



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9181/1
<b>Permit type:</b>	Area permit
<b>Applicant name:</b>	Electricity Generation and Retail Corporation t/a Synergy
<b>Application received:</b>	13 January 2021
<b>Application area:</b>	0.121ha
<b>Purpose of clearing:</b>	Access required for infrastructure maintenance of underground septic tank and sewage leach drains
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Lot 500 Deposited Plan 59628
<b>Location (LGA area/s):</b>	City of Wanneroo
<b>Localities (suburb/s):</b>	Pinjar

### 1.2. Description of clearing activities

The application is to allow access for maintenance of an underground septic tank and sewage leach drains. The area proposed to be cleared is approximately 75 metres long and 6 to 22 metres wide and runs parallel and immediately adjacent to an access road running east-west within Lot 500 on Deposited Plan 59628.

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	3 November 2021
<b>Decision area:</b>	0.121 ha 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 0), relevant datasets (see Appendix 0), the clearing principles set out in Schedule 5 of the EP Act (see 0), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the loss of native vegetation that is representative of Banksia Dominated Woodlands of the Swan Coastal Plain (a federally listed Threatened Ecological Community which is also a Priority Ecological Community in WA)

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values, including environmental values on the Bush Forever Site 380 (Rosella Rd Bushland, Bullsbrook) and
- potential land degradation in the form of wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to an unacceptable risk to local or regional environmental values. 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
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity

## 1.5. Site map



Figure 1 Map of the application area

The area crosshatched 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 has advised that due to a steep gradient from the existing access road to the south and east, access to the leach drain and septic tank area is not possible from these directions, and that clearing an access track from the west is therefore the most practicable option to minimise the area to be cleared. The applicant also notes that the proposed clearing area was cleared in 1989 to install the septic system (refer to Appendix D for aerial imagery).

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 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 risk of impacts of the proposed clearing to biological values (fauna and flora) and conservation areas required further consideration. 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 (flora and vegetation) - Clearing Principles (a) and (d)

**Assessment:** The application area is within an area mapped as Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region state listed Priority 3 Ecological Community (Banksia PEC) and federally listed Threatened Ecological Community (Banksia TEC) (herein referred as the Banksia PEC/TEC). Photos provided by the applicant (Synergy, 2021, Appendix D) indicate that vegetation within the application area is indicative of Banksia PEC/TEC vegetation according to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The patch of vegetation in which the application area is in (which includes vegetation across local roads of less than 30 metres width) also meets the condition and patch size criteria to be considered as the Banksia PEC/TEC. While the determination of the presence of an ecological community is usually based on affinity of vegetation data with known Floristic Community Types (FCTs) as defined by Gibson et al. (1994), it is considered likely that vegetation within the application area would comprise the Banksia PEC/TEC.

As such, the proposed clearing is considered likely to impact 0.121 hectares of the Banksia PEC/TEC. However, based upon mapping of the Banksia PEC/TEC, it is noted that the proposed clearing area comprises a very small portion of the larger patch of Banksia PEC/TEC in which it is located, and is likely to be in more degraded condition than the rest of the patch given that it has previously been cleared as viewed in the available aerial imagery (Appendix D). As such, the proposed clearing would have only a minimal impact on this patch of PEC/TEC. It is also noted that there are 15,763 hectares of Banksia PEC/TEC mapped within the local area, and therefore the clearing of 0.121

hectares (0.00077 per cent of PEC/TEC within the local area) is not likely to impact the conservation status of the PEC/TEC as a whole.

One priority flora species recorded within the local area, *Adenanthos cygnorum* subsp. *chamaephyton* (listed as Priority 3 by Department of Biodiversity Conservation and Attractions), is mapped within the same soil and vegetation type as the application area and is found within grey sands and sometimes associated with Banksia woodlands (WA Herbarium, 1998-). As such it is possible that this species may occur within the application area, although this is not considered to be likely considering the extent of the application area, the condition of the vegetation and that it has previously been cleared. Given that there are 21 records of this species within Western Australia, if the species were to be present in the application area the proposed clearing is not likely to significantly impact the conservation status of this species.

