



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 9309/1
<b>Permit Holder:</b>	Department of Finance
<b>Duration of Permit:</b>	From 16 October 2021 to 16 October 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 a car park extension.

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

Lot 3000 on Deposited Plan 43553, College Grove  
Lot 555 on Deposited Plan 76310, College Grove

**3. Clearing authorised**

The permit holder must not clear more than 0.66 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.

## 6. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

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

### 7. 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 weeds and dieback in accordance with condition 5.</li></ol>

### 8. Reporting

The permit holder must provide to the *CEO* the records required under condition 7 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)
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*

23 September 2021

# Schedule 1

## Plan 9309/1

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 9309/1
<b>Permit type:</b>	Purpose permit
<b>Applicant name:</b>	Department of Finance
<b>Application received:</b>	2 June 2021
<b>Application area:</b>	0.66 hectares of native vegetation
<b>Purpose of clearing:</b>	Carpark
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Lot 3000 on Plan 43553 Lot 555 on Plan 76310
<b>Location (LGA area/s):</b>	City of Bunbury
<b>Localities (suburb/s):</b>	College Grove

### 1.2. Description of clearing activities

The vegetation proposed to be cleared is distributed across three separate areas (see Figure 1, Section 1.5). The application is to clear native vegetation for the purpose of constructing a new carpark around the Bunbury Health Campus.

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	23 September 2021
<b>Decision area:</b>	0.66 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 (DWER) advertised the application for 21 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 D), the clearing principles set out in Schedule 5 of the EP Act, relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the parking study undertaken at the Bunbury Health Campus which identified a 215-parking space shortfall in the west carpark. The proposed clearing will enable a 215-bay expansion and an additional overflow parking area of a 40-bay capacity.

The assessment identified that the proposed clearing will result in:

- the loss of 0.01 hectares of native vegetation that is representative of a priority ecological community

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation or have long-term adverse impacts on environmental values and can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

1.5. Site map

# Plan 9309/1



Figure 1 Map of the clearing permit area

The areas cross-hatched yellow indicate the areas 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)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Contaminated Sites Act 2003* (CS Act) (WA)

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

The applicant identified the following avoidance and mitigation impacts; *“Project design has utilised the results from the biological surveys, hydrological assessment and wetland evaluation to avoid and minimise impacts to areas of high biological and hydrological value where possible. The Department of Finance has also undertaken consultation and engagement with the Department of Biodiversity, Conservation and Attractions (DBCA) to seek their input on the results of the surveys and assessments and preliminary designs for the project.*

*Significant effort has been taken to avoid impacts on the environment. The following avoidance and minimisation measures have been considered:*

- *Where possible, works will be undertaken within previously cleared land.*
- *Early consultation with the DBCA to ensure design acceptance and determine concerns in relation to minimising impacts to native vegetation.”*

(GHD, 2021)

The Delegated Officer was satisfied that, based on the above evidence, the applicant has undertaken reasonable measures to avoid and minimise potential impacts of the proposed clearing on environmental values.

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) 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 present a risk to biodiversity values. 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. Biodiversity values - Clearing Principles (a)

##### Assessment

A survey of the application area identified one vegetation type (MpAIBj) which is floristically similar to Floristic Community Type 21c (Low-lying *Banksia attenuata* woodlands or shrublands – Priority three ecological community). Approximately 0.01 hectares (100 square metres) of this vegetation type is in good (Keighery, 1994) condition and is considered representative of this priority ecological community. The vegetation does not meet the patch size and condition thresholds to be considered representative of the federally listed *Banksia Woodlands* of the Swan Coastal Plain threatened ecological community (GHD, 2021).



The vegetation within the application area is mapped as a 1A (native vegetation with an edge touching or <100 metres from a regional ecological linkage axis line) patch within a regional ecological linkage (Molloy et al., 2009). 1A patches are core assets which, when removed, have the potential to significantly impair the core linkage capacity of the SWREL (Molloy et al., 2009). The application area is located on the northern extent of the corridor and is connected to the SWREL by a narrow tract of native vegetation that surrounds the Bunbury hospital (see Figure 2). It is unlikely that the vegetation within the application area is providing significant ecological function to this corridor.

Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 27.71 per cent of the original native vegetation cover. Given the condition of the vegetation within the application area and extent of remaining native vegetation in the local area, it is likely that native vegetation with better biodiversity values than the application area occurs locally and regionally.

