



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9114/1
File Number: DWERVT6972
Duration of Permit: From 19 April 2021 to 19 April 2023

PERMIT HOLDER

Timothy Stephen Sach and Courtney Erin Sach

LAND ON WHICH CLEARING IS TO BE DONE

Lot 11 on Deposited Plan 405227, Barragup

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.04 hectares of native vegetation within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. 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.

2. 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.

3. 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 Geocentric Datum Australia 1994 (GDA94), 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 1; and (f) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 2. |

4. Reporting

The permit holder must provide to the *CEO* the records required under condition 3 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table 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. |
| fill | means material used to increase the ground level, or to fill a depression. |
| 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) |
| mulch | means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation. |
| native vegetation | has the meaning given under section 3(1) and section 51A of the EP Act. |
| weeds | means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned. |

END OF CONDITIONS



Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

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

25 March 2021

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

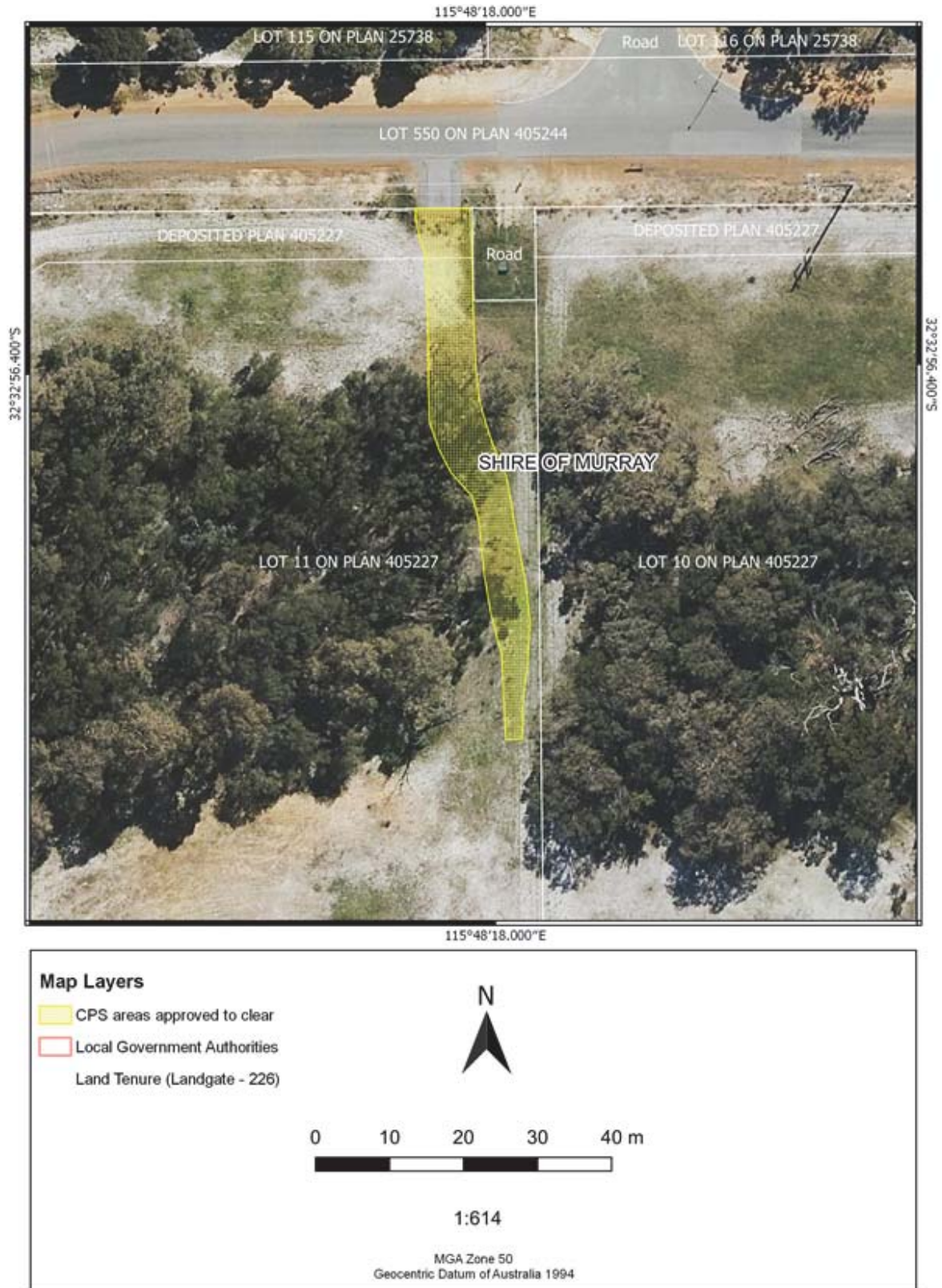


Figure 1: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

| | |
|-------------------------------|---|
| Permit number: | CPS 9114/1 |