**Conclusion:** Based on the above assessment, the proposed clearing will result in impacts to 0.121 hectares of vegetation likely to be indicative of the Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region state listed Priority 3 Ecological Community (Banksia PEC) and federally listed Threatened Ecological Community (Banksia TEC). The proposed clearing may also impact *Adenanthos cygnorum* subsp. *chamaephyton*, if present. For the reasons set out above, it is considered that the impacts of the proposed clearing on these values does not constitute a significant residual impact.

### **3.2.2. Biological values (fauna) - Clearing Principle (b)**

**Assessment:** The application area contains *Banksia* spp., and is considered likely to contain other Proteaceae species, that would provide suitable foraging habitat for the threatened species *Calyptorhynchus latirostris* (Carnaby's cockatoo) (Valentine and Stock, 2008 and DSEWPC, 2012). Given that black cockatoos may forage within 20 kilometres of a night roost site and 12 kilometres from a breeding site (DotEE, 2017), and there are 54 known night roost sites within a 20 kilometre radius of the application area, it is considered likely that Carnaby's cockatoo would forage upon vegetation within the application area. There are no known breeding sites within 12 kilometers of the application area. Given the presence of other suitable foraging habitat within the local area, including within state forest and Bush Forever areas in the immediate vicinity of the application area, impacts to Carnaby's cockatoo foraging habitat from the proposed clearing are not likely to be significant. Similarly, there are several stag trees within the application area that may provide suitable roosting habitat for Carnaby's cockatoo, however given the presence of vegetation in the local area the clearing of these roosting trees is not likely to have a significant impact. Trees within the application area, including stag trees, are not of sufficient size to provide suitable breeding habitat for Carnaby's cockatoo.

*Hesperocolletes douglasi* (Douglas's broad-headed bee) was recorded in a survey undertaken in 2015 in an area of almost pristine Banksia Woodland approximately 3.2 kilometres from the application area (Arnold, Murphy, Didham and Houston, 2019). Based on the outcomes of the survey, it was concluded that without further successful collections it cannot yet be claimed that Banksia Woodland is definitive habitat for *H. douglasi*, and that the species may be a generalist forager since it was carrying pollen from a diverse set of plant species (Pille Arnold, Murphy, Didham and Houston, 2019). While *H. douglasi* could use vegetation within the application area as habitat, given the presence of other Banksia woodlands in the local area, including vegetation contiguous to the application area, and that the bee may not even be restricted to Banksia woodlands, the proposed clearing is therefore unlikely to significantly impact habitat for *H. douglasi*.

The application area may also provide suitable habitat for *Falco peregrinus* (peregrine falcon) and *Isoodon fusciventer* (quenda). However, given the large distributions and broad ranges of vegetation inhabited by these species and the considerable vegetation present within the local area, the proposed clearing is unlikely to have a significant impact upon these species. A condition to undertake clearing from a south to north direction will minimise impacts to quenda that may be present within the application area.

**Conclusion:** Based on the above assessment, the proposed clearing will result in impacts to 0.121 hectares of vegetation that may provide suitable foraging and roosting habitat for Carnaby's cockatoo and habitat for Douglas's broad-headed bee, peregrine falcon and quenda. For the reasons set out above, it is considered that the impacts of the proposed clearing on these species does not constitute a significant residual impact. A condition to undertake clearing from a south to north direction will minimise impacts to quenda that may be present within the application area.

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

- The permit holder is required to undertake slow directional clearing from south to north to allow fauna to move into adjacent vegetation ahead of the clearing activity.

### **3.2.3. Conservation areas - Clearing Principle (h)**

Assessment: Given that the application area is within the Rosella Rd Bushland, Bullsbrook, a Bush Forever area, the proposed clearing is likely to have an impact on the environmental values on this Bush Forever Area. The Rosella Road Bushland is over 8000 hectares and available datasets indicate the reserve contains 7800 hectares of remnant vegetation. It is considered that the loss of 0.121 hectares of remnant vegetation within the reserve does not constitute a significant loss. It is considered that the proposed clearing has the potential to introduce weeds and dieback to the adjacent vegetation.