A total of 46.5 per cent of flora within the application area (73 species) were introduced species, indicating a high level of disturbance at the site. No conservation significant flora were recorded within the application area, however, *Acacia flagelliformis* (Priority 4) was recorded nearby and has suitable habitat within the application area (GHD, 2021). Given the survey effort was sufficient to identify *A. flagelliformis* outside of the application area, it is reasonable to assume that the survey effort was also sufficient to identify any populations within the application area. Based on this evidence and assumption, it is unlikely that any populations of *A. flagelliformis* occur within the application area.

Suitable habitat for eight conservation significant fauna species occurs within the application area. Habitat for these species is split between woodland and wetland vegetation types. No conservation significant fauna species were observed within, or using the application area. No critical habitat for conservation significant species was identified within the application area, however, 27 potential black cockatoo habitat trees (all marri trees) were recorded within the application area, none with hollows suitable for breeding (GHD, 2021).

The habitat quality ratings for black cockatoo habitat were assessed as high and very high (GHD, 2021). The closest black cockatoo roost site is located approximately 500 metres east of the application area and the closest breeding site is located approximately 3km south-east of the application area. This roost and breeding sites are within a 560-hectare patch of native vegetation that is proposed to be incorporated into the Kalgulup Regional Park. The extent of suitable foraging habitat in the local area (approximately 4,540 hectares) suggest that foraging resources for black cockatoos are sufficient to support the black cockatoos roosting and breeding in the local area. Further, the disturbed condition of the vegetation within the application area, the significant potential for edge effects from adjacent roadways and given the application area represents 0.014 per cent of available feeding resource for black cockatoos in the local area, indicates that the application area is not likely to contribute to the long-term viability of these species at this location.

The lack of evidence of western ringtail possums, the limited extent of good (Keighery, 1994) condition vegetation and absence of dense peppermint trees make it unlikely that the vegetation within the application area provides critical habitat for western ringtail possums.

#### Conclusion

Based on the above assessment, the proposed clearing will result in the loss of vegetation that is representative of a priority ecological community.

For the reasons set out above, it is considered that the impacts of the proposed clearing are not likely to lead to an unacceptable risk to the environment and is not likely to have a significant residual impact.

#### Conditions

To mitigate the potential impacts, the following management measures will be required as conditions on the clearing permit:

- avoid and minimise clearing to ensure consideration is given to avoiding clearing of native vegetation where possible
- weed and dieback management to minimise impacts of clearing on adjacent native vegetation
- fauna management to ensure any individual fauna occurring within the application area at the time of clearing can move into adjacent vegetation ahead of the clearing activity.

### **3.3. Relevant planning instruments and other matters**

The City of Bunbury advised the Department that local government approvals are required and were issued on 1 July 2021 for the proposed car park extension at the Bunbury hospital (City of Bunbury, 2021).

Extract of advice from Contaminated Sites Branch, Department of Water and Environmental Regulation:

*“Lot 3000 on Deposited Plan 43553, College Grove was historically used as a rifle range and a landfill, and soils investigations carried out in the mid-1990s found that inert fill material (i.e. glass, metal, concrete, fragments of asbestos-containing material) were present in soils beneath the site. A 2021 soil investigation also found that fragments of asbestos-containing material were present in soils. Therefore, there is potential of historical landfill material and asbestos-impacted soils being encountered during vegetation clearing works. A site management plan is recommended to be developed and implemented to address the risks to the health of any workers undertaking intrusive works and should include management measures in the event that these materials are encountered.”*

The Contaminated Sites Branch advised that the Site Management Plan was submitted in August 2021 and reviewed by the Department of Health (DoH). In reference to the application area, the DoH noted:


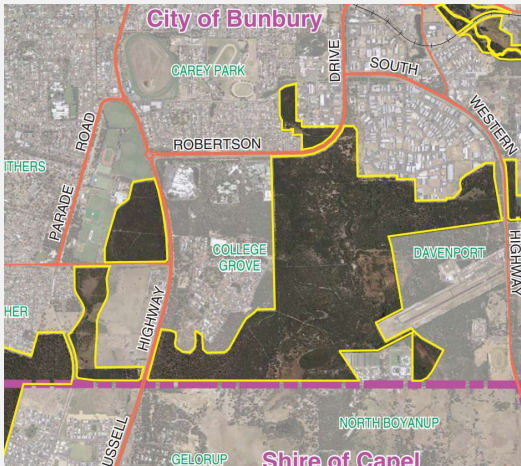
*“DoH notes the intent to install additional hardstand carpark areas within remnant bushland at the site. The Asbestos Control Plan procedure appears to provide appropriate controls for the proposed works, including dust management (pre-wetting of soils) and airborne fibre monitoring during excavation works, procedures for the offsite disposal of soils, and validation of the excavation footprint. The Asbestos Control Plan indicates that a minimum of 15cm depth of soils is to be removed, and that the excavation area will be validated as free of asbestos via handpicking, tilling and raking. Validation of the remediation works should be conducted and reported in accordance with the DoH Guidelines (2009). DoH notes that if complete removal of asbestos impacts is not achieved beneath proposed hardstand areas, consideration should be given to laying a warning barrier over the excavation, prior to the laying of clean fill and hardstand, in order to achieve a separation between clean imported soils and underlying soils; any remnant soil asbestos impacts will need to be captured in the SMP.” (DoH, 2021)*

No Aboriginal sites of significance have 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

### A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of a fragmented patch of native vegetation within the Greater Bunbury area, within the intensive land use zone of Western Australia. It is surrounded by urban development, including the hospital for which this clearing is associated.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 27.71 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The vegetation within the application area is mapped as a 1A (native vegetation with an edge touching or &lt;100 metres from a regional ecological linkage axis line) patch within a regional ecological linkage (Molloy et al., 2009). 1A patches are core assets which, when removed, have the potential to significantly impair the core linkage capacity of the SWREL (Molloy et al., 2009). The location of the application area in relation to the SWERL axis line is show in Figure 2 below.</p>  <p>Figure 2: Aerial image of the application area (blue) and the SWERL axis line (red).</p>
Conservation areas	<p>There are nine areas managed for conservation within the local area. Of these, the closest three are all offices, depots and education sites (2.5 to 5 kilometres from the application area).</p> <p>The application area is part of a patch of native vegetation connected to vegetation proposed to be incorporated into the Kalgulup Regional Park (see Figure 3).</p>  <p>Figure 3: Partial boundary of the proposed Kalgulup Regional Park</p>

Characteristic	Details														
Vegetation description	Vegetation survey (GHD, 2021) indicates the vegetation within the proposed clearing area consists of six vegetation types (see Figure 4 and 5 below).														
	<table border="1"> <thead> <tr> <th>Vegetation Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MpBj</td> <td><i>Melaleuca preissiana</i> low open woodland over <i>Baumea juncea</i>, *<i>Cynodon dactylon</i> and Asteraceae sp. low rushland/tussock grassland/forbland</td> </tr> <tr> <td>MpAlBj</td> <td><i>Melaleuca preissiana</i>, <i>Banksia littoralis</i> and <i>Corymbia calophylla</i> mid open forest over *<i>Acacia longifolia</i> subsp. <i>longifolia</i> and *<i>Schinus terebinthifolia</i> tall sparse shrubland over <i>Baumea juncea</i>, *<i>Cynodon dactylon</i> and Cyperaceae sp. mid closed sedgeland/tussock grassland</td> </tr> <tr> <td>CcKgEI</td> <td><i>Corymbia calophylla</i> mid open woodland over <i>Kunzea glabrescens</i> and *<i>Acacia longifolia</i> subsp. <i>longifolia</i> tall open shrubland over *<i>Ehrharta longiflora</i>, *<i>Cenchrus clandestinus</i> and *<i>Hypochaeris glabra</i> low grassland/tussock grassland/forbland</td> </tr> <tr> <td>CcCc</td> <td><i>Corymbia calophylla</i> mid open forest over *<i>Cenchrus clandestinus</i>, <i>Baumea juncea</i> and *<i>Watsonia meriana</i> mid closed tussock grassland/sedgeland/forbland)</td> </tr> <tr> <td>AdCc</td> <td>*<i>Arundo donax</i> tall closed tussock grassland over *<i>Cenchrus clandestinus</i> and *<i>Oxalis pes-caprae</i> low tussock grassland/forbland</td> </tr> <tr> <td>CsFc</td> <td>*<i>Casuarina</i> sp. mid closed forest over *<i>Fumaria capreolata</i>, *<i>Oxalis pes-caprae</i> and *<i>Ehrharta longiflora</i> low forbland/grassland</td> </tr> </tbody> </table>	Vegetation Type	Description	MpBj	<i>Melaleuca preissiana</i> low open woodland over <i>Baumea juncea</i> , * <i>Cynodon dactylon</i> and Asteraceae sp. low rushland/tussock grassland/forbland	MpAlBj	<i>Melaleuca preissiana</i> , <i>Banksia littoralis</i> and <i>Corymbia calophylla</i> mid open forest over * <i>Acacia longifolia</i> subsp. <i>longifolia</i> and * <i>Schinus terebinthifolia</i> tall sparse shrubland over <i>Baumea juncea</i> , * <i>Cynodon dactylon</i> and Cyperaceae sp. mid closed sedgeland/tussock grassland	CcKgEI	<i>Corymbia calophylla</i> mid open woodland over <i>Kunzea glabrescens</i> and * <i>Acacia longifolia</i> subsp. <i>longifolia</i> tall open shrubland over * <i>Ehrharta longiflora</i> , * <i>Cenchrus clandestinus</i> and * <i>Hypochaeris glabra</i> low grassland/tussock grassland/forbland	CcCc	<i>Corymbia calophylla</i> mid open forest over * <i>Cenchrus clandestinus</i> , <i>Baumea juncea</i> and * <i>Watsonia meriana</i> mid closed tussock grassland/sedgeland/forbland)	AdCc	* <i>Arundo donax</i> tall closed tussock grassland over * <i>Cenchrus clandestinus</i> and * <i>Oxalis pes-caprae</i> low tussock grassland/forbland	CsFc	* <i>Casuarina</i> sp. mid closed forest over * <i>Fumaria capreolata</i> , * <i>Oxalis pes-caprae</i> and * <i>Ehrharta longiflora</i> low forbland/grassland
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Figure 4: Vegetation type table from GHD (2021)

