



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 10264/1
File Number: DWERVT13177
Duration of Permit: From 22 July 2024 to 22 July 2032

PERMIT HOLDER

Shire of Serpentine-Jarrahdale

LAND ON WHICH CLEARING IS TO BE DONE

Lot 5567 on Deposited Plan 400401, Byford

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.05 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 22 July 2026.

2. 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.

3. 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.

4. Offset – Revegetation and rehabilitation

- (a) Within 12 months of the commencement of *clearing* authorised under this permit, and no later than 22 July 2027, the permit holder must:
 - (i) *revegetate* and *rehabilitate* 0.28 hectares of *native vegetation* in the area cross-hatched red in Figure 2 of Schedule 1 with plant species which provide suitable foraging habitat for *black cockatoo species*;
 - (ii) *revegetate* and *rehabilitate* 0.07 hectares of *native vegetation* in the area cross-hatched red in Figure 2 of Schedule 1, with plant species that are representative of the *Guildford vegetation complex*.
- (b) In undertaking the *revegetation* and *rehabilitation* required under condition 4(a) of this permit, the permit holder must:
 - (i) ensure only *local provenance* seeds and propagating material is used to *revegetate* and *rehabilitate*;
 - (ii) undertake *revegetation* and *rehabilitation* activities at an *optimal time* with *native vegetation*;
 - (iii) undertake *weed* control activities and watering to achieve the minimum completion criteria specified in Table 3 of Schedule 2;
 - (iv) establish at least three 10 x 10 metre quadrats within the *revegetation* and *rehabilitation* areas, in the area cross-hatched red in Figure 2 of Schedule 1;
 - (v) engage an *environmental specialist* to monitor quadrats specified in condition 4(b)(iv) annually until the completion criteria, outlined in Table 3 of Schedule 2, have been met and maintained for a minimum of two years.
 - (vi) If the monitoring required under condition 4(b)(v) indicates that the completion criteria outlined in Table 3 of Schedule 2 have not been met, undertake remedial actions for *revegetation* and *rehabilitation* including:
 - (i) deliberately *planting native vegetation* within the areas cross-hatched red in Figure 2 of Schedule 1, that will result in the completion criteria specified in Table 3 of Schedule 2 being met, ensuring only *local provenance* seeds and propagating material are used;
 - (ii) undertake additional *weed* control activities;
 - (iii) continue the annual monitoring of *revegetation* and *rehabilitation* areas, in the areas cross-hatched red in Figure 2 of Schedule 1, by an *environmental specialist* until the completion criteria outlined in Table 3 of Schedule 2, are met.
- (c) Where remedial actions have been undertaken in accordance with condition 4(b)(vi) of this permit, the permit holder must repeat the activities required by condition 4(a) and 4(b) of this permit.
- (d) Where an *environmental specialist* has determined that the completion criteria outlined in Table 3 of Schedule 2 have been met, that report is to be provided to the *CEO*.

- (e) If the *CEO* does not agree with the determinations made by an *environmental specialist* under condition 4(b) of this permit, the *CEO* may require the permit holder to repeat the required actions under conditions 4(a) and 4(b) of this permit.

5. 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	<ul style="list-style-type: none"> (a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; and (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 3.
2.	In relation to <i>revegetation</i> and <i>rehabilitation</i> pursuant to condition 4	<ul style="list-style-type: none"> (a) the date that <i>revegetation</i> and <i>rehabilitation</i> works began; (b) the boundaries of the area <i>revegetation</i> and <i>rehabilitation</i> (recorded digitally as a shapefile); (c) a description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken, including actions taken to implement watering and weed control; (d) a list of the native vegetation species planted; (e) a description of any remediation works undertaken pursuant to condition 4(b)(vi); (f) the date that completion criteria were considered to be met; and (g) a copy of the <i>environmental specialist's</i> monitoring report and determination, pursuant to condition 4(d).

6. Reporting

- (a) The permit holder must provide to the *CEO*, on or before 30 June of each calendar year, a written report containing:
- (i) the records required to be kept under condition 5; and
 - (ii) records of activities done by the permit holder under this permit between 1 January and 31 December of the preceding calendar year.
- (b) If no *clearing* authorised under this permit has been undertaken, a written report confirming that no *clearing* under this permit has been undertaken must be provided to the *CEO* on or before 30 June of each calendar year.
- (c) The permit holder must provide to the *CEO*, no later than 90 calendar days prior to the expiry date of the permit, a written report of records required under condition 5, where these records have not already been provided under condition 6(a).


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.
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.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the <i>CEO</i> as a suitable environmental specialist.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
Guildford vegetation complex	is described as a mixture of open forest to tall open forest of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus wandoo</i> (Wandoo) - <i>Eucalyptus marginata</i> (Jarrah) and woodland of <i>Eucalyptus wandoo</i> (Wandoo) (with rare occurrences of <i>Eucalyptus lane-poolei</i> (Salmon White Gum)). Minor components include <i>Eucalyptus rudis</i> (Flooded Gum) - <i>Melaleuca raphiophylla</i> (Swamp Paperbark).
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.

Term	Definition
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.
optimal time	means the period from May to June for undertaking planting and seeding.
plant/ing	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species.
rehabilitate/ed/ion	means actively managing an area containing native vegetation in order to improve the ecological function of that area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
revegetate/ed/ion	means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
weeds	means any plant – <ul style="list-style-type: none"> (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.