| Permit type: | Area permit |
| Applicant name: | Timothy Stephen Sach and Courtney Erin Sach |
| Application received: | 16 November 2020 |
| Application area: | 0.04 hectares of native vegetation |
| Purpose of clearing: | Driveway construction |
| Method of clearing: | Mechanical |
| Property: | Lot 11 on Deposited Plan 405227 |
| Location (LGA area/s): | Shire of Murray |
| Localities (suburb/s): | Barragup |

1.2. Description of clearing activities

The application is to clear vegetation for a driveway alongside the eastern edge of Lot 11 on Deposited Plan 405227 (see Figure 1, Section 1.5).

The application was revised during the assessment process, after the Shire of Murray advised it did not support the area originally proposed to be cleared, which comprised 0.43 hectares more centrally located within the property, for the purpose of a driveway and fire hazard reduction.

1.3. Decision on application

| | |
|-----------------------|--|
| Decision: | Granted |
| Decision date: | 25 March 2021 |
| Decision area: | 0.04 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 following acceptance and for another 7 days following revision of the application area and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E), 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).

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 not likely to result in impacts to conservation

significant fauna, flora or ecological communities or to water resources and that the applicant has suitably demonstrated avoidance and minimisation measures.

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

- avoid, minimise to reduce the impacts and extent of clearing; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