Conditions: For the reasons provided above, a weed and dieback management condition has been included on the clearing permit.

### **3.2.4. Land and water resources (land degradation) - Clearing Principle (g)**

Assessment: The application area has a high risk of subsurface acidification and phosphorus export risk, however noting the purpose of clearing and the future land use, the proposed clearing is not likely to contribute to increase risk of these categories of land degradation. The application area has a moderate to high risk of wind erosion. Consideration has been given to the risk of wind erosion noting that the proposed clearing is of a permanent nature for future maintenance activities. The Delegated officer determined that the risk of wind erosion from the proposed clearing remained low due to the presence of large areas of intact remnant vegetation surrounding the application area.

Due to the requirement of the area to remain clear to enable future maintenance of infrastructure and the consideration of low risk, no wind erosion conditions are required.

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

The City of Wanneroo advised DWER that local government approvals are not required, and that the property is reserved for Public Purposes under the Metropolitan Region Scheme.

The Western Australia Planning Commission granted development approval for the proposed works within Lot 500 on Deposited Plan 59628, under the *Planning and Development Act 2005*, on 25 October 2021. The approval is valid for two years and therefore the permit duration has been aligned to match the development approval.

The application area is within Bush Forever Site 380 – Rosella Road Bushland Bullsbrook. State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region (State Planning Policy (SPP) 2.8) recommends all proposals and decision making affecting a Bush Forever area should (SPP 2.8 section 5.1.1):

- recognise regionally significant bushland protection and its management as a primary purpose and a fundamental planning consideration in its own right as part of an area's essential environmental infrastructure; and
- ensure that all reasonable steps have been taken to avoid, minimise and offset any likely adverse impacts on regionally significant bushland consistent with the requirements of the policy.

SPP 2.8 section 5.1.2.1 (a)(e) recommends proposals or decision making within Bush Forever reserves should support a general presumption against clearing, except where a proposal or decision is considered consistent with the overall intent of the existing approved use or is consistent with the overall purpose and intent of an existing Crown reserve.

The reserve use of Lot 500 is for Power Station and Ancillary Services and the clearing for infrastructure maintenance and access to underground septic tank and sewage leach drains is considered by DPLH Land Use Planning Policy to be an existing approved use consistent with the intent of the reserve (DPLH, 2021). As such Land Use Planning Policy has no objections to the clearing, however, recommends after the maintenance has been undertaken the area be left to naturally revegetate (DPLH, 2021).

The application area is within a Priority P1 area of the Gnangara Underground Water Pollution Control Area. Given that the application is for access to existing septic tank and sewage leach drains for maintenance and the extent of the application area is relatively small, DWER does not have any concerns regarding impacts of the proposed clearing to the Gnangara Underground Water Pollution Control Area (DWER, 2021).

No 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 part of a 0.85 ha patch of native vegetation, separated by other larger patches of native vegetation by roads. The area proposed to be cleared is surrounded by native vegetation to the north, roads to the east and south and Pinjar Gas Turbine Station to the east. The area proposed to be cleared is within the intensive land use zone of Western Australia. It is surrounded by remnant vegetation, located on the Swan Coastal Plain and adjacent to the Pinjar Gas Turbine Station.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 61.65 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The proposed clearing area is part of a mapped or local ecological linkage. The closest mapped ecological linkage, an identified linkage site (post-pine <i>Banksia</i> rehabilitation) within the Gngangara Mound Ecological linkages, is located approximately 520 meters to the south-west.</p>
Conservation areas	<p>The located within an environmentally sensitive area, a Bush Forever Site (380) which is named the Rosella Rd Bushland, Bullsbrook.</p> <p>The proposed clearing area is not contained within a conservation area, however the adjacent land is within the DBCA Legislated Tenure (Gngangara-Moore River State Forest) (ID 4296), which is approximately 25 meters away from the application area.</p>
Vegetation description	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of <i>Banksia attenuata</i> and <i>Banksia menziesii</i> trees with mixed shrubs including Myrtaceae species (including <i>Scholtzia involucreta</i>, <i>Kunzea glabrescens</i>), <i>Acacia</i> spp., Proteaceae species, <i>Xanthorrhoea preissii</i> and <i>Allocasuarina humilis</i>. Weedy herbs and grasses are present in some areas. Representative photos are available in 0.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> <li>Karrakatta Complex-North (47), which is described as predominantly low open forest and low woodland of <i>Banksia</i> species E- <i>Eucalyptus todtiana</i> (Pricklybark), less consistently open forest of <i>Eucalyptus gomphocephala</i> (Tuart) - <i>Eucalyptus todtiana</i> (Pricklybark) - <i>Banksia</i> species (Heddlle et al, 1980).</li> </ul> <p>The mapped vegetation type retains approximately 45.12 per cent of the original extent (Government of Western Australia, 2019b).</p>
Vegetation condition	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in Good to Degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> <li>Good - Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.</li> <li>Degraded - Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.</li> </ul> <p>The full Keighery (1994) condition rating scale is provided in 0. Representative photos are available in 0.</p>
Climate and landform	<p>Rainfall: 800 mm Evapotranspiration: 700 mm</p>

