



## **CLEARING PERMIT**

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 9306/1
<b>Permit Holder:</b>	Western Australian Land Authority T/A DevelopmentWA
<b>Duration of Permit:</b>	From 3 September 2021 to 3 September 2026

The permit holder is authorised to clear native vegetation subject to the following conditions of this permit.

### **PART I – CLEARING AUTHORISED**

#### **1. Clearing authorised (purpose)**

The permit holder is authorised to clear native vegetation for the purpose of the installation of a high voltage feeder cable.

#### **2. Land on which clearing is to be done**

Southern River Road reserve (PINs 11871359 and 12154660), Southern River  
Ranford Road reserve (PIN 11869110), Harrisdale

#### **3. Clearing authorised**

The permit holder must not clear more than 0.048 hectares of native vegetation within the area cross-hatched yellow in Figure 1 of Schedule 1.

### **PART II – MANAGEMENT CONDITIONS**

#### **4. Avoid, minimise, and reduce impacts and extent of clearing**

In determining the native vegetation authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

## 5. Weed and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

## **PART III - RECORD KEEPING AND REPORTING**

### 6. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

**Table 1: Records that must be kept**

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ol style="list-style-type: none"><li>(a) the species composition, structure, and density of the cleared area;</li><li>(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;</li><li>(c) the date that the area was cleared;</li><li>(d) the size of the area cleared (in hectares); and</li><li>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; and</li><li>(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 5.</li></ol>

### 7. Reporting

The permit holder must provide to the *CEO* the records required under condition 6 of this permit when requested by the *CEO*.

## DEFINITIONS


In this permit, the terms in Table 2 have the meanings defined.

**Table 2: Definitions**

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

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## END OF CONDITIONS

  
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Ryan Mincham  
MANAGER  
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

11 August 2021

# Schedule 1

## Plan 9306/1

The boundary of the area authorised to be cleared is shown in the map below.



Figure 1: Map of the boundary of the area within which clearing may occur



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9306/1
<b>Permit type:</b>	Purpose permit
<b>Applicant name:</b>	Western Australian Land Authority T/A DevelopmentWA
<b>Application received:</b>	28 May 2021
<b>Application area:</b>	0.048 hectares of native vegetation
<b>Purpose of clearing:</b>	Installation of a high voltage feeder cable
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Southern River Road reserve (PINs 11871359 and 12154660) Ranford Road reserve (PIN 11869110)
<b>Location (LGA areas):</b>	City of Armadale and City of Gosnells
<b>Localities (suburbs):</b>	Southern River and Harrisdale

### 1.2. Description of clearing activities

The application is to clear up to 0.048 hectares of native vegetation for the purpose of installing electrical connections and transmission lines (see Figure 1, Section 1.5). The area proposed to be cleared is located within road reserves at the intersection of Southern River Road and Ranford Road. The majority of the application area is surrounded by existing roads. Intact native vegetation is found to the east of the application area, however this area is separated by an existing fence and firebreak.

The application area was previously cleared between 2014 to 2019 under Clearing Permit CPS 6069/3, for the purposes of constructing a dual lane carriageway.

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	11 August 2021
<b>Decision area:</b>	0.048 hectares of native vegetation, as depicted in Section 1.5, below.

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (the department) advertised the application for 7 days and no submissions were received.

