updated in this process. The two flora and vegetation assessments and letter are presented in Appendix A.

Additionally, PTA commissioned Natural Area Consulting Management Services (Natural Area) to conduct a basic fauna survey and a black cockatoo habitat assessment. The fauna survey area (16.70 ha) extended along Soldiers Road, from Cardup Siding Road to the Mundijong Junction train station (Natural Area 2024).

The entire fauna survey area (16.70 ha) was considered high-quality foraging habitat for the three threatened black cockatoos species, with foraging evidence recorded in *Corymbia calophylla* (Marri) trees. The survey area also contained 171 potential breeding trees, two of which had suitable hollows. The fauna assessment is presented in Appendix B.

2.2 Project design

The project's Design and Constructability assessments have been refined through an iterative process over several years. The original baseline concept for the Signalling works included a traditional Buried Pit style Pipe MCR. This was intended to support the new signalling and communications system, initially planned to extend approximately 8 km south of the new Byford Station. This would have required clearing and trenching a 5m wide corridor along the 8 km route, covering approximately 3.89 ha.

PTA has commissioned several flora and fauna surveys for the project, which confirmed the presence of TEC and Black Cockatoo foraging and breeding habitat.

In response, PTA made numerous concessions to their MCR standards and preferences, opting for a relatively new and novel above ground MCR solution to be installed adjacent to the running line (Figure 2). This approach has substantially reduced the required clearing to just 0.008 ha. This has introduced several concessions to the project's outcome, including a reduced separation distance of the MCR from the running line and potential risks of damage to the MCR or theft of copper cabling within the MCR.

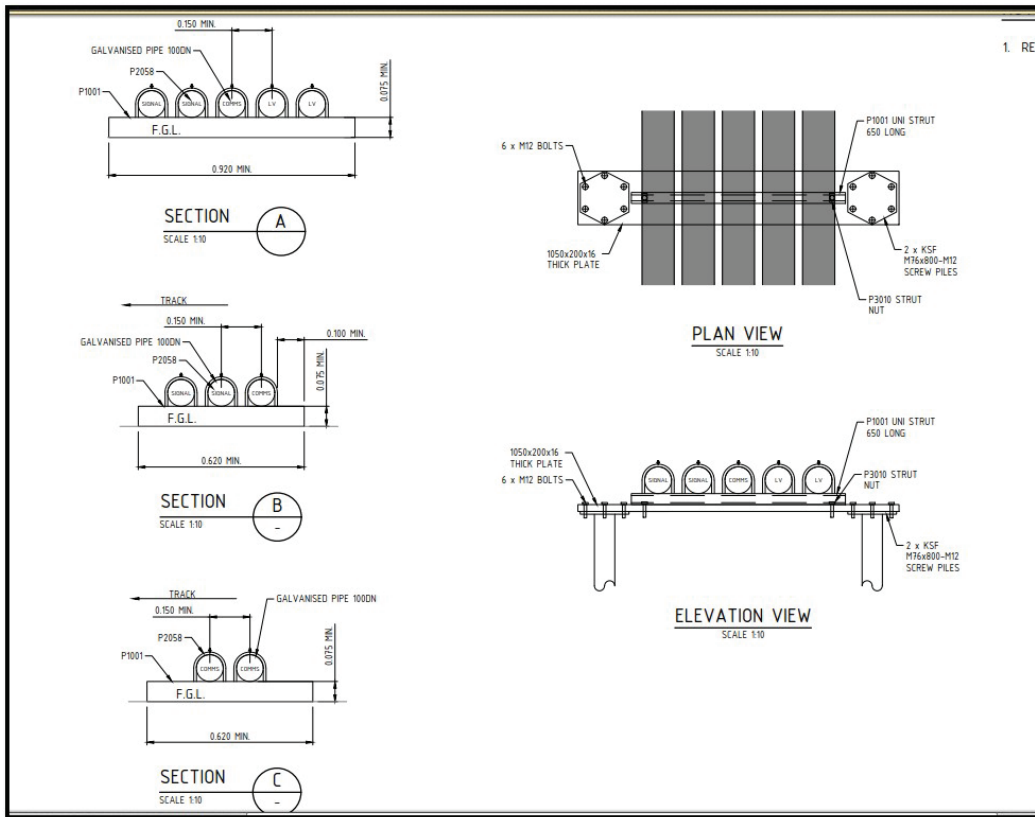


Figure 2 Cross section details of above ground MCR option

In addition to the MCR, the original scope of works also included several under bored crossings (Horizontal Directionally Drilled [HDD]) with buried pit transitions, Trackside Signalling Equipment Rooms (TSER), Radio Mast sites and access ways for construction crews. This would have required additional clearing of the TEC and native vegetation.