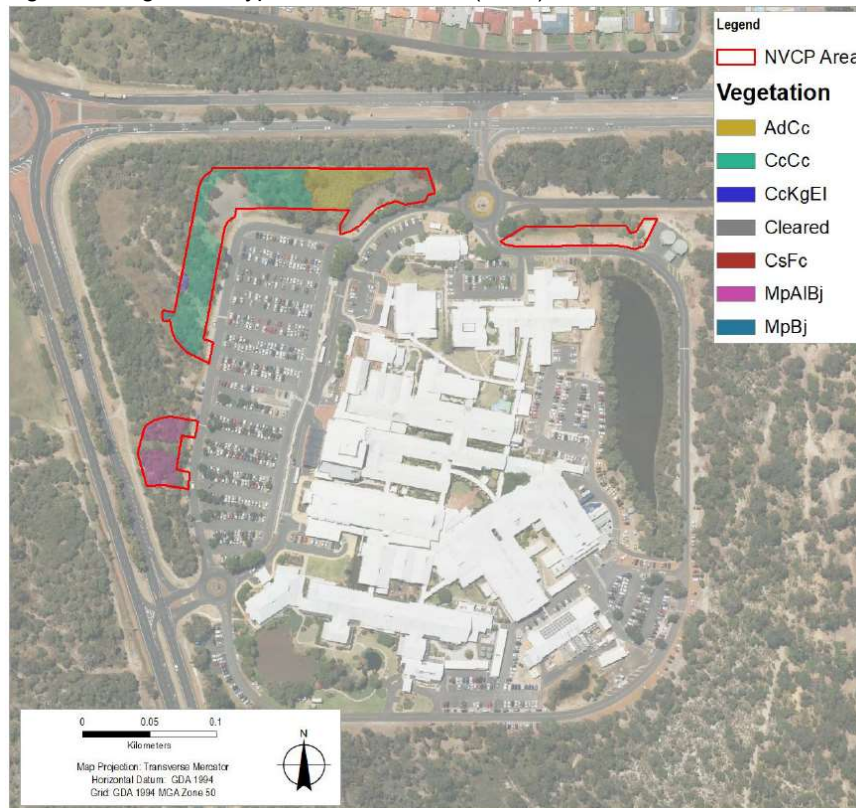


Figure 5: Vegetation type map from GHD (2021)