END OF CONDITIONS


Meenu Vitarana
MANAGER
NATIVE VEGETATION REGULATION

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

28 June 2024

28 JUNE 2024

SCHEDULE 1

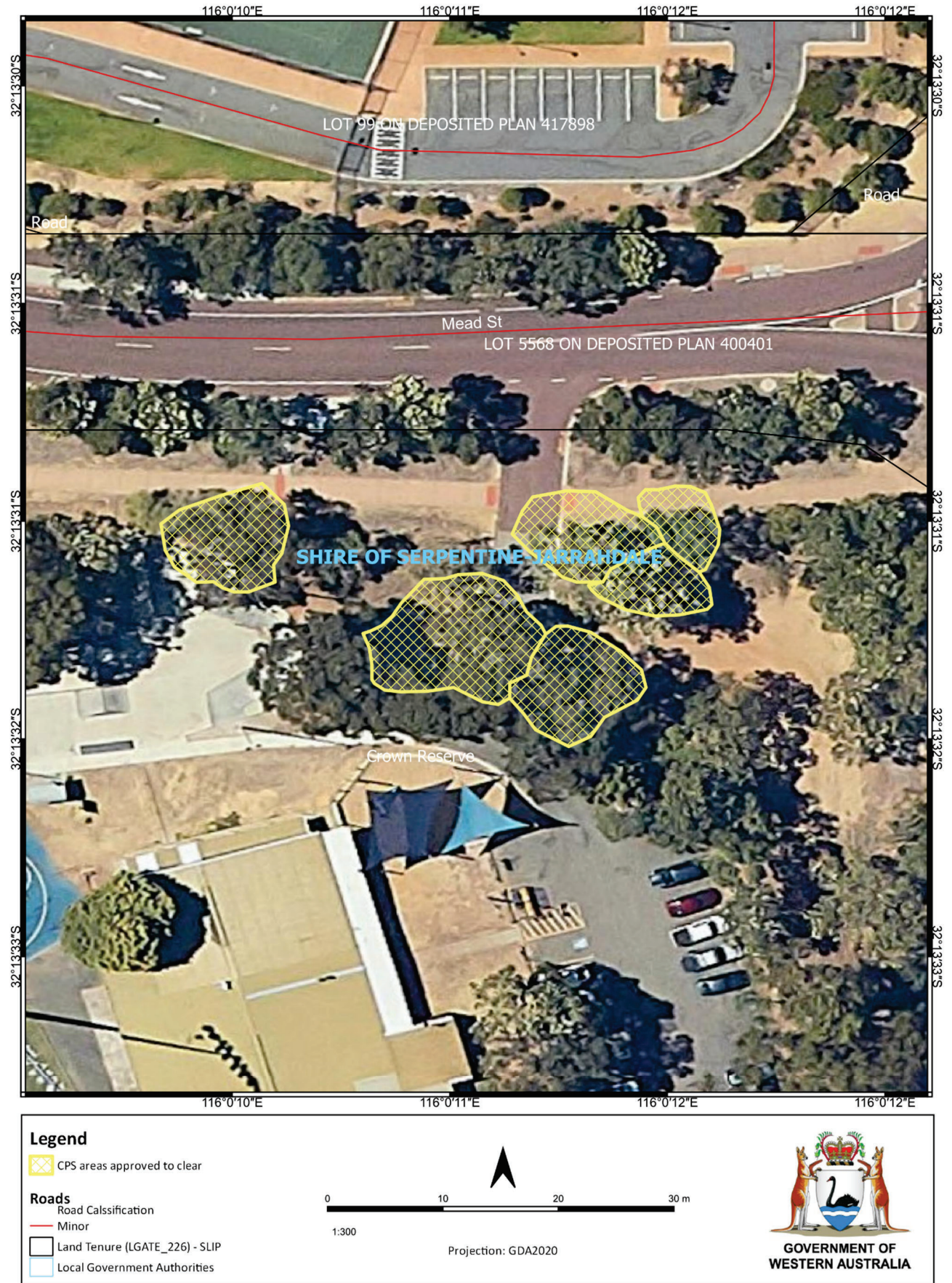


Figure 1: Map of the boundary of the area within which clearing may occur



Figure 2: Map of the boundary of the area within which condition 4 apply (cross-hatched red)

SCHEDULE 2

Table 3: Completion criteria for the *revegetation* and *rehabilitation* within the areas cross-hatched red in Figure 2 of Schedule 1 as referred to under Condition 4 of this permit.

Characteristic	Completion criteria	Monitoring
Species richness	<p>Species richness of eight or more species of <i>native vegetation</i> per 100m², which must include a minimum of two tree species which provide suitable foraging habitat for <i>black cockatoo species</i>, for the 0.28-hectare area required to be rehabilitated under condition 4(a)(i).</p> <p>Species richness of eight or more species of <i>native vegetation</i> per 100m², which must include a minimum of two tree species that are representative of the Guildford vegetation complex, for the 0.06-hectare area required to be rehabilitated under condition 4(a)(ii).</p>	Annual monitoring by an <i>environmental specialist</i> , of species richness within the three monitoring quadrats required by condition 4(b). Completion criteria must be met and maintained for two years.
Species density	Density of one stem per two square metres in the rehabilitated area.	Annual monitoring by an <i>environmental specialist</i> , of species density within the three monitoring quadrats required by condition 4(b). Completion criteria must be met and maintained for two years.
Vegetation cover	<20% bare ground assessed as vegetation cover.	Annual monitoring by an <i>environmental specialist</i> , of vegetation cover within the three monitoring quadrats required by condition 4(b). Completion criteria must be met and maintained for two years.
Vegetation condition	Targeted vegetation condition in Good (Keighery, 1994), or better condition.	Annual monitoring by an <i>environmental specialist</i> , of vegetation condition within the three monitoring quadrats required by condition 5(b). Completion criteria must be met and maintained for two years.
Weed cover	<p>No declared weeds within the rehabilitated area.</p> <p>Weed cover of less than 10% of total species abundance on site.</p>	Annual, during Autumn and Spring, monitoring by an <i>environmental specialist</i> , of weed cover within the three monitoring quadrats required by condition 4(b). Completion criteria must be met and maintained for two years.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10264/1
Permit type:	Area permit
Applicant name:	Shire of Serpentine-Jarrahdale
Application received:	6 July 2023
Application area:	0.05 hectares of native vegetation
Purpose of clearing:	Skatepark extension
Method of clearing:	Mechanical
Property:	Lot 5567 on Deposited Plan 400401
Location (LGA area/s):	Shire of Serpentine Jarrahdale
Localities (suburb/s):	Byford

1.2. Description of clearing activities

The vegetation proposed to be cleared is part of an approximately 90-metre strip of remnant vegetation along a cleared path adjacent to Mead Street, Byford (see Figure 1, Section 1.5). The application is to selectively clear native vegetation to extend the existing Byford skate park.

The application was revised during the assessment process based on information provided by the applicant (Shire of Serpentine Jarrahdale, 2023a), indicating seven of the 12 trees applied to be cleared were historically planted and not considered native vegetation. Consequently, the application area was reduced from 12 native trees to 0.05 hectares of native vegetation (containing five native trees – two marri and three wandoo trees).

1.3. Decision on application

Decision:	Granted
Decision date:	28 June 2024
Decision area:	0.05 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 G.1), the findings of a vegetation survey (see Appendix E) and a site inspection (see Appendix F), 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 also took into consideration the purpose of the proposed clearing is to improve public recreation infrastructure.

The assessment identified that the proposed clearing will result in:

- the loss of native vegetation that is suitable habitat for *Zanda latirostris* (Carnaby's cockatoo), *Zanda baudinii* (Baudin's cockatoo) and *Calyptorhynchus banksia naso* (forest red-tailed black cockatoo) (collectively referred to as black cockatoos),
- the loss of native vegetation in a Bush Forever area (site 321),
- the loss of native vegetation that is representative of the extensively cleared Guildford vegetation complex.