1.5. Site map

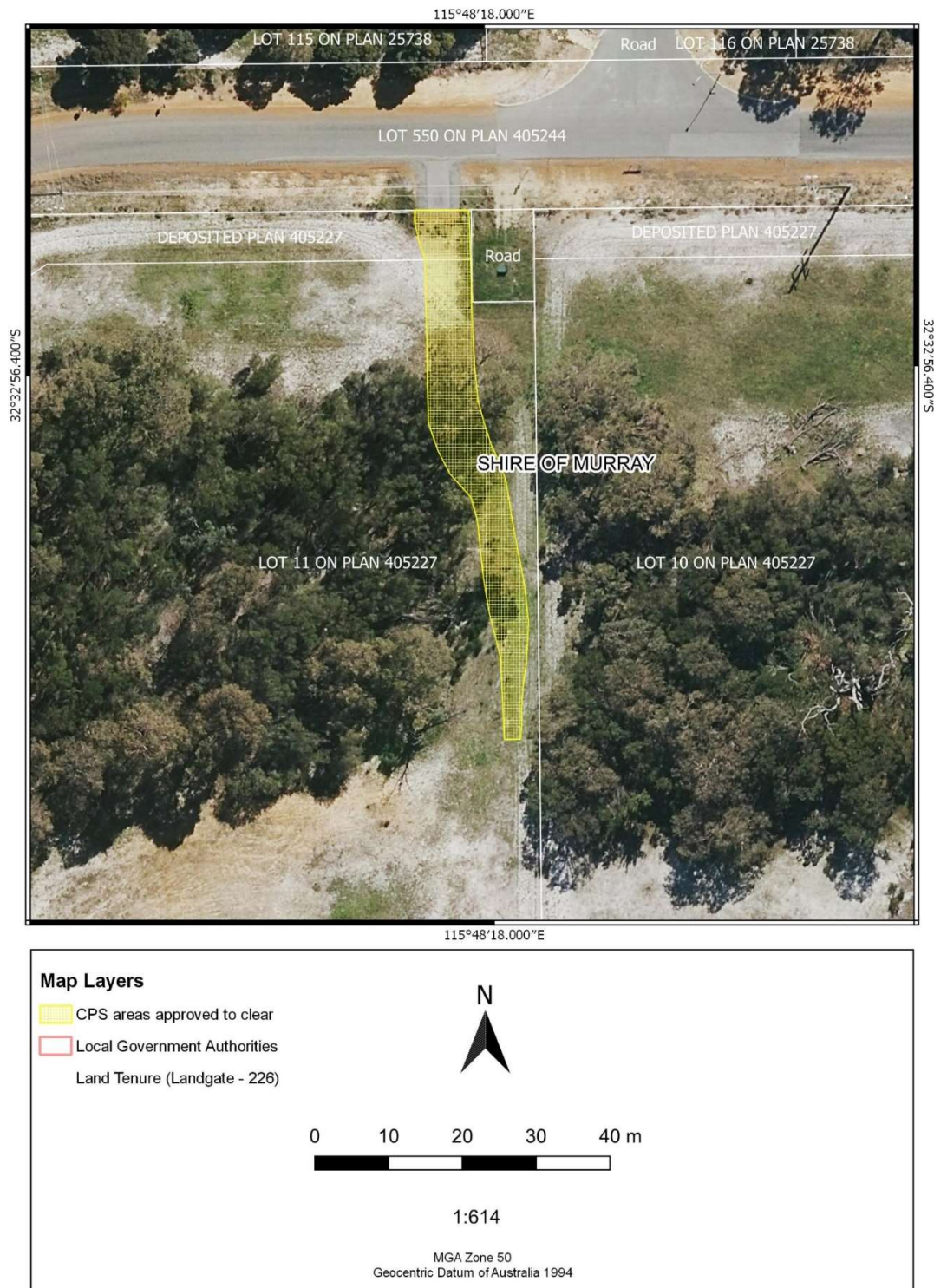


Figure 1 - Map of the application area. The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

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

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant had originally proposed to place the driveway more centrally within the property, as well as undertake some clearing for fire mitigation, which entailed a total of 0.43 hectares of clearing. Upon receiving advice from DWER that the Shire of Murray did not support this proposed clearing (Shire of Murray, 2020), the applicant removed the clearing for fire mitigation from the application area and undertook discussions with the Shire of Murray to determine a location for the proposed driveway that would require minimal clearing and the Shire would approve. The revised driveway location (i.e. the area of clearing approved under the granted clearing permit) was chosen close to the existing firebreak to minimise clearing following consultation with the Shire of Murray.

The Delegated Officer was satisfied that the applicant has made a reasonable effort 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 0) 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 A) identified that the risk of impacts of the proposed clearing to biological values (fauna and flora) 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: The application area may provide suitable habitat for the following threatened and priority flora species:

- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) VU;
- *Calyptorhynchus baudinii* (Baudin's cockatoo) EN;
- *Calyptorhynchus latirostris* (Carnaby's cockatoo) EN;
- *Lerista lineata* (Perth slider, lined skink) P3;
- *Idiosoma sigillatum* (Swan Coastal Plain shield-backed trapdoor spider) P3;
- *Neelaps calonotos* (black-striped snake, black-striped burrowing snake) P3;
- *Isoodon fusciventer* (quenda, southwestern brown bandicoot) P4; and
- *Falco peregrinus* (peregrine falcon) OS;

The marri trees present within the application area may provide foraging habitat for forest red-tailed black cockatoo, Baudin's cockatoo and Carnaby's cockatoo, all of which are known to occur within the local area (Department of Sustainability, Environment, Water, Populations and Communities, 2012). However, given that only several small

marri trees are present, the proposed clearing is not considered likely to have a significant impact upon these species. The trees to be removed are not large enough to contain hollows suitable for breeding, and most of these trees are also unlikely to be large enough to provide good quality roosting habitat for these species (see Appendix D).