PTA has agreed to deliver the minimum required scope to ensure that the Australind Services can resume in parallel with the Electrified passenger network being delivered by the Byford Rail Extension Project. To meet this requirement, PTA is proposing to install approximately 1 km of new MCR (reduced from approximately 8 km).

2.3 Construction methodology

Significant changes to construction methodology have also been agreed upon. The majority of the works will now be completed using hi-rail machines (road rail vehicles), ensuring there is no vegetation being cleared for access/egress reasons (Figure 3).



Figure 3 Hi-rail machines to be used for project works

The final refinement of the proposal came with a joint walk out between Environmental and Construction teams.

The only area of native vegetation clearing being sought under this application is relatively sparse, with no major trees or canopy. The diagram in Figure 4 shows the design work to re-position the necessary pits and Location Case (LOC 378) into this identified area.

Over a considerable time period, the project has made every effort to avoid, minimise and reduce the clearing works associated with this scheme



Figure 4 Design work re-positioning of pits and Location Case (LOC 378).

3.0 Existing Environment

3.1 IBRA Region

The largest regional vegetation classification scheme recognised by Environmental Protection Authority (EPA) is the Interim Biogeographical Region of Australia (IBRA). The IBRA regions provide the planning framework for the systematic development of a comprehensive, adequate and representative (CAR) national reserve system. There are 89 recognised IBRA regions across Australia that have been defined based on climate, geology, landforms and characteristic vegetation and fauna (IBRA7 2012). The project occurs in the Perth subregion of the Swan Coastal Plain IBRA region.

The Perth subregion, described by the Department of Conservation and Land Management (CALM 2003), occurs within the Perth metropolitan area. The Perth subregion is composed of colluvial and aeolian sands, alluvial river flats, and coastal limestone on a low lying coastal plain. The region is mostly covered in woodlands, dominated by *Banksia* or *Tuart* on sandy soils, *Casuarina obesa* on outwash plain, and paperbark in swampy areas. In the eastern parts of the subregion, the plain rises to duricrusted mesozoic sediments dominated by Jarrah woodland. Land use is mainly cultivation, conservation, Unallocated Crown Land (UCL) and Crown reserves, Urban, Rural residential, Forestry-plantations, pastures and other infrastructure. The region has a high degree of flora and fauna species diversity, notably on the eastern side of the coastal plain.

3.2 Geology and Soils

The survey area is situated within the Forrestfield system, in the Pinjarra Zone. The Forrestfield system consists of undulating foot slopes of the Darling and Whicher Scarps. It has duplex sandy gravels, pale deep sands and grey deep sandy duplexes. Woodland of *Eucalyptus marginata* (Jarrah), *Corymbia calophylla* (Marri) and *Eucalyptus wandoo* (Wandoo) and some *Banksia grandis*.

One soil system occurs within the clearing area, the Forrestfield F5 Phase subsystem (213Fo_F5), which consists of poorly defined stream channels on the lowest slopes, with deep acidic yellow duplex soils and sandy alluvial gradational brown earths.

3.2.1 Acid Sulfate Soils

Acid Sulfate Soils (ASS) risk within the clearing area has been mapped by the Department of Water and Environmental Regulation (DWER). There is no risk of Acid Sulfate Soils occurring.

3.3 Water

3.3.1 Groundwater

The project lies within the Serpentine groundwater area and Byford 3 groundwater sub-area. The Serpentine groundwater area is proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act).

Data contained in the Perth Groundwater Map (DWER 2021) indicates that there is no available groundwater depth data and no bores are known within the proposed clearing area (DWER 2024).

3.3.2 Surface Water

No Public Drinking Water Source Areas intersect the clearing area. There are also no Surface Water Allocation areas that intersect with the clearing area.