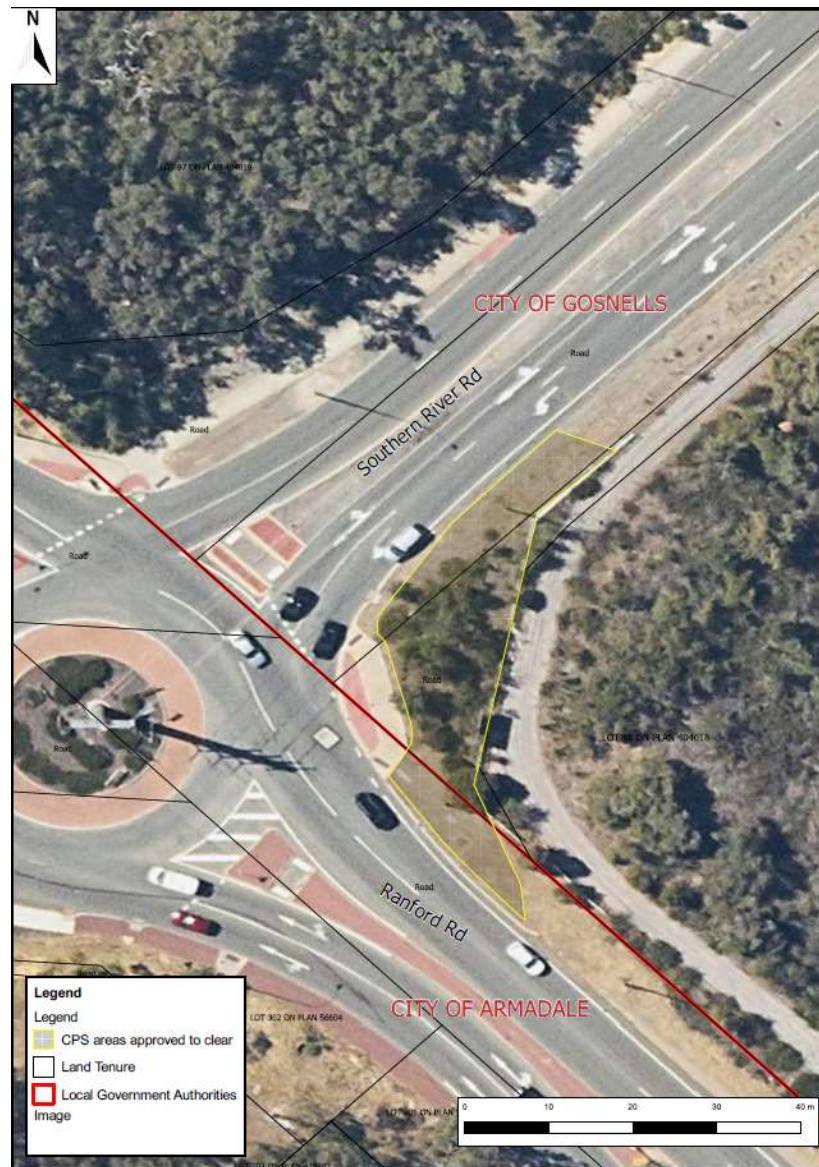
In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E.2), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The Delegated Officer has determined that the proposed clearing is unlikely to have any significant environmental impacts. Noting the lack of native understorey and the small extent of the proposed clearing, the application area is not considered to comprise a high level of biodiversity.

The Delegated Officer has determined that clearing activities could introduce and spread weeds and dieback into adjacent vegetation to the east of the application area, which could impact on the quality and its habitat values.

After consideration of the available information, the Delegated Officer determined the proposed clearing is unlikely to lead to an unacceptable risk to environmental values. The Delegated Officer decided to grant a clearing permit subject to conditions to take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback.

## 1.5. Site map



**Figure 1.** Map of the application area. The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

## 2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

### **3 Detailed assessment of application**

#### **3.1. Avoidance and mitigation measures**

No evidence of avoidance or mitigation measures was provided to support the application, however, noting the small extent of the clearing and limited environmental values within the application area, the Delegated Officer was satisfied that no further measures were warranted.

#### **3.2. Assessment of impacts on environmental values**

In assessing the application, in accordance with section 51O of the EP Act, the Delegated Officer has examined the site characteristics (see Appendix A) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix B.

In assessing the application, the Delegated Officer has had regard for the site characteristics (see 0A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix B) identified that the impacts of the proposed clearing may present a risk to adjacent vegetation and conservation areas. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

##### **3.2.1. Environmental values: Biological values and conservation areas - Clearing Principles (a) and (h)**

###### Assessment

The application area occurs within road reserves adjacent to Bush Forever Site 413, which is known as the 'Balannup Lake and Adjacent Bushland, Southern River' and approximately 75 metres away from the Balannup Lake Nature Reserve. The application area is physically separated from Bush Forever Site 413 by a fence line and firebreak to the east and by the existing Southern River Road to the west. Bush Forever Site 413 is mapped as the 'Banksia Dominated Woodlands of the Swan Coastal Plain' (Banksia Woodlands TEC), listed as Priority 3 by the Department of Biodiversity, Conservation and Attractions, and as Endangered under the EPBC Act.