The application area may also provide suitable habitat for the Perth slider, Swan Coastal Plain shield-backed trapdoor spider, black-striped snake, quenda and peregrine falcon, however given the small extent of the application area, its Degraded to Completely Degraded condition and the presence of better quality vegetation to the west and east, the proposed clearing is unlikely to have a significant impact upon these species should they be present.

Conclusion: Based on the above assessment, the proposed clearing is unlikely to result in impacts to conservation significant fauna species.

Conditions: Nil.

3.2.2. Biological values (flora) - Clearing Principles (a) and (c)

Assessment: The application area may provide suitable habitat for the following threatened and priority flora species:

- *Caladenia huegelii* (T);
- *Stylidium aceratum* (P3);
- *Caladenia speciosa* (P4)
- *Jacksonia sericea* (P4);
- *Microtis quadrata* (P4); and
- *Tripterococcus sp. Brachylobus* (A.S. George 14234) (P4).

Caladenia huegelii occurs in areas of mixed woodland of jarrah (*Eucalyptus marginata*) and *Banksia* species with scattered sheoak (*Allocasuarina fraseriana*) and marri (*Corymbia calophylla*), from just north of Perth to the Busselton area, usually within 20 km of the coast in deep grey-white sand usually associated with the Bassendean sand-dune system (Department of Environment and Conservation, 2009). While the application area may provide this habitat, it is noted that the species tends to favour areas of dense undergrowth (Department of Environment and Conservation, 2009), whereas the application area has sparse understorey resulting from disturbance due to its location adjacent to a firebreak. Noting the above and the small extent of the application area, it is considered unlikely that the application area would contain *Caladenia huegelii* individuals and the proposed clearing would impact upon this species.

While it is possible that the application area may provide suitable habitat for the above priority flora species, the disturbed nature of the application area and small extent of the application area is considered to reduce the likelihood of these species occurring. Should these species be present, given the small extent of the application area any clearing of individuals of these species is unlikely to impact upon the conservation status of these species.

An occurrence of the *Banksia* dominated woodlands of the Swan Coastal Plain IBRA region priority ecological community (PEC) is mapped within the application area. In the absence of surveys of vegetation on the property, it is acknowledged that vegetation within the application area may be part of a patch of vegetation comprising this PEC and the federally listed *Banksia* Woodlands of the Swan Coastal Plain threatened ecological community. However, given that vegetation within the application area is not representative of this PEC/TEC (a canopy dominated or co-dominated by certain *Banksia* species) and the small extent and disturbed nature of vegetation within the application area, the proposed clearing is unlikely to significantly impact upon this PEC/TEC, should it be present within the property.

Conclusion: Based on the above assessment, the proposed clearing is unlikely to result in impacts to threatened or priority flora species or ecological communities.

Conditions: Weed and dieback management.

3.2.3. Water resources - Clearing Principles (f) and (g)

Assessment: Although the application area is mapped within a palusplain Multiple Use category wetland and the *Kunzea* sp. present within the application area are indicative of riparian vegetation, the topographic contours and historical aerial imagery indicate that the application area and surrounds do not appear to be inundated with water on a seasonal or perennial basis. As such, the proposed clearing is not likely to significantly impact upon the water

quality or function of the palusplain wetland. Given the distance to the Serpentine River and the small area of the proposed clearing, the proposed clearing is also unlikely to impact surface water quality of the River.

Conclusion: Based on the above assessment, the proposed clearing is unlikely to result in impacts to wetlands or water quality.

Conditions: Nil.

3.3. Relevant planning instruments and other matters

Other relevant authorisations required for the proposed land use include:

- Development approval under the *Planning and Development Act 2005* (issued by the Shire of Murray).

The Shire of Murray advised DWER that local government approvals are not required for the clearing or the driveway itself in the location proposed, and did not have any objections to the proposed clearing (Shire of Murray, 2021).