3.3.3 Wetlands

No surface water bodies or mapped wetlands intersect the clearing area. Several wetlands are within proximity to the clearing area, including three Conservation Category Wetlands (CCW) mapped by the Department of Biodiversity, Conservation and Attractions (DBCA). These include:

- Byford Rail Reserve (14506), located approximately 15 m north
- Brickwood Reserve (14503), located approximately 40 m west
- Brickwood Reserve (14498), located approximately 40 m west.

These wetlands are generally aligned with low lying areas or poorly draining sands, clays or duplex soils. The wetland areas are described as flat palusplains.

No nationally significant wetlands listed in *A Directory of Important Wetlands in Australia* or Ramsar wetlands protected under international agreements occur within the clearing area.

3.4 Vegetation, Flora and Fauna

3.4.1 Pre-European vegetation

Beard (1974) vegetation mapping for pre-European vegetation, shows one vegetation association (968) intersects the clearing area. This vegetation association is described as medium woodland with *Eucalyptus marginata* (Jarrah), *Corymbia calophylla* (Marri), *Eucalyptus wandoo* (Wandoo).

According to the Government of Western Australia (2018) more than 30% vegetation association 968 remains intact at the State, but less than 10% remains intact in the IBRA subregion and local government area (Table 3) in the region.

Table 3 Vegetation Representation

Vegetation Association	Pre-European Extent (ha)	Current Extent (ha)	Percentage Remaining (%)			% Current Extent in DBCA Managed Land
			Statewide	SWA02 Bioregion	Shire of Serpentine-Jarrahdale	
968	296,877.84	95,048.82	32.02	6.62	4.60	18.45

Hedde *et al.* (1980) conducted vegetation complex mapping for the Swan Coastal Plain at a scale of 1:250,000. One complex, the Forrestfield complex intersects the clearing area, described as open forest of Marri, Wandoo and Jarrah to open forest of Jarrah, Marri, *Allocasuarina fraseriana* (Sheoak) and Banksia species. Fringing woodland of *Eucalyptus rudis* (Flooded Gum) occurs in the gullies that dissect this landform.

3.4.2 Vegetation

FVC (2022a, 2022B) mapped 12 native vegetation units across their two survey areas (Byford Depot and Cable Route), of which one unit, CcHtKaXp occurs in the clearing area. This vegetation unit is described as *Corymbia calophylla* Low Open Woodland over *Hakea trifurcata*, *Kingia australis* and *Xanthorrhoea preissii* Tall Open Shrubland over *Cyathochaeta avenacea* and *Mesomelaena tetragona* Sparse Sedgeland.

The CcHtKaXp unit covers 9.04 ha of the total area surveyed, ranging from Degraded to Very Good. The 0.008 ha of vegetation inside the clearing area was considered to be in a Very Good condition.

3.4.3 Threatened and Priority Ecological Communities

FVC (2022a, 2022b) identified eight Threatened and Priority Ecological Communities (PEC) that may occur within the two survey areas. These are listed in the biological reports presented in Appendix A.

One TEC, *Corymbia calophylla* - *Kingia australis* woodlands on heavy soils, Swan Coastal Plain TEC was recorded during the surveys. This TEC is listed as Endangered under the EPBC Act and Critically Endangered under the BC Act. FVC (2022a, 2022b) recorded four vegetation units that were considered to represent the TEC, including the CcHtKaXp unit mapped within the clearing area.

The TEC covers 31.62 ha of the total area surveyed ranging from Completely Degraded to Excellent Condition. The 0.008 ha of vegetation inside the clearing area was considered to be in a Very Good condition.

3.4.4 Flora

FVC (2022a, 2022b) identified 16 Threatened flora species listed under the EPBC Act and BC Act and 17 Priority species listed by DBCA with potential to occur in the two survey areas. Of these, two species were previously recorded within the Cable Route survey area and four were considered likely to occur in both surveys, listed in Table 4 below.