Characteristic	Details
Topography	70-75m AHD
Soil description	The soil is mapped as Bassendean, Jandakot Phase (212Bs_Ja) described as Jandakot low dunes. Slopes <10% and generally more than 5m relief. Grey sand over pale yellow sands generally underlain by humic and iron podsols; Banksia spp. low open woodland with a dense shrub layer.
Land degradation risk	The land degradation risk is mapped as: <ul style="list-style-type: none"> <li>• Flood risk: &lt;3% of the map unit has a moderate to high flood risk;</li> <li>• Salinity risk: &lt;3% of map unit has a moderate to high salinity risk or is presently saline;</li> <li>• Waterlogging risk: &lt;3% of map unit has a moderate to very high waterlogging risk;</li> <li>• Wind erosion risk: 50-70% of map unit has a high to extreme wind erosion risk;</li> <li>• Water erosion risk: &lt;3% of map unit has a high to extreme water erosion risk;</li> <li>• Subsurface acidification risk: &gt;70% of map unit has a high subsurface acidification risk or is presently acid; and</li> <li>• Phosphorus export risk: &gt;70% of map unit has a high to extreme phosphorus export risk.</li> </ul>
Waterbodies	The desktop assessment and aerial imagery indicated that there are no watercourses or wetlands that intersect the application area. The nearest waterbody is a Conservation category dampland approximately 1.8 km east of the application area.
Hydrogeography	Groundwater salinity: <500 milligrams per litre of Total Dissolved Solids (TDS) Hydrogeology: Surficial sediments - shallow limestone aquifers, calcrete lithology The application area occurs within the Gngangara Groundwater Area, proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (the RIWI Act) and is located within a Public Drinking Water Source Area 1 (Gngangara Underground Water Pollution Control Area) proclaimed under the <i>Metropolitan Water Supply Sewerage and Drainage Act 1909</i> .
Flora	There are records of two threatened and eleven priority flora within the local area, the nearest of which to the application area is <i>Adenanthos cygnorum</i> subsp. chamaephyton, located approximately 1.9 km to the south-west.
Ecological communities	There are records for three threatened and six priority ecological communities (or buffers of ecological communities) mapped within the local area, one of which (Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region Priority 3 ecological community) is within the application area.
Fauna	There are records of eight threatened, two priority, five migratory and one other specially protected fauna species within the local area, the closest of which to the application area is threatened <i>Calyptorhynchus latirostris</i> located 35 m north of 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	38.45	14.85
Vegetation complex					
Karrakatta Complex-North (vegetation association 47)**	44,272.94	19,976.32	45.12	12,500.70	28.24

	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
Local area					
10km radius	31,556.15	19,454.68	61.65	-	-

\*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 0) impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features?	Suitable vegetation type?	Suitable soil type?	Distance of closest record to application area (km)	Number of records in local area	Number of known records (total)	Are surveys adequate to identify?
<i>Adenanthos cygnorum</i> subsp. <i>chamaephyton</i>	3	Y	Y	Y	1.9	2	21	NA
<i>Cyathochaeta teretifolia</i>	3	N	Y	Y	9.5	1	39	NA
<i>Hibbertia helianthemoides</i>	4	N	Y	Y	7.1	1	19	NA
<i>Pithocarpa corymbulosa</i>	3	N	N	Y	6.5	1	22	NA