Several Aboriginal sites of significance have been mapped within the local 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 on the eastern side of an approximately 1 hectare patch of native vegetation within the property, separated from similar patches of native vegetation on rural properties to the east and west by access tracks or firebreaks. To the north of the proposed clearing area is Rogers Road and other largely cleared rural properties and to the south is a cleared area within the property. The application area is in the intensive land use zone of Western Australia.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 24 per cent of the original native vegetation cover.</p> |
| Ecological linkage | The proposed clearing area does not form part of an ecological linkage. |
| Conservation areas | The closest conservation area to the application area is an un-named Nature Reserve located approximately 220 m south-west. |
| Vegetation description | <p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area largely consists of <i>Kunzea</i> sp. shrubs and small (less than 50 cm diameter at breast height) <i>Corymbia calophylla</i> (marri) trees, with an understorey of weeds. Representative photos are available in 0.</p> <p>This is partially consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> 44, which is described as vegetation ranges from woodland of <i>Eucalyptus marginata</i> (Jarrah) - <i>Allocasuarina fraseriana</i> (Sheoak) - <i>Banksia</i> species to low woodland of <i>Melaleuca</i> species, and sedgelands on the moister sites. This area includes the transition of <i>Eucalyptus marginata</i> (Jarrah) to <i>Eucalyptus todtiana</i> (Pricklybark) in the vicinity of Perth (Hedde et al, 1980). |
| Vegetation condition | <p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in Degraded to Completely Degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> 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; and 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. <p>The full Keighery (1994) condition rating scale is provided in 0. Representative photos are available in Appendix D.</p> |
| Climate | <p>Rainfall: 900mm</p> <p>Evapotranspiration: 800 mm</p> |
| Topography | Mapped elevation is between 2-3 m AHD. Photographs indicate the application area is largely flat. |
| Soil description | The soil is mapped as 212Bs_B2 (Bassendean B2 Phase) described as flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m (DPIRD, 2019). |

| Characteristic | Details |
|------------------------|--|
| Land degradation risk | <ul style="list-style-type: none"> • Wind erosion: 30-50% of map unit has a high to extreme wind erosion risk • Flood risk: <3% of map unit has a moderate to high flood risk • Salinity risk: <3% of map unit has a moderate to high salinity risk or is presently saline • Phosphorus export risk: >70% of map unit has a high to extreme phosphorus export risk • Subsurface acidification risk: >70% of map unit has a high subsurface acidification risk or is presently acid • Water erosion risk: <3% of map unit has a high to extreme water erosion risk • Waterlogging risk: 3-10% of map unit has a moderate to very high waterlogging risk (Schoknecht et al, 2004). <p>The application area is mapped within an area of moderate to low risk of acid sulfate soils.</p> |
| Waterbodies | <p>A mapped palusplain Multiple Use category wetland intersects the application area. The application area is within a High Value Wetland area mapped in the <i>Draft Perth and Peel Green Growth Plan for 3.5 million</i> (Department of Premier and Cabinet, 2015).</p> <p>The application area is located approximately 300 m south-west of the Serpentine River and fringing inundation areas.</p> |
| Hydrogeography | <p>Hydrogeology: Surficial Sediments - Shallow Aquifers. Groundwater salinity: 1000-3000 mg/L TDS</p> <p>The application area is within the Murray Groundwater Area and Murray River System Surface Water Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i>.</p> |
| Flora | <p>There are records of 6 threatened and 32 priority flora within the local area (10 km radius). Of these, four threatened species and 17 priority species are found on the same soil type (Bassendean B2 Phase) and vegetation type as the application area.</p> |
| Ecological communities | <p>There are records of five threatened and three priority ecological communities within the local area (10 km radius).</p> |
| Fauna | <p>There are records of 20 threatened fauna species, 10 priority fauna species, one conservation dependent fauna species, 23 fauna species under international agreement and one other specially protected fauna species within the local area (10 km radius).</p> |

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 | 14.85 |
| Vegetation complex | | | | | |
| Hedde vegetation complex 44** | 87,476.26 | 23,508.66 | 26.87 | 4,377.36 | 5.00 |
| Local area (calculation - delete if not required) | | | | | |
| 10km radius | - | - | 24 | - | - |

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

A.3. Flora analysis table

With consideration for the site characteristics set out above and relevant datasets (see Appendix E), impacts to the following conservation significant flora required further consideration.