Table 4 Threatened and Priority flora species with potential to occur (in surveyed areas)

Taxon	BC Act / DBCA	EPBC Act	Likelihood
<i>Synaphea</i> sp. Pinjarra Plain (A.S. George 17182)	Critically Endangered	Critically Endangered	Previously recorded (Cable Route survey)
<i>Synaphea</i> sp. Serpentine (G.R. Brand 103)	Critically Endangered	Critically Endangered	Previously recorded (Cable Route survey)
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	Priority 2	-	Likely
<i>Babingtonia urbana</i>	Priority 3	-	Likely
<i>Schoenus pennisetis</i>	Priority 3	-	Likely
<i>Drosera occidentalis</i>	Priority 4	-	Likely

No Threatened or Priority flora were recorded inside the clearing area (FVC 2022a).

No Threatened flora species were recorded in either survey area. Flora specimens were collected at the previously recorded locations of *Synaphea* sp. Pinjarra Plain (A.S. George 17182) and *Synaphea* sp. Serpentine (G.R. Brand 103), however, none were representative of the Threatened taxa (FVC 2022b).

One Priority species, *Johnsonia pubescens* subsp. *cygnorum* (P2) was recorded in both surveys, with the nearest record located 160 m south of the clearing area (FVC 2022a).

3.4.5 Fauna

Natural Area identified 70 conservation significant fauna species to potentially occur within 10 km of their survey area. Of these, it was determined that 13 fauna species have potential to utilise the survey area (Table 5).

Table 5 Conservation significant fauna species with potential to use the survey area

Species	BC Act / DBCA	EPBC Act
<i>Calyptorhynchus banksii naso</i> Forest Red-tailed Black-Cockatoo	Vulnerable	Vulnerable
<i>Dasyurus geoffroi</i> Chuditch, Western Quoll	Vulnerable	Vulnerable
<i>Falco peregrinus</i> Peregrine Falcon	Other specially protected fauna	-
<i>Hydromys chrysogaster</i> Water Rat	Priority 4	-
<i>Isoodon fusciventer</i> Quenda	Priority 4	-
<i>Lerista lineata</i> Perth Slider	Priority 3	-
<i>Myrmecobius fasciatus</i> Numbat	Endangered	Endangered
<i>Neelaps calonotos</i> Black-striped Burrowing Snake	Priority 3	-
<i>Pseudocheirus occidentalis</i> Western Ringtail Possum	Critically Endangered	Critically Endangered
<i>Tringa glareola</i> Wood Sandpiper	Migratory	Migratory and Marine

Species	BC Act / DBCA	EPBC Act
<i>Westralunio carteri</i> Carter's Freshwater Mussel	Vulnerable	Vulnerable
<i>Zanda baudinii</i> Baudin's Cockatoo	Endangered	Endangered
<i>Zanda latirostris</i> Carnaby's Cockatoo	Endangered	Endangered

Five native fauna species were recorded during the survey, including four birds and one mammal. Of these, the Forest Red Tailed Black Cockatoo (*Calyptorhynchus banksii naso*) is considered conservation significant.

3.4.6 Black Cockatoo assessment

The clearing area is within the known distribution range for all three Threatened black cockatoo species, listed below:

- Carnaby's Cockatoo (*Zanda latirostris*)
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*)
- Baudin's Cockatoo (*Zanda baudinii*).

One species, the Forest Red-tailed Black Cockatoo, was observed foraging on site during the survey. All native vegetation within the entire survey area (including the clearing area) provides for suitable foraging habitat for all three black cockatoo species (Table 6). All foraging evidence was recorded from Marri trees. Natural area also recorded 172 potential breeding trees, two of which had hollows.

No breeding trees or foraging evidence was recorded inside the clearing area.