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

### A.4. Fauna analysis table

With consideration for the site characteristics set out above and relevant datasets (see Appendix 0) impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features?	Most recent record	Distance of closest record to application area (km)	Number of records in local area	Are surveys adequate to identify?
<i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo)	EN	Y	2019	0.035	176*	N/A
<i>Falco peregrinus</i> (peregrine falcon)	OS	Y	1980	6.8	6	N/A
<i>Hesperocolletes douglasi</i> (Douglas's broad-headed bee)	CR	Y	2015	3.2	1	N/A
<i>Isodon fusciventer</i> (quenda)	P4	Y	1990	8.4	2	N/A

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

\*Includes 25 records of *Calyptorhynchus* sp. 'white-tailed black cockatoo'

### A.5. Ecological community analysis table

With consideration for the site characteristics set out above and relevant datasets (see Appendix 0) impacts to the following conservation significant ecological communities required further consideration.



Community name	Conservation status	Suitable habitat features?	Suitable vegetation type?	Suitable soil type?	Distance of closest record to application area (km)	Number of records in local area	Are surveys adequate to identify?
Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	P3	Y	Y	Y	0	104	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?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u> The area proposed to be cleared is likely to contain the Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region priority ecological community and/or the Swan Coastal Plain <i>Banksia attenuata</i> - <i>Banksia menziesii</i> woodlands priority ecological community, contains foraging habitat for Carnaby's cockatoo and may contain habitat for other conservation significant fauna species, and may contain conservation significant flora species.</p>	May 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> The area proposed to be cleared contains foraging habitat for Carnaby's cockatoo, however doesn't comprise significant habitat for the species.</p>	May be at variance	Yes <i>Refer to Section 3.2.2 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> 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
<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> The area proposed to be cleared does not contain species indicative of a threatened ecological community listed under the BC Act. The vegetation within the application area is considered to comprise the Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region federally listed Threatened Ecological Community (Banksia TEC).</p>	May be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> "Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."</p> <p><u>Assessment:</u> The extents of the mapped vegetation type and native vegetation in the local area are consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (h):</u> "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."</p> <p><u>Assessment:</u> Given that the application area is within the Rosella Rd Bushland, Bullsbrook, a Bush Forever area, the proposed clearing is likely to have an impact on the environmental values on this Bush Forever Area.</p>	May be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> "Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."</p> <p><u>Assessment:</u> No water courses or wetlands are recorded within the application area and vegetation within the application area is not indicative of riparian vegetation.</p>	Not likely to be at variance	No
<p><u>Principle (g):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."</p> <p><u>Assessment:</u> The mapped soils are highly susceptible to subsurface acidification and phosphorus export and moderately susceptible to wind erosion.</p>	May be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<p><u>Principle (i):</u> "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."</p> <p><u>Assessment:</u> Given the distance to nearest surface water body and the extent of the clearing, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> "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> The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given the distance to the nearest surface water body, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	No

## Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types. Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery (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.

Condition	Description
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 2: Aerial imagery of the application area 1989 (Landgate, 2021)



Figure 3: Aerial imagery of the application area 2000 (Landgate, 2021)



Figure 4 – looking west from eastern boundary of application area – mixed shrubs in foreground and *Banksia* spp. trees in background (Synergy, 2021b).



Figure 5 – looking northwest from southern boundary of application area – mixed shrubs (Synergy, 2021b).



Figure 6– looking east from western boundary of application area – mixed shrubs and cleared area (Synergy, 2021b).



Figure 7 – looking northeast within application area – stag tree, mixed shrubs and *Banksia* trees (Synergy, 2021b).



Figure 8 – looking southeast from north-western corner of application area – Banksia tree, *Xanthorrhoea preissii* and mixed shrubs (Synergy, 2021b).

## Appendix E. Sources of information

### E.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Geomorphic Wetlands of the 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
- 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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