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 will result in the following significant residual impacts:

- 0.05 hectares of native vegetation that provides suitable habitat for black cockatoos within an extensively cleared landscape,
- 0.05 hectares of native vegetation within a Bush Forever area (site 321),
- 0.05 hectares of native vegetation that is representative of an extensively cleared vegetation complex (Guildford complex).

In accordance with the Government of Western Australia's Offsets Policy (2011) and Offset Guidelines (2014), an offset is required to counterbalance the significant residual impacts of the proposed clearing (see section 4). The Delegated Officer considered the quantification of the offset required in accordance with the Western Australian Environmental Offset Calculator and Guideline (see Appendix D). The Shire of Serpentine Jarrahdale (the Shire) proposed an offset to undertake revegetation of a 0.28-hectare area with suitable foraging species for black cockatoos and species representative of the Guildford vegetation complex. The Delegated Officer considered that the offset adequately counterbalances the significant residual impacts. The suitability of the offset is summarised in section 4.

The Delegated Officer determined that the management measures conditioned on the permit will manage any potential impacts on the environment. 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
- provide an offset by undertaking the rehabilitation of 0.28 hectares of native vegetation from medium to high habitat quality with preferred foraging species for black cockatoos, of which 0.15 hectares will improve vegetation in a Bush Forever area from good to very good condition, and 0.07 hectares will be rehabilitated with species representative of the Guildford vegetation complex to improve the condition from good to very good.

1.5. Site map

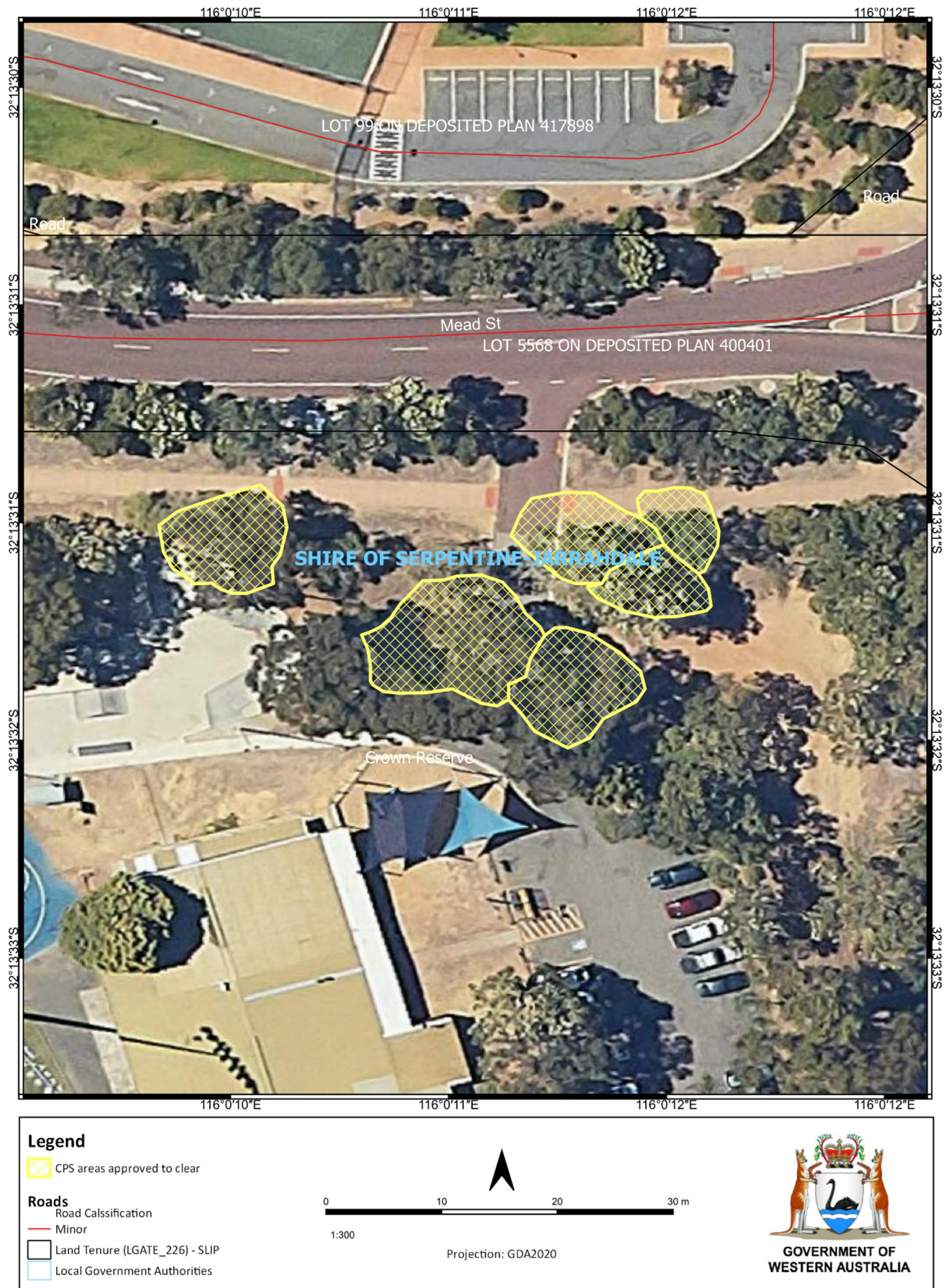


Figure 1 Map of the application area

The areas crosshatched 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 polluter pays principle
- 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)
- *Planning and Development Act 2005* (WA) (P&D Act)

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)

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)
- *Environmental Offsets Guidelines* (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the Shire (2023a) demonstrating that:

- the skate park extension design plans are limited by the design of the existing skate park. The extension has been designed for safety of users, ensuring path of travel through jumps and levels is safe into the new portion of the park,
- the vegetation in the application area is in a degraded condition,
- of the 12 trees proposed to be cleared, seven were identified as planted and non-native and five were identified as native remnant vegetation (see Figure 2; see Appendix E),
- only trees in the immediate footprint of the skate park design are proposed to be cleared (DWER, 2024).



Figure 2. Map of five remnant native trees (orange points) and seven planted non-native trees (green points) in the application area (the Shire, 2023a). Further information is available in Appendix E.

After consideration of avoidance and mitigation measures, it was determined that an offset was necessary to counterbalance the significant residual impacts to suitable black cockatoo habitat, native vegetation in a Bush Forever site, and an extensively cleared vegetation complex. In accordance with the Government of Western Australia's *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the permit. The nature and suitability of the offset provided are summarised in section 4.

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 biological values, significant remnant vegetation and conservation areas and land and water resources. 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. Biological values (fauna) - Clearing Principles (a) and (b).