Table 6 Black Cockatoo foraging habitat within the survey area

Species	Total Area of Foraging Habitat (ha)	Habitat Types
Baudin's Cockatoo <i>Zanda baudinii</i>	16.70	<ul style="list-style-type: none"> • Banksia / <i>Xanthorrhoea</i> Woodland • Marri / <i>Xanthorrhoea</i> Woodland • Marri / <i>Xanthorrhoea</i> / <i>Kingia</i> Woodland • Wandoo Woodland • Marri over weeds • <i>Eucalyptus rudis</i> over weeds • Rehab
Carnaby's Cockatoo <i>Zanda latirostris</i>	16.70	<ul style="list-style-type: none"> • Banksia / <i>Xanthorrhoea</i> Woodland • Marri / <i>Xanthorrhoea</i> Woodland • Marri / <i>Xanthorrhoea</i> / <i>Kingia</i> Woodland • Wandoo Woodland • Marri over weeds • <i>Eucalyptus rudis</i> over weeds • Rehab
Forest Red-tailed Black Cockatoo <i>Calyptorhynchus banksii naso</i>	15.65	<ul style="list-style-type: none"> • Marri / <i>Xanthorrhoea</i> Woodland • Marri / <i>Xanthorrhoea</i> / <i>Kingia</i> Woodland • Marri over weeds

3.5 Environmentally Sensitive Areas and Conservation Areas

Environmentally sensitive areas (ESAs) are classes or areas of native vegetation where the exemptions for clearing vegetation under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations) do not apply. ESAs classes can include World Heritage Properties, Conservation Wetlands, Threatened flora, TECs and Bush Forever.

One Department of Water and Environmental Regulation (DWER) ESA was found to intersect with the clearing area, associated with the DBCA mapped buffer for the *Corymbia calophylla - Kingia australis* woodlands on heavy soils, Swan Coastal Plain TEC and Bush Forever Site 350. Several ESAs are in proximity to the clearing area, including several conservation wetlands (Section 3.3.3) and Bush Forever Site 321.

The nearest conservation reserve is the Cardup Nature Reserve (R2457), 1.5 km southwest.

3.6 Heritage

3.6.1 Aboriginal Heritage

A search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System (AHIS) indicated that there are no Registered Aboriginal Heritage Sites or Other Heritage Places within the clearing area. The nearest Registered Aboriginal Heritage Site is Byford 06 (ID 16094), located approximately 300 m east. The site is registered for its historical value of artifacts / scatter found.

3.6.2 European Heritage

There are no World Heritage Properties or National Heritage Places within 10 km of the clearing area. No heritage sites listed in the State Register or Municipal Inventory intersect with the clearing area. The nearest heritage sites listed in the State Register and Municipal Inventory are detailed in Table 7.

Table 7 State listed Heritage Places near proposed clearing

Site Name	Place ID	Listing	Distance from Site
Whitby Falls Hostel	8604	State Register	6.3 km south east
Byford Uniting Presbyterian Church	2363	Municipal Inventory	1.2 km north east
St Aidan's Anglican Church & Church Hall	2364	Municipal Inventory	1.3 km north east
Brickworks Railway Bridge (fmr), Byford	8478	Municipal Inventory	1.08 km north east
Millrace Farmhouse	8483	Municipal Inventory	1.6 km east
Brick Kilns	8619	Municipal Inventory	1.5 km south east
Fremnells Dairy	24405	Municipal Inventory	2.1 km south west

4.0 Proposed Clearing

4.1 Schedule

The applicant intends to commence clearing in Q1 2025. Construction of the project is expected to be completed by the end of 2025. Clearing and other construction activities will not commence until relevant approvals are obtained.

4.2 Clearing Area

This application seeks approval to clear up to 0.008 ha of native vegetation for construction of the above ground MCR.

It should be noted that extensive design work has been undertaken to reduce clearing to 0.008 ha, including a reduction in project scope and changes to the project design and construction methodology.

5.0 Assessment against the 10 Clearing Principles

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

Table 8 Assessment against Principle (a)