The vegetation proposed to be cleared occurs in a completely degraded condition (Keighery, 1994) and is not representative of this conservation significant community, as it has previously been cleared. There are very few native species with most of the site being planted, regrowth or weeds. The species recorded during the environmental assessment comprised of young Flooded Gum saplings (*Eucalyptus rudis*), *Jacksonia furcellat*, *Kunzea glabrescens* shrubs and a native Paperbark (*Melaleuca preissiana*) (PGV Environmental, 2021), none of which are representative of the Banksia Woodlands TEC. Furthermore, it does not provide any significant habitat that is suitable for conservation significant flora and fauna.

###### Conclusion

Based on the above assessment, the proposed clearing may cause the spread of weeds and dieback into adjacent vegetation.

### Conditions

To address the above impacts, weed and dieback management will be required as a condition of a clearing permit.

### 3.3. Relevant planning instruments and other matters

The City of Armadale (2021) advised the department that they do not have objections to the proposed clearing, and that planning approvals are not required. The City of Gosnells did not provide any comments regarding the proposed clearing.

No Aboriginal Sites of Significance are been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

**End**

## Appendix A. Site characteristics

### C.1. Site characteristics

Characteristic	Details
Local context	<p>The application area was previously cleared between 2015 and 2019 as part of earthworks for the duplication of Southern River Road under Clearing Permit CPS 6069/3 (expired).</p> <p>The application area is on the corner of Southern River Road and Ranford Road intersection. It is surrounded by remnant native vegetation to the east and west, which coincides with Bush Forever Site 413. The application area and the remnant vegetation to the west is separated by an existing road (Southern River Road).</p> <p>Spatial data indicates the local area (5 kilometres radius from the perimeter of the application area) retains approximately 19.01 per cent of the original native vegetation cover.</p>
Conservation areas and ecological linkages	<p>The application area does not intersect any mapped ecological linkage axis.</p> <p>The application area is not located within any conservation areas, however, is immediately adjacent to Bush Forever Site 413, which is known as the 'Balannup Lake and Adjacent Bushland, Southern River', and approximately 75 meters east from the Balannup Lake Nature Reserve (R 1821).</p>
Vegetation description	<p>Photographs supplied by the applicant and an environmental assessment of the application area indicate the vegetation within the proposed clearing area consists of mix of weed species, planted ground cover (<i>Hemiandra pungens</i>) and some regrowth native vegetation including <i>Eucalyptus rudis</i> saplings, <i>Jacksonia furcellata</i> and <i>Kunzea glabrescens</i> shrubs and one <i>Melaleuca preissiana</i> (PGV Environmental, 2021). Representative photographs are available in Appendix DD.</p> <p>This is inconsistent with the mapped vegetation type, Southern River Complex (42) (Heddlie et al., 1980), which is described as:</p> <ul style="list-style-type: none"><li>• Open woodland of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus marginata</i> (Jarrah) - Banksia species with fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) - <i>Melaleuca raphiophylla</i> (Swamp Paperbark) along creek beds.</li></ul> <p>The mapped vegetation type retains approximately 18.43 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs supplied by the applicant and an environmental assessment of the application area indicate the vegetation within the proposed clearing area is in completely degraded (Keighery, 1994) condition (PGV Environmental, 2021), described as:</p> <ul style="list-style-type: none"><li>• The structure of the vegetation is no longer intact and the area is completely or almost completely without native species.</li></ul> <p>The full Keighery (1994) condition rating scale is provided in 0. Representative photographs are available in Appendix D.</p>