Assessment

A site inspection conducted by the department (DWER, 2024) indicates the vegetation in the application area is in Completely Degraded to Good (Keighery, 1994) condition and consists of:

- an approximately 0.01-hectare area containing two *Corymbia calophylla* (marri) trees over degraded native understorey, and
- three *Eucalyptus wandoo* trees over bare ground and leaf litter (see Appendix F).

According to available databases, 40 conservation significant fauna species have been recorded in the local area (10-kilometre radius from the application area). In forming a view on the likelihood of each species occurring within the application area, the following was considered:

- the preferred habitat and vegetation types of the species,
- their recorded proximity to the application, and
- date of record (see Appendix A.3).

The likelihood analysis identified six conservation significant fauna species which may occur in the application area (see Appendix A.3.). Of these, three species were considered likely to occur: *Zanda latirostris* (Carnaby's cockatoo; EN), *Zanda baudinii* (Baudin's cockatoo; EN), and *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo; VU).

Black cockatoos

The application area is within the known distribution of Carnaby's cockatoo, Baudin's cockatoo, and forest red-tailed black cockatoo (referred to as black cockatoos). According to available databases, there are no confirmed black cockatoo breeding sites in the local area. The closest potential and confirmed breeding sites are approximately two and 16 kilometres from the application area, respectively. There are 27 known roost sites in the local area, the closest is approximately 200 metres from the application area.

The referral guideline for threatened black cockatoo species, published by the Department of Agriculture, Water and the Environment (DAWE, 2022), specifies that habitat critical for the recovery of black cockatoos includes foraging habitat (including remnant patches of vegetation), night roosting habitat and nesting trees for breeding. Suitable breeding habitat for black cockatoos includes trees with a suitable nest hollow or of a suitable diameter at breast height (DBH) to develop a nest hollow (DAWE, 2022). Night roosting sites are often located near food and water resources.

According to the findings of the department's site inspection (DWER, 2024) the application area provides suitable foraging habitat for black cockatoos. This is comprised of five trees (two *Corymbia calophylla* (marri) and three *Eucalyptus wandoo*) and understorey species including *Xanthorrhoea preissii* (grass tree). Chewed marri nuts were observed in the application area (DWER, 2024), however are likely from foraging by galahs (*Eolophus roseicapilla*) present at the time of survey. Photographs are available in Appendix F.

The application area is 500 metres from a mapped river which may provide a water source for black cockatoos. Consequently, the trees proposed to be cleared may provide roosting habitat for black cockatoos.

One tree (*E. wandoo*) in the application was observed during the site inspection to contain hollows (DWER, 2024). Six hollows were observed: five small (5-10cm diameter) and one large (15-20cm diameter). The small hollows were not considered of suitable size for breeding by black cockatoos. The large hollow, located approximately three metres from the ground, appeared deeper than 20cm and may be of suitable size for breeding use by black cockatoos (see Figure 3).

A beehive was visible inside the large hollow and bees were observed entering and exiting the hollow during the site inspection (DWER, 2024). Given the hollow is currently occupied by bees, it is not considered suitable for black cockatoo breeding. No other trees in the application area were observed to contain hollows.



Figure 3. The large hollow observed in the application area occupied by bees.

Given the above, the application area is considered to provide suitable foraging and potential roosting habitat for black cockatoos. As the application area is within a fragmented landscape, the proposed clearing is considered to have a cumulative impact on black cockatoo foraging habitat in the local area.

Other fauna

Other fauna which may be transient visitors to the application area are listed in Appendix A.3. Given the lack of dense understorey, size and condition of the vegetation, and distance to known records, the application area is not considered to provide significant habitat for these species. If present, the proposed clearing is considered unlikely to impact the conservation status of these species, given the size and extent of the clearing proposed.

Ecological linkage

The application area does not intersect a formal ecological linkage. The closest mapped ecological linkage is the Perth Regional Ecological Linkage, mapped approximately 200 metres from the application area. Given the extent and condition of the vegetation and distance to the mapped linkage, the proposed clearing is unlikely to alter the function of the formally mapped ecological linkage. However, the application area is considered to provide linkage value for fauna species given it is located near a larger remnant of native vegetation in Byford Reserve (see section 3.2.2).

Conclusion

Based on the above assessment, the impact of the proposed clearing on black cockatoo foraging habitat constitutes a significant residual impact. Environmental offsets are required to counterbalance this significant residual impact (see section 4).

Given the large hollow proposed to be cleared is currently occupied by bees and not available for use by black cockatoos, the proposed clearing is not considered to have a significant residual impact on potential breeding habitat for black cockatoos.

Conditions

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

- avoidance and minimisation to reduce the impacts and extent of clearing,
- environmental offsets (as detailed in section 4 below).

3.2.2. Significant remnant vegetation and conservation areas - Clearing Principles (e), and (h).

Assessment

Remnant vegetation

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750 (i.e., pre-European settlement), below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The application area is located within the Swan Coastal Plain IBRA Bioregion which retains approximately 38.62 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). The local area retains approximately 35.95 per cent of pre-European vegetation. The application area is mapped within the Guildford complex (system 32) vegetation community, which retains approximately 5.09 per cent of its pre-European vegetation extent (see Appendix A.2). The vegetation in the application area is considered representative of this community.

Conservation areas

The application area is within Bush Forever site 321, an approximately 57-hectare area which encompasses Brickwood Reserve (R17490). The application area is located on the northeastern boundary of Bush Forever site 321.

The Department of Planning, Lands and Heritage (DPLH) advised the department that the proposed clearing will not impact regionally significant bushland as defined in the State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region (SPP 2.8). However, DPLH supported alternative designs to reduce the number of trees to be removed or planting of native trees near the application area to mitigate the loss of native vegetation.

Given the vegetation proposed to be cleared is considered significant habitat for threatened fauna (see section 3.2.1), the proposed clearing is considered likely to impact the environmental values of Bush Forever site 321.

Conclusion

Based on the above assessment, the impact of the proposed clearing on an extensively cleared vegetation complex (Guildford complex) and Bush Forever site 321 constitutes a significant residual impact. Environmental offsets are required to counterbalance the significant residual impacts (see section 4).

Conditions

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

- avoidance and minimisation to reduce the impacts and extent of clearing,
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback to adjacent vegetation,
- environmental offsets (as detailed in section 4 below).

3.2.3. Land and water resources - Clearing Principles (f), (g) and (i)

Assessment

The application area is within a mapped multiple use palusplain (seasonally waterlogged flat). The site inspection, undertaken in May, did not find standing water or waterlogging in the application area (DWER, 2024). If water is present at the time of clearing, the proposed clearing may generate localised sedimentation. Given the small size of clearing, it is unlikely minor sedimentation would cause deterioration of the surface water quality in or near the application area. Given this, any impacts to surface water quality are considered minimal and short term.