Assessment Results	Conclusion
<p>PTA is proposing to clear 0.008 ha of native vegetation in the rail reserve, adjacent to Soldiers Road, in the Shire of Serpentine-Jarrahdale (Figure 1).</p> <p>PTA commissioned FVC to undertake two flora and vegetation assessments for the original scope of works, 'Byford Depot' (FVC 2022a) and 'Cable Route' (FVC 2022b). The clearing area occurs within the Byford Depot survey area. The assessments included a comprehensive desktop assessment, detailed flora and vegetation survey and targeted searches for significant flora and communities. The assessments and data amendments are presented in Appendix A.</p> <p>FVC (2022a) recorded 123 flora species, from 90 genera and 32 families in the Byford Depot survey. Of these, 95 (77.2%) were native species. No Threatened flora species were considered likely to occur in the desktop assessment, and none were recorded during the survey. FVC (2022a) identified four Priority species that were likely to occur in the survey area, of which one, <i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2) was recorded at two locations. The nearest record for this species is located 160 m south of the clearing area. No Threatened or Priority species were recorded inside the clearing area.</p> <p>FVC (2022a, 2022b) identified eight TEC/PECs as potentially occurring in the two survey areas. Of these, one TEC, the SCP3a <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils was recorded, listed as Endangered under the EPBC Act and Critically Endangered under the BC Act. The TEC covers 31.62 ha of the total survey area, of which 0.008 ha (0.03%) is proposed for clearing.</p> <p>PTA also commissioned Natural Area to undertake a basic fauna and black cockatoo assessment (Appendix B). Natural Area (2024) identified 13 significant fauna species with potential to use their survey area. Of these, one species, the Forest Red-tailed Black-Cockatoo (<i>Calyptrorhynchus banksii naso</i>) was observed during the survey. The survey area is within the known distribution range for all three species of black cockatoo and contains suitable foraging and breeding habitat for the species. No breeding trees were recorded inside the clearing area.</p> <p>The project involves clearing of 0.008 ha of TEC, however, the clearing area is sited in an area of relatively sparse, understorey vegetation. The clearing extent has been limited to minimise impacts on the TEC and will reduce the local patch size by 0.03%. No Threatened or Priority flora records occur within the clearing area and no black cockatoo breeding trees are proposed for clearing.</p> <p>The proposal is not at variance with Principle A.</p> <p>Sources: (FVC 2022a, 2022b) (Appendix A), (Natural Area 2024) (Appendix B)</p>	<p>Not at variance.</p>

5.2 Principle (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

Table 9 Assessment against Principle (b)

Assessment Results	Conclusion
<p>Natural Area conducted a basic fauna survey and black cockatoo assessment in May 2024. Natural Area identified 70 conservation significant fauna species to potentially occur within 10 km of their survey area. Of these, it was determined that 13 fauna species have potential to utilise the survey area.</p> <p>Five fauna species were identified within the survey area, four of which were bird species and one mammal species. One conservation significant species, the Forest Red-tailed Black Cockatoo (<i>Calyptorhynchus banksii naso</i>) listed as Vulnerable under the EPBC Act and BC Act was observed.</p> <p>The clearing area comprises 0.008 ha of vegetation type CcHtKaXp (FVC 2022a). Natural Area assessed this vegetation type as providing suitable foraging habitats for all three threatened black cockatoo species. However, evidence of foraging was only recorded in Marri trees (Natural Area 2024).</p> <p>The clearing area has been designed to avoid clearing of trees, with only understorey vegetation proposed to be cleared. The clearing area is also surrounded by large patches of vegetation, including reserves, comprising several woodland communities. Clearing of up to 0.008 ha of this vegetation is unlikely to have a significant impact on black cockatoos or their potential habitat.</p> <p>The vegetation proposed for clearing consists of sparse understorey vegetation. It is unlikely to be significant habitat to any Threatened and/or Priority fauna species. The surrounding vegetation contains large areas of habitat suitable for multiple Threatened and/or Priority fauna species. Proposed clearing will not cause these habitat areas to be further segregated.</p> <p>This proposal is not at variance with Principle B.</p> <p>Sources: (Natural Area 2024) (Appendix B)</p>	Not at variance.

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

Table 10 Assessment against Principle (c)

Assessment Results	Conclusion
<p>FVC (2022a, 2022b) identified 16 Threatened flora species with potential to occur in the two survey areas. Of these, two Threatened flora species have previous records within the Cable Route survey area. FVC assessed the likelihood of occurrence for the remaining species and determined that none were likely to occur in either survey area, seven species may occur and seven were considered unlikely to occur.</p> <p>No Threatened flora species were recorded in the clearing area or in either survey area. Flora specimens were collected at the previously recorded locations of <i>Synaphea</i> sp. Pinjarra Plain (A.S. George 17182) and <i>Synaphea</i> sp. Serpentine (G.R. Brand 103), however, none were representative of the Threatened taxa (FVC 2022b).</p> <p>The proposal is not at variance with this Principle.</p> <p>Sources: FVC (2022a, 2022b) (Appendix A)</p>	Not at variance.