Characteristic	Details																																		
	<p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> <li>Yoongarillup Complex: Woodland to tall woodland of <i>Eucalyptus gomphocephala</i> (Tuart) with <i>Agonis flexuosa</i> in the second storey. Less consistently an open forest of <i>Eucalyptus gomphocephala</i> (Tuart) – <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri). South of Bunbury is characterized by <i>Eucalyptus rudis</i> (Flooded Gum)-<i>Melaleuca</i> species open forests.</li> </ul> <p>The mapped vegetation type retains approximately 35.81 per cent of the original extent (Government of Western Australia, 2019).</p>																																		
Vegetation condition	<p>A vegetation survey (GHD, 2021) indicates the vegetation within the proposed clearing area is in completely degraded to good (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ul> <table border="1"> <thead> <tr> <th>Vegetation Type</th> <th>Description</th> <th>Condition</th> <th>Extent (ha)</th> </tr> </thead> <tbody> <tr> <td>MpBj</td> <td><i>Melaleuca preissiana</i> low open woodland over <i>Baumea juncea</i>, *<i>Cynodon dactylon</i> and Asteraceae sp. low rushland/tussock grassland/forbland</td> <td>Degraded</td> <td>0.01</td> </tr> <tr> <td rowspan="3">MpAIBj</td> <td rowspan="3"><i>Melaleuca preissiana</i>, <i>Banksia littoralis</i> and <i>Corymbia calophylla</i> mid open forest over *<i>Acacia longifolia</i> subsp. <i>longifolia</i> and *<i>Schinus terebinthifolia</i> tall sparse shrubland over <i>Baumea juncea</i>, *<i>Cynodon dactylon</i> and Cyperaceae sp. mid closed sedgeland/tussock grassland</td> <td>Good</td> <td>0.01</td> </tr> <tr> <td>Degraded</td> <td>0.05</td> </tr> <tr> <td>Completely Degraded</td> <td>0.05</td> </tr> <tr> <td>CcKgEI</td> <td><i>Corymbia calophylla</i> mid open woodland over <i>Kunzea glabrescens</i> and *<i>Acacia longifolia</i> subsp. <i>longifolia</i> tall open shrubland over *<i>Ehrharta longiflora</i>, *<i>Cenchrus clandestinus</i> and *<i>Hypochaeris glabra</i> low grassland/tussock grassland/forbland</td> <td>Degraded</td> <td>0.01</td> </tr> <tr> <td rowspan="2">CcCc</td> <td rowspan="2"><i>Corymbia calophylla</i> mid open forest over *<i>Cenchrus clandestinus</i>, <i>Baumea juncea</i> and *<i>Watsonia meriana</i> mid closed tussock grassland/sedgeland/forbland)</td> <td>Degraded</td> <td>0.20</td> </tr> <tr> <td>Completely Degraded</td> <td>0.18</td> </tr> <tr> <td>AdCc</td> <td>*<i>Arundo donax</i> tall closed tussock grassland over *<i>Cenchrus clandestinus</i> and *<i>Oxalis pes-caprae</i> low tussock grassland/forbland</td> <td>Completely Degraded</td> <td>0.14</td> </tr> <tr> <td>CsFc</td> <td>*<i>Casuarina</i> sp. mid closed forest over *<i>Fumaria capreolata</i>, *<i>Oxalis pes-caprae</i> and *<i>Ehrharta longiflora</i> low forbland/grassland</td> <td>Completely Degraded</td> <td>0.01</td> </tr> </tbody> </table> <p>Figure 6: Vegetation type and condition taken from GHD (2021)</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C.</p>	Vegetation Type	Description	Condition	Extent (ha)	MpBj	<i>Melaleuca preissiana</i> low open woodland over <i>Baumea juncea</i> , * <i>Cynodon dactylon</i> and Asteraceae sp. low rushland/tussock grassland/forbland	Degraded	0.01	MpAIBj	<i>Melaleuca preissiana</i> , <i>Banksia littoralis</i> and <i>Corymbia calophylla</i> mid open forest over * <i>Acacia longifolia</i> subsp. <i>longifolia</i> and * <i>Schinus terebinthifolia</i> tall sparse shrubland over <i>Baumea juncea</i> , * <i>Cynodon dactylon</i> and Cyperaceae sp. mid closed sedgeland/tussock grassland	Good	0.01	Degraded	0.05	Completely Degraded	0.05	CcKgEI	<i>Corymbia calophylla</i> mid open woodland over <i>Kunzea glabrescens</i> and * <i>Acacia longifolia</i> subsp. <i>longifolia</i> tall open shrubland over * <i>Ehrharta longiflora</i> , * <i>Cenchrus clandestinus</i> and * <i>Hypochaeris glabra</i> low grassland/tussock grassland/forbland	Degraded	0.01	CcCc	<i>Corymbia calophylla</i> mid open forest over * <i>Cenchrus clandestinus</i> , <i>Baumea juncea</i> and * <i>Watsonia meriana</i> mid closed tussock grassland/sedgeland/forbland)	Degraded	0.20	Completely Degraded	0.18	AdCc	* <i>Arundo donax</i> tall closed tussock grassland over * <i>Cenchrus clandestinus</i> and * <i>Oxalis pes-caprae</i> low tussock grassland/forbland	Completely Degraded	0.14	CsFc	* <i>Casuarina</i> sp. mid closed forest over * <i>Fumaria capreolata</i> , * <i>Oxalis pes-caprae</i> and * <i>Ehrharta longiflora</i> low forbland/grassland	Completely Degraded	0.01
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Climate and landform	<ul style="list-style-type: none"> <li>Average Rainfall: 800-900 millimetres per annum</li> <li>Average Evapotranspiration: 800 millimetres per annum</li> <li>Groundwater Salinity (Total Dissolved Solids): 500-1000 mg/L</li> <li>Geology: Alluvial, shoreline, and eolian deposits and Marine and continental sedimentary rocks</li> </ul>																																		
Soil description	The application area is mapped in the Perth Coastal Zone of the Swan Province (Schoknecht et al. 2004), Spearwood Dune system which is described as a flat to gently undulating sandplain with deep yellow-brown or dark brown siliceous sands that																																		