Characteristic	Details																
Climate and landform	<ul style="list-style-type: none"> <li>• Topography: 20-25m AHD;</li> <li>• Rainfall: 900 millimetres;</li> <li>• Evapotranspiration: 800 millimetres;</li> <li>• Geology: Alluvial, shoreline, and eolian deposits; an</li> <li>• Acid Sulfate Soil Risk: Moderate to low risk.</li> </ul>																
Soil description	The soil within the application area is mapped as the Bassendean B1 Phase (212Bs), which is described as extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 metres; banksia dominant.																
Land degradation risk	<p>The land degradation risk is mapped as:</p> <table border="1"> <thead> <tr> <th>Risk categories</th> <th>Bassendean B1 Phase</th> </tr> </thead> <tbody> <tr> <td>Wind erosion</td> <td>H1: 50-70 per cent of map unit has a high to extreme wind erosion risk</td> </tr> <tr> <td>Water erosion</td> <td>L1: &lt;3 per cent of map unit has a moderate to high water erosion risk</td> </tr> <tr> <td>Salinity</td> <td>L1: &lt;3 per cent of map unit has a moderate to high salinity risk or is presently</td> </tr> <tr> <td>Subsurface Acidification</td> <td>H2: &gt;70 per cent of map unit has a high subsurface acidification risk or is presently acid</td> </tr> <tr> <td>Flood risk</td> <td>L1: &lt;3 per cent of the map unit has a moderate to high hazard</td> </tr> <tr> <td>Water logging</td> <td>L2: 3-10 per cent of the map unit has a moderate to very high to risk</td> </tr> <tr> <td>Phosphorus export risk</td> <td>H2: &gt;70 per cent of map unit has a high to extreme phosphorus export risk</td> </tr> </tbody> </table>	Risk categories	Bassendean B1 Phase	Wind erosion	H1: 50-70 per cent of map unit has a high to extreme wind erosion risk	Water erosion	L1: <3 per cent of map unit has a moderate to high water erosion risk	Salinity	L1: <3 per cent of map unit has a moderate to high salinity risk or is presently	Subsurface Acidification	H2: >70 per cent of map unit has a high subsurface acidification risk or is presently acid	Flood risk	L1: <3 per cent of the map unit has a moderate to high hazard	Water logging	L2: 3-10 per cent of the map unit has a moderate to very high to risk	Phosphorus export risk	H2: >70 per cent of map unit has a high to extreme phosphorus export risk
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Waterbodies	The majority of the application area is located within an area previously mapped in a wetland associated with Balannup Lake. This area is now categorised as no longer being a wetland. Approximately 0.01 hectares is located within a multiple use category sumpland associated with Balannup Lake, and is located approximately 50 metres from a conservation category sumpland. The conservation category sumpland is also associated with Balannup Lake and the adjacent Bush Forever Site 413, and is physically separated from the application area by Southern River road.																
Hydrogeography	The application area occurs within the Perth Groundwater Area, proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (the RIWI Act). Ground water salinity in the area ranges between 500 to 1000 mg/L TDS.																
Flora	<p>There are no records of priority or threatened flora within the application area. There are seven records of threatened flora within the 5 kilometre local area, the nearest record is <i>Austrostipa jacobiana</i>, which is approximately 280 metres south-east from the application area. There are 19 records of priority species within the local area, with the nearest record being <i>Verticordia lindleyi subsp. Lindleyi</i>, which is located approximately 1.8 kilometres east from the application area.</p> <p>With consideration for the site characteristics set out above, environmental assessment information (PVG Environmental, 2021), the extent of suitable habitat in the local area, and the distribution of existing records, the application area is not likely to contain conservation significant flora species or significant habitat for these species.</p>																
Ecological communities	<p>There are no threatened or priority ecological communities mapped within the application area. The application area is adjacent to the 'Banksia Dominated Woodlands of the Swan Coastal Plain' (Banksia Woodland TEC) ecological community, which is listed as Priority 3 by the Department of Biodiversity, Conservation and Attractions and Endangered under the EPBC Act. However, the application area is separated to the mapped Banksia Woodlands TEC by a fence and firebreak on the eastern side, and by Southern River Road on the west.</p> <p>Other conservation ecological communities located within the local area include:</p>																