5.4 Principle (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

Table 11 Assessment against Principle (d)

Assessment Results	Conclusion
<p>FVC (2022a) recorded one TEC within the clearing area, the FCT3a <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils, Swan Coastal Plain TEC. The vegetation condition of the TEC within the clearing area was recorded as Very Good.</p> <p>FVC (2022a, 2022b) has surveyed the surrounding area and has mapped 31.62 ha of the TEC, ranging in condition from Completely Degraded to Excellent. The clearing for the project will impact 0.03% of the remaining TEC in this area.</p> <p>The clearing area was selected as it contains relatively sparse, understorey vegetation. Clearing of 0.008 ha the TEC in this location is not likely to have a significant impact on the continued maintenance of the TEC.</p> <p>The proposed clearing is at variance but at 0.008 ha is not considered to be significant.</p>	Is at variance.
Sources: FVC (2022a, 2022b) (Appendix A)	

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

Table 12 Assessment against Principle (e)

Assessment Results	Conclusion											
<p>The National Objectives and Targets for Biodiversity Conservation 2001-2005 (Commonwealth of Australia 2001) recognises that the retention of 30% or more of pre-clearing extent of each ecological community is necessary if Australia’s biodiversity is to be protected. In constrained areas this threshold is set at 10%.</p> <p>One Beard (1974) pre-European vegetation association intersects the clearing area, association 968. At the state level, there is 32.02% of vegetation association 968 remains intact, however at bioregion and local government levels, there is only 6.62% and 4.60% remaining, respectively. The clearing area is located in a constrained area (Swan Coastal Plain), however, the extent remaining at the bioregion and local government scales are below the 10% threshold.</p> <p>The proposed clearing is limited to 0.008 ha and is not likely to have a significant impact on the remaining pre-clearing extent at the State, bioregion or local government levels (extent remaining detailed in the table below). The proposed clearing will reduce the remaining extent of this vegetation type by less than 0.001% at the state, bioregion and local government levels.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2" style="background-color: #008080; color: white;">Vegetation Association</th> <th colspan="3" style="background-color: #008080; color: white;">Current extent (ha)</th> </tr> <tr> <th style="background-color: #008080; color: white;">Statewide</th> <th style="background-color: #008080; color: white;">SWA02 Bioregion</th> <th style="background-color: #008080; color: white;">Shire of Serpentine-Jarrahdale</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">968</td> <td>95,048.82</td> <td>9,017.32</td> <td>1,121.13</td> </tr> </tbody> </table> <p>The proposed clearing is within an area that has been extensively cleared. However, the proposed clearing is minor (0.008 ha) and is not likely to have a significant impact on the remaining extent of this vegetation association.</p> <p>The proposed clearing may be at variance to this principle.</p>	Vegetation Association	Current extent (ha)			Statewide	SWA02 Bioregion	Shire of Serpentine-Jarrahdale	968	95,048.82	9,017.32	1,121.13	May be at variance.
Vegetation Association		Current extent (ha)										
	Statewide	SWA02 Bioregion	Shire of Serpentine-Jarrahdale									
968	95,048.82	9,017.32	1,121.13									
Sources: FVC (2022a, 2022b) (Appendix A)												

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

Table 13 Assessment against Principle (f)

Assessment Results	Conclusion
<p>The clearing area does not occur within a watercourse or wetland. Several CCW wetlands occur within 50 m of the clearing area, listed below:</p> <ul style="list-style-type: none"> • Byford Rail Reserve (14506), located approximately 15 m north • Brickwood Reserve (14503), located approximately 40 m west • Brickwood Reserve (14498) located approximately 40 m west. <p>Clearing is minor (0.008 ha) and is not expected to have a significant impact on any important wetlands or watercourses. This proposal is therefore not at variance with this principle.</p>	Not at variance.
Sources: FVC (2022a, 2022b) (Appendix A)	

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

Table 14 Assessment against Principle (g)

Assessment Results	Conclusion
<p>Clearing proposed involves the removal of a 0.008 ha native understorey vegetation. The small amount of clearing is not likely to result in significant changes to soil erosion, soil acidity or salinity. The clearing of vegetation is therefore not likely to cause appreciable land degradation and not likely to be at variance with this principle.</p>	Not at variance.
Sources: FVC (2022a, 2022b) (Appendix A)	