The soils mapped across the application area have a high risk of waterlogging and subsurface acidification and medium risk of water repellence and wind erosion. Given the extent of the application area, condition of the vegetation, and the purpose of the application is for a sealed skate park, the proposed clearing is not likely to have an appreciable impact on land degradation.

Conclusion

Given the above, the proposed clearing is considered unlikely to exacerbate impacts to land and water resources in or near the application area. It is considered that minor impacts can be managed subject to the below conditions.

Conditions

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

- avoidance and minimisation to reduce the impacts and extent of clearing,
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback to adjacent vegetation.

3.3. Relevant planning instruments and other matters

In addition to CPS 10264/1, the Shire has five concurrent clearing permit applications with the department: CPS 9019/1, CPS 10192/1, CPS 10545/1, CPS 10597/1, and CPS 10600/1. The cumulative impact of the clearing proposed under these applications has been accounted for during the assessment of CPS 10264/1 and was considering in requiring offsets for this application.

According to available databases, there are no Aboriginal sites of significance 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.

4 Suitability of offsets

Through the detailed assessment outlined in section 3.2 above, the Delegated Officer has determined that the following significant residual impacts remain after the application of the avoidance and mitigation measures summarised in section 3.1:

- 0.05 hectares of native vegetation that provides suitable foraging habitat for black cockatoos in an extensively cleared landscape,
- 0.05 hectares of native vegetation within a Bush Forever area (site 321),
- 0.05 hectares of native vegetation that is representative of an extensively cleared vegetation complex (Guildford complex).

The applicant proposed an environmental offset to counterbalance the above impacts, comprising the rehabilitation of 0.28 hectares of native vegetation from medium to high habitat quality with preferred foraging species for black cockatoos, of which 0.15 hectares will improve vegetation in a Bush Forever area from good to very good condition, and 0.07 hectares will be rehabilitated with species representative of the Guildford vegetation complex to improve the condition from good to very good.

The proposed offset area is located approximately 850 metres southwest of the application area, within Lot 111 on Deposited Plan 39685, Byford (Bush Forever site 321; Crown Reserve 17490), managed by the Shire for the purpose of recreation (Figure 4). The rehabilitation of 0.28 hectares is proposed within a larger 0.72-hectare area.

The department's site inspection (DWER, 2024) and aerial imagery indicate that the offset area is comprised of marri woodland over grass tree and *Kingia australis* shrubland in Good to Very Good (Keighery, 1994) condition. The department identified the availability of 0.28 hectares for infill planting within this larger 0.72 hectare area. Representative photographs are available in Appendix F.

According to available databases, all three species of black cockatoo have been recorded within one kilometre of the proposed offset area. There are 28 roost sites recorded within 10 kilometres of the offset area, the closest roost site is approximately 700 metres away. The closest confirmed breeding site is approximately 17 kilometres from the application area. The offset area is less than 200 metres from a mapped minor river which may provide a seasonal watering site for black cockatoos. The offset area is mapped within the Guildford vegetation complex and is 150 metres from the mapped Perth Regional Ecological Linkage. Given the above, the proposed offset area is considered to have a similar site context to the area proposed to be cleared (Figure 5).

An occurrence of the *Corymbia calophylla* - *Kingia australis* woodlands on heavy soils (floristic community type 3a as originally described in Gibson et al. 1994) threatened ecological community (TEC) is mapped in the proposed offset area. The proposed rehabilitation, while considered to improve the quality of the mapped TEC, will modify the TEC occurrence if present in the offset area. It is the permit holder's responsibility to comply with the BC Act and ensure relevant authorisations are obtained prior to modifying an occurrence of a TEC.

The Delegated Officer considers the proposed offset adequately counterbalances the significant residual impacts listed above. The Delegated Officer had consideration for the Government of Western Australia's Offsets Policy (2011) and Offset Guidelines (2014), and WA Environmental Offsets Metric in making this determination.

The justification for the values used in the offset calculation is provided in Appendix D. The clearing permit will contain conditions that require specific completion criteria and contingency measures for the proposed rehabilitation.



Legend

CPS subject to conditions

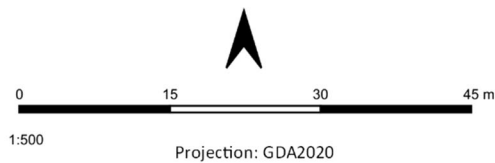
Roads

Road Classification

Main

Land Tenure (LGATE_226) - SLIP

Local Government Authorities



**GOVERNMENT OF
WESTERN AUSTRALIA**

Figure 4. Map of the proposed offset site (crosshatched red) measuring approximately 0.72 hectares.




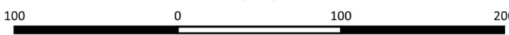





Legend		  1:3,000 Projection: GDA2020	 GOVERNMENT OF WESTERN AUSTRALIA
Roads			
	Main		
	CPS areas approved to clear		
	CPS subject to conditions		
	Local Government Authorities		

Figure 5. Map of the proposed offset site (crosshatched red) and application area (crosshatched yellow).

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The application area is along a cleared path, linked to a larger patch of native vegetation in Brickwood Reserve, in the intensive land use zone of Western Australia. It is surrounded by areas cleared for recreation and residential use. The area proposed to be cleared is a small remnant in a highly fragmented landscape.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 36 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The application area does not intersect a formal ecological linkage. The closest mapped ecological linkage is the Perth Regional Ecological Linkage, approximately 200 metres from the application area.</p>
Conservation areas	<p>The application area is within Bush Forever site 321.</p>
Vegetation description	<p>A site inspection conducted by the department (DWER, 2024) and vegetation survey provided by the applicant (Focused Vision Consulting, 2023) indicate the vegetation in the application area consists of:</p> <ul style="list-style-type: none"> • two <i>Corymbia calophylla</i> (marri) trees over degraded native understorey, and • three <i>Eucalyptus wandoo</i> trees over bare ground and leaf litter. <p>Representative photos are available in Appendix E and F.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> • Guildford complex (system 32), described as a mixture of open forest to tall open forest of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus wandoo</i> (Wandoo) - <i>Eucalyptus marginata</i> (Jarrah) and woodland of <i>Eucalyptus wandoo</i> (Wandoo) (with rare occurrences of <i>Eucalyptus lane-poolei</i> (Salmon White Gum)). Minor components include <i>Eucalyptus rudis</i> (Flooded Gum) - <i>Melaleuca raphiophylla</i> (Swamp Paperbark). <p>The mapped vegetation type retains approximately 5 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>A site inspection conducted by the department (DWER, 2024) and vegetation survey provided by the applicant (Focused Vision Consulting, 2023) indicate the vegetation in the application area is in Completely Degraded to Good (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos are available in Appendix E and F.</p>
Climate and landform	<p>The average annual rainfall received over the application area from 1991 to 2020 is 600 to 1000 millimetres (Commonwealth of Australia, 2021). The application area is at an altitude of 50 to 55 meters above sea level.</p>
Soil description	<p>The soil is mapped as:</p> <ul style="list-style-type: none"> • Pinjarra P1a Phase (213Pj_P1a), described as flat to very gently undulating plain with deep acidic mottled yellow duplex (or effective duplex) soils. Shallow pale sand to sandy loam over clay; imperfect to poorly drained and generally not susceptible to salinity.
Land degradation risk	<p>Land degradation risks are summarised in Table A.4. The application area is mapped as moderate to low risk acid sulfate soils disturbance risk.</p>
Waterbodies	<p>The desktop assessment and aerial imagery indicate the application area is entirely within a multiple use palusplain (seasonally waterlogged flat) and is approximately 500 metres from two minor nonperennial rivers.</p>
Hydrogeography	<p>The application area is within the Serpentine Groundwater Area as proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RiWI Act). The groundwater salinity level (total dissolved solids) is mapped as 500-1000 milligrams per litre.</p>