| Species name | Conservation status | Suitable habitat features? [Y/N] | Suitable vegetation type? [Y/N] | Suitable soil type? [Y/N] | Distance of closest record to application area (km) | Number of known records in local area | Are surveys adequate to identify? [Y, N, N/A] |
|---|---------------------|----------------------------------|---------------------------------|---------------------------|---|---------------------------------------|---|
| <i>Acacia benthamii</i> | P2 | N | Y | Y | 8.1 | 4 | N/A |
| <i>Acacia lasiocarpa</i> var. <i>bracteolata</i> long peduncle variant (G.J. Keighery 5026) | P1 | N | Y | Y | 6.1 | 2 | N/A |
| <i>Boronia capitata</i> subsp. <i>gracilis</i> | P3 | N | Y | Y | 6.9 | 1 | N/A |
| <i>Caladenia huegelii</i> | T | Y | Y | Y | 3.9 | 1 | N/A |
| <i>Caladenia speciosa</i> | P4 | Y | Y | Y | 7.8 | 2 | N/A |
| <i>Dillwynia dillwynioides</i> | P3 | N | Y | Y | 2.2 | 25 | N/A |
| <i>Diuris drummondii</i> | T | N | Y | Y | 3.7 | 8 | N/A |
| <i>Diuris micrantha</i> | T | N | N | N | 4.0 | 1 | N/A |
| <i>Diuris purdiei</i> | T | N | Y | Y | 8.8 | 9 | N/A |
| <i>Drakaea elastica</i> | T | N | Y | Y | 1.7 | 14 | N/A |
| <i>Drosera occidentalis</i> | P4 | N | Y | Y | 6.4 | 3 | N/A |
| <i>Eucalyptus rudis</i> subsp. <i>cratyantha</i> | P4 | N | Y | Y | 3.4 | 3 | N/A |
| <i>Grevillea bipinnatifida</i> subsp. <i>pagna</i> | P1 | N | Y | Y | 8.6 | 1 | N/A |
| <i>Jacksonia sericea</i> | P4 | Y | Y | Y | 1.9 | 4 | N/A |
| <i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> | P2 | N | Y | Y | 3.8 | 2 | N/A |
| <i>Microtis quadrata</i> | P4 | Y | Y | Y | 8.7 | 2 | N/A |
| <i>Parsonia diaphanophleba</i> | P4 | N | Y | Y | 4.6 | 4 | N/A |
| <i>Schoenus benthamii</i> | P3 | N | Y | Y | 9.0 | 1 | N/A |
| <i>Schoenus pennisetis</i> | P3 | N | Y | Y | 8.7 | 1 | N/A |
| <i>Stylidium aceratum</i> | P3 | Y | Y | Y | 9.0 | 2 | N/A |
| <i>Stylidium longitubum</i> | P4 | N | Y | Y | 5.7 | 7 | N/A |
| <i>Synaphea stenoloba</i> | T | N | Y | Y | 8.1 | 15 | N/A |
| <i>Tripterococcus</i> sp. <i>Brachylobus</i> (A.S. George 14234) | P4 | Y | Y | Y | 8.2 | 3 | N/A |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

A.4. Fauna analysis table

| Species name | Conservation status | Suitable habitat features? [Y/N] | Most recent record | Distance of closest record to application area (km) | Number of known records in local area | Are surveys adequate to identify? [Y, N, N/A] |
|--|---------------------|----------------------------------|--------------------|---|---------------------------------------|---|
| <i>Calyptorhynchus banksii</i> naso (Forest red-tailed black cockatoo) | VU | Y | 2018 | 0.7 | 91 | N/A |
| <i>Calyptorhynchus baudinii</i> (Baudin's cockatoo) | EN | Y | 2014 | 3.6 | 3* | N/A |