Characteristic	Details
	<p>are seasonally inundated (Spearwood S4c Phase; Government of Western Australia (GoWA), 2019).</p> <p>A soil assessment identified</p> <ul style="list-style-type: none"> <li>• the presence of surficial organic soils underlain by sands at one location (HA1)</li> <li>• sands present at the remaining locations (HA2, HA3, HA5, HA6)</li> <li>• sand fill within a perimeter bund (HA4)</li> <li>• acid sulfate soils (ASS) risk being moderate to low occurring within 3 m of natural soil surface. (GHD, 2021)</li> </ul>
Land degradation risk	The application area includes land with high to extreme wind erosion, phosphorus, waterlogging and subsurface acidification risk. All other forms of land degradation are low to moderate risk.
Waterbodies	<p>One palusplain wetland (UFI 15,492) is mapped within the application area. The wetland is designated as a multiple use wetland.</p> <p>Extract from GHD (2021)  <i>“A wetland evaluation completed by GHD in 2020, concluded that while the wetland area located within Lot 3000 Bussell Highway, Bunbury has had significant modification to hydrological function due to land use and site drainage, the core wetland area exhibits wetland characteristics. Based on this assessment it was considered that the central core of the wetland is representative of a Resource Enhancement wetland.”</i></p> <p>The desktop assessment and aerial imagery indicated that no watercourses transect the area proposed to be cleared.</p> <p>The application area falls within the Bunbury Water Reserve Public Drinking Water Source Area (priority 3) and the Bunbury <i>Rights in Water Irrigation Act 1914</i> Groundwater area.</p>
Hydrogeography	<p>The application area is mapped within the Bunbury Groundwater Area.</p> <p>Testing undertaken by GHD intercepted groundwater from 0.1 metres below ground level (mbgl) to 0.35 mbgl. Nearby monitoring bores identified seasonal fluctuation of groundwater between approximately 1.6 mbgl and 0.12 m above ground level, indicating water inundation of the ground surface (GHD, 2021).</p>
Flora	<p>Flora and vegetation surveys undertaken by Ecoscape (reported by GHD, 2021) recorded 157 vascular flora species from 116 genera and 46 families during their surveys. Of these, 73 species were introduced (46.5%) including possible garden escapees, and 11 (7%) could not be identified to species level due to insufficient diagnostic reproductive material (GHD, 2021).</p> <p>No conservation significant flora were recorded within the application area. <i>Acacia flagelliformis</i> (Priority 4) was recorded nearby and is considered to have suitable habitat within the application area. All other locally known conservation significant flora are considered not likely to have suitable habitat within the application area (GHD, 2021).</p>
Ecological communities	<p>Eight threatened or priority ecological communities have been recorded within 10 kilometres of the application area;</p> <ul style="list-style-type: none"> <li>• Banksia WL SCP: Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region</li> <li>• SCP07: Herb rich saline shrublands in clay pans (floristic community type 7 as originally described in (Gibson et al , 1994))</li> <li>• SCP08: Herb rich shrublands in clay pans (floristic community type 8 as originally described in (Gibson et al , 1994))</li> <li>• SCP09: Dense shrublands on clay flats (floristic community type 9 as originally described in (Gibson et al , 1994))</li> <li>• SCP10a: Shrublands on dry clay flats (floristic community type 10a as originally described in (Gibson et al , 1994))</li> </ul>