Characteristic	Details
Flora	The desktop assessment identified 40 conservation significant flora species in the local area which comprises 12 threatened and 28 priority flora taxa. The nearest record is a Priority 3 species, <i>Schoenus pennisetis</i> , approximately 300 metres from the application area.
Ecological communities	No conservation significant ecological communities are mapped over the application area. The application area is in the mapped buffer of the <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils TEC (floristic community type 3a as originally described in Gibson et al. 1994) and the dense shrublands on clay flats (floristic community type 9 as originally described in Gibson et al. 1994) TEC.
Fauna	The desktop assessment identified 40 conservation significant fauna species in the local area. The closest record is an <i>Isoodon fusciventer</i> (quenda) recorded 200 metres from the application area. The application area is within Baudin's cockatoo, Carnaby's cockatoo and forest red-tailed black cockatoo known distribution zones. There are 27 known roost sites in the local area, the closest recorded roost site is 200 metres from the application area

A.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	17.98
Vegetation complex**					
Guildford Complex (system 32)	90,513.13	4,607.91	5.09	287.49	0.43
Local area					
10km radius	31,068.85	11,168.49	35.95	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

A.3. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (See Appendix G.1), and biological survey information, impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)
<i>Isoodon fusciventer</i> (quenda)	P4	Y	Y	0.21
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	VU	Y	Y	0.21
<i>Falco peregrinus</i> (peregrine falcon)	OS	Y	Y	0.21
<i>Zanda baudinii</i> (Baudin's cockatoo)	EN	Y	Y	0.21
<i>Zanda latirostris</i> (Carnaby's cockatoo)	EN	Y	Y	0.57
<i>Phascogale tapoatafa wambenger</i> (south-western brush-tailed phascogale)	CD	Y	Y	6.51

EN: endangered, VU: vulnerable, P: priority; CD: conservation dependent; OS: other specially protected.

A.4. Land degradation risk table

Risk categories	Land Unit 1
Subsurface Acidification	H2: >70% of map unit has a high subsurface acidification risk or is presently acid
Water logging	H2: >70% of map unit has a moderate to very high waterlogging risk
Water repellence	M1: 10-30% of map unit has a high water repellence risk
Wind erosion	M1: 10-30% of map unit has a high to extreme wind erosion risk
Flood risk	L1: <3% of the map unit has a moderate to high flood risk
Phosphorus export risk	L1: <3% of map unit has a high to extreme phosphorus export risk
Salinity	L1: <3% of map unit has a moderate to high salinity risk or is presently saline
Water erosion	L1: <3% of map unit has a high to extreme water erosion risk

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<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>Given the size and condition of the application area, that it is along a cleared path and is within a built-up area, it is unlikely to comprise a high level of biodiversity. Any potential impacts can be managed via permit conditions.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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 contains significant foraging habitat and suitable roosting habitat for black cockatoos.</p>	At variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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>According to available databases, there are no conservation significant flora records in the application area. The closest threatened flora record is the <i>Synaphea</i> sp. Serpentine (G.R. Brand 103), approximately 600 metres from the application area. Twelve species of threatened flora have been recorded in the local area.</p> <p>A likelihood assessment was conducted based on habitat and soil preferences, vegetation within the application area, and known species distribution. The assessment did not identify any conservation significant flora species likely to occur in the application area. Given the size and condition of the application area, and findings of the vegetation survey (Focused Vision Consulting, 2023) and site inspection (DWER, 2024), the application area is unlikely to contain habitat for threatened flora species.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> “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.”</p> <p><u>Assessment:</u></p> <p>No conservation significant ecological communities are mapped over the application area. The application area is in the mapped buffer of two recorded TECs: <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>(floristic community type 3a as originally described in Gibson et al. 1994) and the dense shrublands on clay flats (floristic community type 9 as originally described in Gibson et al. 1994). The nearest mapped TEC is recorded approximately 150 metres from the application area. Given the size and condition of the application area and distance to mapped TECs, the application area is not considered necessary for the maintenance of nearby TECs. The application area is not considered representative of a TEC.</p>		
Environmental value: significant remnant vegetation and conservation areas		
<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 is inconsistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation in the application area is considered representative of this community.</p>	At variance	Yes Refer to Section 3.2.2, above.
<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 application area is in Bush Forever site 321. Given the vegetation proposed to be cleared is considered significant habitat for threatened fauna, the proposed clearing is considered likely to impact the environmental values of Bush Forever site 321.</p>	At variance	Yes Refer to Section 3.2.2, above.
Environmental value: land and water resources		
<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>The application area is within a mapped multiple use palusplain (seasonally waterlogged flat). Given no standing water or waterlogging was observed during the site inspection, the limited extent of clearing proposed, the condition of the vegetation and that there is little to no native understorey present, the proposed clearing is not likely to significant impact on broader wetland values.</p>	At variance	Yes Refer to Section 3.2.3, above.
<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 waterlogging and subsurface acidification and have medium risk of water repellence and wind erosion. Given the extent and condition of the application area, the proposed clearing is unlikely to have an appreciable impact on land degradation. Any potential impacts can be managed via permit conditions.</p>	Not likely to be at variance	Yes Refer to Section 3.2.3, above.
<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 the extent and condition of the application area, that it is along an existing cleared path and is in a built-up area, the proposed clearing is considered unlikely to cause a deterioration in underground or surface water</p>	Not likely to be at variance	Yes Refer to Section 3.2.3, above.