| Species name | Conservation status | Suitable habitat features? [Y/N] | Most recent record | Distance of closest record to application area (km) | Number of known records in local area | Are surveys adequate to identify? [Y, N, N/A] |
|---|---------------------|----------------------------------|--------------------|---|---------------------------------------|---|
| <i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo) | EN | Y | 2018 | 1.7 | 453* | N/A |
| <i>Falco peregrinus</i> (Peregrine falcon) | OS | Y | 2011 | 4.4 | 6 | N/A |
| <i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider) | P3 | Y | 2019 | 5.1 | 27 | N/A |
| <i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot) | P4 | Y | 2019 | 1.5 | 224 | N/A |
| <i>Lerista lineata</i> (Perth slider, lined skink) | P3 | Y | 2015 | 6.5 | 4 | N/A |
| <i>Neelaps calonotos</i> (Black-striped snake, black-striped burrowing snake) | P3 | Y | 2011 | 7.4 | 1 | N/A |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

*An additional 9 records of *Calyptorhynchus* sp. 'white-tailed black cockatoo' have been recorded within the local area, which may comprise either of these species

A.5. Ecological community analysis table

| Community name | Conservation status | Suitable habitat features? | Suitable vegetation type? [Y/N] | Suitable soil type? [Y/N] | Distance of closest record to application area (km) | Number of known records in local area | Are surveys adequate to identify? [Y, N, N/A] |
|---|---------------------|----------------------------|---------------------------------|---------------------------|---|---------------------------------------|---|
| Banksia dominated woodlands of the Swan Coastal Plain | Priority 3 | Y | N | Y | 0 | 707 | N/A |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

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> The area proposed to be cleared may provide suitable habitat for conservation significant flora and fauna, however given the extent of the application area impacts are unlikely to be significant. The application area is mapped as the 'Banksia dominated woodlands of the Swan Coastal Plain IBRA region' (Priority 3) priority ecological community (PEC).</p> | Not likely to be at variance | Yes: Refer to Sections 3.2.1 and 3.2.2 above |
| <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> The area proposed to be cleared may contain foraging habitat for threatened black cockatoo species and habitat for other conservation significant fauna, however given the extent of the clearing area this habitat is not likely to be significant.</p> | Not likely to be at variance | Yes: Refer to Section 3.2.1 above |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|------------------------------|------------------------------------|
| <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> The area proposed to be cleared is unlikely to contain flora species listed under the BC Act.</p> | Not likely to be at variance | No: Refer to Section 3.2.2 above |
| <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> 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 |
| 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> The extent of the mapped pre-European vegetation association and complex, and native vegetation in the local area is with the national objectives and targets for biodiversity conservation in Australia, in constrained areas (being > 10%).</p> <p>Vegetation in the proposed clearing area is not considered to be part of a significant ecological linkage in the local area.</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> Given the distance to the nearest conservation area and the extent of the proposed clearing, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p> | Not likely to be at variance | No |
| 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> A mapped palusplain Multiple Use category wetland intersects the application area.</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> The mapped soils are moderately susceptible to wind erosion and highly susceptible to subsurface acidification and phosphorus export, however noting the extent of the application area and the condition of the vegetation, 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> Although the application area is mapped within a palusplain Multiple Use category wetland, given the application area and surrounds do not appear to be seasonally inundated and the small extent of the proposed clearing, the proposed clearing is unlikely to impact surface or ground water quality.</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? |
|--|------------------------------|------------------------------------|
| <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>Assessment: The mapped soils and topographic contours in the surrounding area and small extent of the clearing area indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding or waterlogging.</p> | Not likely to be at variance | No |

Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery (1994).

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. Photographs of the vegetation



Figure D-1 – Looking north at application area, *Kunzea* sp. shrubs with minimal understorey to the west of the existing firebreak (Sach, 2021).



Figure D-2 – Looking north-west at application area, *Kunzea* sp. shrubs with minimal understorey (Sach, 2021)



Figure D-3 – Looking south-east at application area, *Corymbia calophylla* (marri) trees with understorey of grasses and bare ground. Note easternmost marri tree in foreground is not included within application area (Sach, 2021).



Figure D-4 – Looking south-west at application area, *Corymbia calophylla* (marri) trees with understorey of grasses. Note large marri tree in foreground is not included within application area (Sach, 2021).

Appendix E. Sources of information

E.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)
- Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- LiDAR Contours – Swan Coastal Plain 1m
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

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

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