Characteristic	Details
	<ul style="list-style-type: none"> <li>• SCP18: Shrublands on calcareous silts of the Swan Coastal Plain (floristic community type 18 as originally described in (Gibson et al , 1994))</li> <li>• SCP19a: Sedgelands in Holocene dune swales of the southern Swan Coastal Plain (floristic community type 19 as originally described in (Gibson et al , 1994))</li> <li>• Tuart Woodlands: Tuart (<i>Eucalyptus gonphocephala</i>) woodlands and forests of the Swan Coastal Plain</li> </ul> <p>A survey of the application area identified one vegetation type (MpAIBj) which is floristically similar to Floristic Community Type 21c (Low-lying <i>Banksia attenuata</i> woodlands or shrublands – Priority three). Approximately 0.01 hectares of this vegetation type is in good (Keighery, 1994) condition and is considered representative of this priority ecological community. The vegetation does not meet the patch size and condition thresholds to be considered the representative of the federally listed <i>Banksia</i> Woodlands of the Swan Coastal Plain threatened ecological community (GHD, 2021).</p>

**Fauna** The application area contains two fauna habitats, woodland (approximately 0.65 hectares) and wetland (approximately 0.01 hectares) (see Figure 7 below).

Habitat	Extent (ha)
Wetland	0.01
Woodland	0.65
Cleared	0.30
No survey data	0.18
<b>Total</b>	<b>1.14</b>

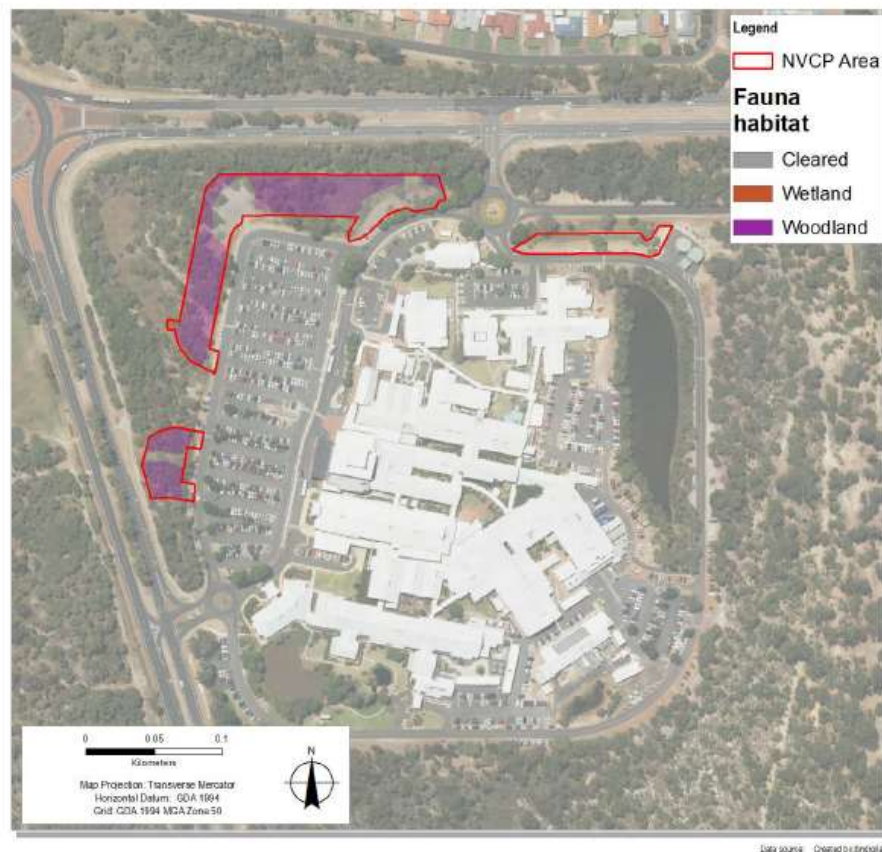


Figure 7: Fauna habitats table and map from GHD (2021)