Assessment against the clearing principles	Variance level	Is further consideration required?
quality. Any impacts to surface water quality are likely to be minimal and short term.		
<p><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>According to available mapping, the application area is within a low flood risk area. Given this, and the small extent of proposed clearing, it is unlikely that the proposed clearing will cause or exacerbate flooding.</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.
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. Offset calculator value justification

Offset calculation and justification for significant residual impact to black cockatoos.

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Black cockatoo foraging habitat	The application area provides black cockatoo foraging habitat in an extensively impacted part of the species' ranges.

Calculation	Score (Area)	Rationale
Type of environmental value	Species (flora/fauna)	Suitable habitat for black cockatoos.
Conservation significance of environmental value	Rare/threatened species – endangered	Carnaby's black cockatoo and Baudin's black cockatoo are listed as endangered under the BC Act (state) and EPBC Act (federal); forest red-tailed black cockatoo is listed as vulnerable under the BC Act (state) and EPBC Act (federal). The highest attribute was used for the calculation.
Landscape level value impacted	Yes/No	Yes.
Significant impact		
Description	Clearing of suitable foraging habitat for black cockatoos	Proposed clearing of native vegetation considered suitable foraging habitat for all three species of black cockatoos.
Significant impact (hectares)	0.05	The applicant is proposing to clear 0.05 hectares of native vegetation which provides foraging habitat for all three species of black cockatoos. Trees proposed to be cleared are marri and wandoo.
Quality (scale)	7	The application area is within ten kilometres of 27 mapped roost sites. The closest confirmed roost site is 200 metres away, the closest confirmed breeding site is 16 kilometres away and the closest potential breeding site is two kilometres away. The application area is approximately 1.5 kilometres from a mapped river which may provide a watering source for black cockatoos. The application area is within an extensively impacted part of the species' ranges and is approximately 200 metres from the mapped Perth Regional Ecological Linkage. Given the habitat attributes and site context of the application area, the vegetation under application is considered to provide high quality foraging habitat for black cockatoos.
Rehabilitation credit		
N/A	N/A	Onsite revegetation will not be taking place.
Offset		
Description	Rehabilitation	Rehabilitation with preferred foraging species for all three black cockatoos.
Proposed offset (area in hectares)	0.28	The area required to counterbalance 100% of significant residual impact (SRI) of the proposed clearing.
Current quality of offset site	4	Rehabilitation is proposed within an area considered to currently provide secondary foraging habitat for black cockatoos.
Future quality WITHOUT offset	4	It is considered unlikely the habitat quality will increase without active revegetation.
Future quality WITH offset	6	The habitat quality of the offset site is considered to increase to high quality foraging habitat with rehabilitation using preferred foraging species for black cockatoos.
Time until ecological benefit (years)	17	Average time until planted vegetation can be used as foraging habitat by black cockatoos. An extra two years has been added to account for the delay in commencement of the revegetation (assumed to commence within two years of the permit start date).
Confidence in offset result (%)	80	Moderate to high level of confidence that the quality within the rehabilitated areas will improve with best practice revegetation techniques and appropriate completion criteria.
Duration of offset implementation (maximum 20 years)	20	Maximum value applied noting the vegetation is not to be cleared in the future.

Calculation	Score (Area)	Rationale
Time until offset site secured (years)	0	The offset is proposed within land tenure currently managed by the Shire.
Risk of future loss WITHOUT offset (%)	5%	There is low risk of loss given the offset area is within a Bush Forever reserve.
Risk of future loss WITH offset (%)	5%	The risk of loss is not considered to change with the proposed offset.

Offset calculation and justification for significant residual impact to extensively cleared remnant vegetation

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Extensively cleared vegetation complex (Guildford complex)	The application is to clear vegetation considered representative of the Guildford vegetation complex.
Type of environmental value	Vegetation/habitat	Extensively cleared vegetation complex.
Conservation significance of environmental value	Terrestrial native vegetation complex - <30% extent remaining in the bioregion	The Guildford vegetation complex retains approximately 5.09 per cent of the original extent of native vegetation (Government of Western Australia, 2019).
Landscape level value impacted	Yes/No	Yes - extensively cleared landscape.
Significant impact		
Description	Clearing of vegetation representative of the Guildford complex	Proposed clearing of native vegetation considered representative of the Guildford vegetation complex.
Significant impact (hectares)	0.05	Applicant is proposing to clear 0.05 hectares of native vegetation considered representative of the Guildford vegetation complex.
Quality (scale)	2	The application area is in Degraded to Completely Degraded (Keighery, 1994) condition comprising scattered trees over degraded native understorey and bare ground.
Rehabilitation credit		
N/A	N/A	Onsite revegetation will not be taking place.
Offset		
Description	Rehabilitation	Rehabilitation with species considered representative of the Guildford vegetation complex.
proposed offset (area in hectares)	0.07	The area required to counterbalance 100% of significant residual impact (SRI) of the proposed clearing.
Current quality of offset site	4	Rehabilitation is proposed within an area considered to currently provide secondary foraging habitat for black cockatoos.
Future quality WITHOUT offset	4	It is considered unlikely the habitat quality will increase without active revegetation.
Future quality WITH offset	6	The habitat quality of the offset site is considered to increase to high quality foraging habitat with rehabilitation using preferred foraging species for black cockatoos.
Time until ecological benefit (years)	12	Average time until planted vegetation can be used as foraging habitat by black cockatoos. An extra two years has been added to account for the delay in commencement of the revegetation (assumed to commence within two years of the permit start date).

Calculation	Score (Area)	Rationale
Confidence in offset result (%)	80	Moderate to high level of confidence that the quality within the rehabilitated areas will improve with best practice revegetation techniques and appropriate completion criteria.
Duration of offset implementation (maximum 20 years)	20	Maximum value applied noting the vegetation is not to be cleared in the future.
Time until offset site secured (years)	0	The offset is proposed within land tenure currently managed by the Shire.
Risk of future loss WITHOUT offset (%)	5%	There is low risk of loss given the offset area is within a Bush Forever reserve.
Risk of future loss WITH offset (%)	5%	The risk of loss is not considered to change with the proposed offset.

Offset calculation and justification for significant residual impact to a Bush Forever site.