Characteristic	Details
	<ul style="list-style-type: none"> <li>• 'Shrublands and woodlands on Muchea Limestone of the Swan Coastal Plain', located approximately 1.2 kilometres east; and</li> <li>• 'Shrublands on dry clay flats of the Swan Coastal Plain', located approximately 1.9 kilometres south-west.</li> </ul>
Fauna	<p>There are no records of conservation significant fauna within the proposed clearing area. A total of 1376 records of birds, 15 invertebrate species, 149 mammal species and 14 reptile species of conservation significance have been recorded within the local area. The nearest record is <i>Isoodon fusciventer</i> (quenda, southwestern brown bandicoot) which is approximately 260 metres south-west from the application area and <i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo) approximately 375 metres east from the application area.</p> <p>With consideration for the site characteristics set out above, environmental assessment information (PVG Environmental, 2021), the extent of suitable habitat in the local area, and the distribution of existing records, the application area is not likely to contain significant habitat for any conservation significant fauna species.</p>

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain locally significant flora, fauna, habitats, or assemblages of plants. The vegetation present in the proposed application area is completely degraded due to being previously cleared. The vegetation is not representative of any conservation significant ecological communities, however, is located adjacent to the Banksia Woodland TEC.</p>	Not likely to be at variance	Yes  See section 3.2.1
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u></p> <p>The application area is completely degraded and is located adjacent to an intersection of two major roads. The proposed clearing is unlikely to impact on habitat that is significant for conservation significant fauna.</p>	Not likely to be at variance	No
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for threatened flora species listed under the BC Act, with photographs of the vegetation provided by the applicant indicating the degraded state of the vegetation which lacks suitable habitat for threatened flora species. The photographs provided by the applicant indicates a lack of native understorey within the small application area.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that are representative of a state listed threatened ecological community endorsed by the Minister for Environment.</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The National Objectives and Targets for Biodiversity Conservation 2001-2005 include a target to have clearing controls in place that prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750 (Commonwealth of Australia 2001). In the Perth Metropolitan and Bunbury regions, the Environmental Protection Authority (EPA) has a modified objective to retain at least 10 per cent of the pre-clearing extent of vegetation complexes for defined constrained areas (intensely developed) (EPA, 2015; EPA, 2003; Government of Western Australia, 2000). The extent of the native vegetation in the local area is consistent with EPA’s modified objectives for biodiversity conservation within constrained areas.</p> <p>The vegetation proposed to be cleared is in a completely degraded condition and is no longer representative of the mapped vegetation complex.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing occurs adjacent to Bush Forever Site 413, known as the ‘Balannup Lake and Adjacent Bushland, Southern River’. However, the proposed clearing is separated by a fence line and by road reserves. The proposed clearing may introduce or spread weeds and dieback into adjacent vegetation.</p>	Not likely to be at variance	Yes  See section 3.2.1.
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>A small portion of the application area (0.01 hectares) intersects a mapped multiple use category sumpland. No permanent, perennial wetland or watercourses are mapped within the application area.</p> <p>One <i>Melaleuca preissiana</i> shrub is located within the application area, however, it is located within a highly disturbed landscape that is adjacent to major roads. The application area is no longer an environment associated with a watercourse or wetland. Noting this, the proposed clearing is not likely to impact on any vegetation growing in, or in association with a watercourse or wetland.</p>	Not likely to be at variance	No

<b>Assessment against the clearing principles</b>	<b>Variance level</b>	<b>Is further consideration required?</b>
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils are moderate to highly susceptible to erosion, nutrient export and salinity. The applicant has advised that they will incorporate appropriate dust management measures during the works, which will mitigate this risk to the surrounding area. Noting the relatively small area of proposed clearing that is adjacent to an existing road and intersection, the proposed clearing is not likely to cause appreciable land degradation.</p>	Not likely to be at variance	No
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>Given no watercourses, wetlands or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours within and surrounding the application area do not indicate that the proposed clearing is likely to cause or exacerbate the incidence or intensity of flooding or waterlogging.</p>	Not likely to be at variance	No

### **Appendix C. Vegetation condition rating scale**

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

#### **Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)**

<b>Condition</b>	<b>Description</b>
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.

Condition	Description
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

## Appendix D. Photographs of the vegetation (PGV Environmental, 2021)



**Figure 2.** Photographs of the vegetation within the application area (PVG Environmental, 2021).

## Appendix E. Sources of information

### E.1. GIS databases

Publicly available GIS Databases used (sourced from [www.data.wa.gov.au](http://www.data.wa.gov.au)):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)

- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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