A total of 34 conservation significant fauna species have been recorded in the local area. Suitable habitat for eight of these species is likely to occur within the application area; the western ringtail possum, quenda, Carnaby's cockatoo, Baudin's cockatoo,

Characteristic	Details
	<p>forest red-tailed cockatoo, chuditch, southern brush-tailed phascogale and western brush wallaby</p> <p>Surveys of the application area found the following:</p> <ul style="list-style-type: none"> <li>• no significant fauna species observed and no evidence of site use were recorded</li> <li>• no black cockatoo species were observed during the field survey. No evidence of site use by black cockatoo species were recorded, including no feeding debris indicating that any of the three species had been recently present.</li> <li>• no western ringtail possums were recorded within the application area. No evidence of site use by any possum species was observed, including no scratches on tree trunks indicating climbing, no chewed foliage, no scats and no western ringtail possum dreys.</li> <li>• 27 potential black cockatoo habitat trees were recorded within the application area. All trees are Marri (<i>Corymbia calophylla</i>) and lack hollows or broken branches and as such are not suitable for breeding at this stage. However, they are of sufficient size to potentially develop suitable hollows in the future</li> <li>• Based on the draft referral guideline for black cockatoos (Commonwealth of Australia, 2017), the quality of foraging habitat within the application area is rated as follows; <ul style="list-style-type: none"> <li>- Carnaby's and Baudin's Cockatoos: very high quality habitat (score 11)</li> <li>- Forest Red-tailed Black Cockatoo: high quality habitat (score 8)</li> </ul> </li> </ul> <p>(GHD, 2021)</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> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain regionally significant flora, fauna or habitats.</p> <p>A small portion of the application area is mapped as the ‘Floristic Community Type 21c Low-lying <i>Banksia attenuata</i> woodlands or shrublands’ (Priority 3) priority ecological community (PEC).</p>	Not likely to be at variance	Yes
<p><u>Principle (b):</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 significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared includes suitable habitat for conservation significant fauna, however, is not considered to represent critical habitat for any conservation significant fauna species. Given the small extent of clearing and the long-term viability of this patch (high perimeter to internal vegetation ratio resulting in significant edge effects over time), it is unlikely that the suitable habitat is necessary for the maintenance of any conservation significant fauna.</p>	Not likely to be at variance	No
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain flora species, or habitat for flora species listed as threatened under the BC Act.</p>	Not likely to be at variance	No
<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 indicative of a threatened ecological community listed under the BC Act.</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 extent of the mapped vegetation type and native vegetation in the local area is consistent with the modified national objectives and targets for biodiversity conservation within constrained areas of Australia (10 per cent retention). The vegetation proposed to be cleared is part of a significant ecological linkage, however, it is not likely to contribute to the core ecological function of this corridor.</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>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of any conservation areas.		
<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>One wetland is recorded within the application area, however, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	At variance	No
<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 highly susceptible to wind erosion, phosphorus, waterlogging and subsurface acidification degradation. Noting the application area is divided into three small areas, the proposed clearing is not likely to have an appreciable impact on 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>One wetland and Public Drinking Water Source Area are recorded within the application area. Given the application area is divided between three small areas, 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 in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given the application area is divided into three smaller areas, the proposed clearing is unlikely to contribute to 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)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.

Condition	Description
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.
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. Sources of information

### D.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
- Wheatbelt Wetlands Stage 1 (DBCA-021)

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)

## D.2. References

City of Bunbury (2021) *Advice for clearing permit application CPS 9309/1*, received 11 August 2021 (DWER Ref: DWERDT489124).

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

Contaminated Sites (2021) *Advice for clearing permit application CPS 9309/1*, received 29 June 2021 and 14 September 2021 (DWER Ref: A2021237).

Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf).

Department of Health (DoH) (2021) *Advice to Department of Water and Environmental Regulation Contaminated Sites Branch Ref DMO7356*, dated 31 August 2021 DWER Ref DWERDT500237.

Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development*. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (accessed 16 August 2021).

Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: [https://dwer.wa.gov.au/sites/default/files/Procedure\\_Native\\_vegetation\\_clearing\\_permits\\_v1.PDF](https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF).

Environmental Protection Authority (EPA) (2016). *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment*. Available from: [http://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey\\_Dec13.pdf](http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf).

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