Calculation	Score (Area)	Rationale
Conservation significance		
Description	Bush Forever	The application is to clear native vegetation within a Bush Forever site that is considered to provide significant environmental values.
Type of environmental value	Conservation area	Native vegetation in a Bush Forever site.
Conservation significance of environmental value	Bush Forever site	The application area is within Bush Forever site 321.
Landscape level value impacted	Yes/No	Yes
Significant impact		
Description	Bush Forever	Proposed clearing of significant native vegetation in a Bush Forever site.
Significant impact (hectares)	0.05	0.05 hectares of native vegetation is proposed to be cleared.
Quality (scale)	2	The application area is in Degraded to Completely Degraded (Keighery, 1994) condition comprising scattered trees over degraded native understorey and bare ground.
Rehabilitation credit		
N/A	N/A	Onsite revegetation will not be taking place.
Offset		
Description	Rehabilitation	Rehabilitation of native vegetation from a good to very good condition.
proposed offset (area in hectares)	0.15	The area required to counterbalance 100% of significant residual impact (SRI) of the proposed clearing.
Current quality of offset site	4	Rehabilitation is proposed within an area considered to currently provide secondary foraging habitat for black cockatoos.
Future quality WITHOUT offset	4	It is considered unlikely the habitat quality will increase without active revegetation.
Future quality WITH offset	6	The habitat quality of the offset site is considered to increase to high quality foraging habitat with rehabilitation using preferred foraging species for black cockatoos.
Time until ecological benefit (years)	12	Average time until planted vegetation can be used as foraging habitat by black cockatoos. An extra two years has been added to



Calculation	Score (Area)	Rationale
		account for the delay in commencement of the revegetation (assumed to commence within two years of the permit start date).
Confidence in offset result (%)	80	Moderate to high level of confidence that the quality within the rehabilitated areas will improve with best practice revegetation techniques and appropriate completion criteria.
Duration of offset implementation (maximum 20 years)	20	Maximum value applied noting the vegetation is not to be cleared in the future.
Time until offset site secured (years)	0	The offset is proposed within land tenure currently managed by the Shire.
Risk of future loss WITHOUT offset (%)	5%	There is low risk of loss given the offset area is within a Bush Forever reserve.
Risk of future loss WITH offset (%)	5%	The risk of loss is not considered to change with the proposed offset.

Appendix E. Biological survey excerpts (Focused Vision Consulting, 2023)

List of planted and native (remnant) trees in the application area (Focused Vision Consulting, 2023).

No.	Tree Species	Common Name	Photos	Approx. Canopy Area	DBH (mm)	Remnant/Planted
1	<i>Eucalyptus wandoo</i>	Wandoo		104 m ²	520	Planted
2	<i>Eucalyptus wandoo</i>	Wandoo		80 m ²	420	Remnant
3	<i>Corymbia calophylla</i>	Marri		10.5 m ²	200	Planted
4	<i>Corymbia calophylla</i>	Marri		21.7 m ²	290	Planted
5	<i>Eucalyptus wandoo</i>	Wandoo		138 m ²	890	Remnant

6	<i>Corymbia calophylla</i>	Marri		64 m ²	470	Remnant
7	<i>Corymbia calophylla</i>	Marri		40 m ²	380	Remnant
8	<i>Corymbia calophylla</i>	Marri		25 m ²	280	Planted
9	<i>Corymbia calophylla</i>	Marri		18.5 m ²	360	Planted
10	<i>Corymbia calophylla</i>	Marri		18.5 m ²	240	Planted

11	<i>Eucalyptus wandoo</i>	Wandoo		107 m ²	510	Remnant
12	<i>Corymbia calophylla</i>	Marri			240	Planted

Survey area vegetation descriptions (Focused Vision Consulting, 2023).

Broad Vegetation Type	Vegetation Unit Description	Vegetation Condition	Area (ha)	% of Study Area
Remnant Marri Woodland	<i>Corymbia calophylla</i> Low Open Woodland over <i>Acacia pulchella</i> , <i>Hypocalymma robustum</i> and <i>Xanthorrhoea preissii</i> Sparse Shrubland over <i>Mesomelaena tetragona</i> , <i>Lomandra</i> sp. and <i>Morelotia octandra</i> Sparse Sedgeland	Degraded	0.014	8.00
Planted Marri Woodland	Planted isolated <i>Corymbia calophylla</i> devoid of understorey	Completely Degraded - Degraded	0.044	25.14
Planted Wandoo Woodland	Planted isolated <i>Eucalyptus wandoo</i> devoid of understorey	Completely Degraded - Degraded	0.012	6.86
Remnant Wandoo Woodland	Remnant isolated <i>Eucalyptus wandoo</i> devoid of understorey	Completely Degraded - Degraded	0.035	20.00
		Cleared	0.070	40.00
		Total	0.175	100

Appendix F. DWER site inspection report (DWER, 2024)

Figure 6a. Photographs of *Eucalyptus wandoo* with large hollow in application area.



Fig 4. *E. wandoo* with hollows in application area – taken facing northwest (Photograph 5220018).



Fig 5. Canopy of *E. wandoo* with hollows in application area – taken facing east (Photograph 5220013).



Fig 9. Large hollow (~20cm diameter) of *E. wandoo* in application area – taken facing west (Photograph 5220028).



Fig 11. Small hollow (<10 cm) of *E. wandoo* in application area (Photograph 5220103).

Figure 6b. Foraging evidence in application area associated with galahs.



Fig 19. Foraging evidence in application area (Photograph 5220025).



Fig 20. Foraging evidence in application area (Photograph 5220030).

Figure 6c. Representative photographs of vegetation in the application area.



Fig 37. Vegetation in application area in Completely Degraded condition – taken facing west (Photograph 5220063).



Fig 38. Vegetation in application area in Completely Degraded condition – taken facing south (Photograph 5220064).



Fig 29. Vegetation in application area in Completely Degraded condition – taken facing northwest (Photograph 5220062).



Fig 30. Vegetation in application area in Completely Degraded condition – taken facing west (Photograph 5220036).



Fig 34. Evidence of regeneration along northern fenceline (juvenile marri) – taken facing south (Photograph 5220044).

Figure 6d. Representative photographs of vegetation in proposed offset area (Byford Reserve).



Fig 45. Example of native vegetation in Brickwood Reserve (Photograph 5220134).



Fig 46. Example of bare ground in Brickwood Reserve (Photograph 5220136).



Fig 50. Example of suitable rehabilitation area in Brickwood Reserve (Photograph 5220231).



Fig 51. Evidence of regeneration in Brickwood Reserve (juvenile marri) (Photograph 5220235).



Fig 54. Example of area lacking canopy in Brickwood Reserve – potential rehabilitation area (Photograph 5220249).



Fig 55. Example of area lacking canopy in Brickwood Reserve – potential rehabilitation area (Photograph 5220255).

Appendix G. Sources of information

G.1. GIS databases

Publicly available GIS Databases used (sourced from 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)

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