5.8 Principle (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

Table 15 Assessment against Principle (h)

Assessment Results	Conclusion
<p>The nearest conservation area is Cardup Nature Reserve (R2457), which is located approximately 1.5 km southwest of the clearing area. The separation distance between Cardup Nature Reserve and the clearing area is considered sufficient to prevent significant adverse impacts.</p> <p>The clearing area is located within a Bush Forever Area (350).</p> <p>Clearing impacts are minor (0.008 ha) and not likely to have a significant impact on the environmental values of the Bush Forever site.</p> <p>The Proposal is not at variance with this principle.</p>	Not at variance.
Sources: FVC (2022a, 2022b) (Appendix A)	

5.9 Principle (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

Table 16 Assessment against Principle (i)

Assessment Results	Conclusion
<p>The area proposed for clearing consists of soils with poorly defined stream channels on the lowest slopes, deep acidic yellow duplex soils and sandy alluvial gradational brown earths. The vegetation within the clearing area also has some understorey. It is unlikely that proposed clearing would result in significant changes to surface water runoff or groundwater recharge.</p> <p>No soils prone to salinity or erosion are known to exist within the clearing area. There is also no known risk of ASS occurrence.</p> <p>No significant changes to the hydrological regime (including water quality) are expected to result from the proposed clearing. This proposal is therefore not likely to be at variance to this principle.</p>	Not at variance.
Sources: FVC (2022a, 2022b) (Appendix A)	

5.10 Principle (j) - Native vegetation should not be cleared if the clearing of the vegetation is likely to cause or exacerbate the incidence or intensity of flooding

Table 17 Assessment against Principle (j)

Assessment Results	Conclusion
<p>The project involves clearing 0.008 ha of vegetation. The proposed clearing does not occur within a floodplain.</p> <p>Given the nature and scale of clearing proposed, it is unlikely the proposal would exacerbate the incidence or intensity of flooding.</p>	Not at variance.
Sources: FVC (2022a, 2022b) (Appendix A)	

6.0 Conclusions

The Public Transport Authority proposes to clear 0.008 ha of native vegetation for a Signalling upgrade to enable the Australind Service to resume in parallel with Byford Rail Extension services. An assessment against the 10 clearing principles has found that the proposed clearing is not or not likely to be at variance with eight of these principles. However, it is at variance with principle (d) and may be at variance with principle (e).

Principle (d) concerns clearing of vegetation that comprises a whole or part of a TEC. The proposed clearing includes 0.008 ha of the FCT3a *Corymbia calophylla* - *Kingia australis* woodlands on heavy soils, Swan Coastal Plain TEC. This represents a reduction of 0.03% of the patch size (31.62 ha).

The clearing area was selected as it contains sparse, understorey vegetation. Clearing of 0.008 ha the TEC in this location is not likely to have a significant impact on the continued maintenance of the TEC.

Principle (e) concerns clearing vegetation in areas that have already been significantly cleared.

The National Objectives and Targets for Biodiversity Conservation 2001-2005 (Commonwealth of Australia 2001) state that retaining at least 30% of the pre-clearing extent of each ecological community is necessary to protect Australia's biodiversity. For this project, located in a constrained area, the threshold is set at 10%.

The clearing area intersects one Beard (1974) pre-European vegetation association (968), described as medium woodland with *Eucalyptus marginata* (Jarrah), *Corymbia calophylla* (Marri), *Eucalyptus wandoo* (Wandoo). While 32% of this vegetation type remains at the state level, less than 10% remains at finer scales (bioregion and local government levels). However, the proposed clearing is minor (0.008 ha) and will not significantly impact the remaining extent of this vegetation type.

The PTA has made considerable efforts to avoid and minimise clearing of native vegetation. These efforts include a major reduction in project scope, changes to the project design and adjustments to the construction methodology. The proposed clearing is the minimum amount required to complete the Signalling upgrade, which is necessary to modernise and ensure the Australind services can resume alongside the electrified passenger network being delivered by the Byford Rail Extension Project.

7.0 References

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