



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9275/1
Permit Holder:	Natural Area Holdings Pty Ltd T/A Natural Area Consulting and Management Services
Duration of Permit:	From 22 October 2021 to 22 October 2026

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

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of fence construction.

2. Land on which clearing is to be done

Lot 67 on Deposited Plan 226007, Forrestdale
Lot 68 on Deposited Plan 226007, Forrestdale
Lot 171 on Deposited Plan 56604, Forrestdale
Lot 800 on Deposited Plan 62603, Forrestdale

3. Clearing authorised

The permit holder must not clear more than 0.398 hectares of *native vegetation* within the areas shaded yellow in Figures 1-2 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

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

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

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

5. Weed and dieback management

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

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

6. Flora management - *Jacksonia gracillima*

- (a) The permit holder shall demarcate all *Jacksonia gracillima* individuals located within the area shaded yellow on Figures 1-2 of Schedule 1, as identified by the biological survey titled 'Department of Lands, Planning and Heritage Breakwater Flora, Vegetation and Black Cockatoo Assessment (Natural Area Holdings Pty Ltd, 2021)'.
(b) The permit holder shall ensure that no clearing of *Jacksonia gracillima* occurs without prior *CEO* approval.

7. Flora management – threatened flora

- (a) In the Spring immediately prior to undertaking any clearing authorised under this permit within the areas shaded yellow on Figures 1-2 of Schedule 1, the permit holder must engage a *botanist* to conduct a targeted flora survey of the permit area for the presence of the following *threatened flora*:
 - (i) *Drakea elastica*
 - (ii) *Drakea micrantha*
 - (iii) *Caladenia huegelii*
 - (iv) *Austrostipa jacobsiana*
- (b) Where *threatened flora* is identified under condition 7(a), the permit holder must not cause or allow:
 - (i) clearing within 50 metres of the identified *threatened flora* without prior *CEO* approval.; and
 - (ii) clearing of the identified *threatened flora*, unless approved under section 40 of the *Biodiversity Conservation Act 2016*.
- (c) Within two months of undertaking any clearing authorised under this permit within the combined areas shaded yellow on Figures 1-2 of Schedule 1, the permit holder must provide the results of the targeted flora survey in a report to the *CEO*.
- (d) If any *threatened flora* are identified within areas shaded yellow on Figures 1-2 of Schedule 1, the targeted flora survey report must include the following:
 - (i) the location of each *threatened flora* identified under condition 7(a) either as the location of individual plants, or where this is not practical, the areal extent of the population and an estimate of the number of plants, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

- (ii) the species name of each *threatened flora* species identified under condition 7(a); and
- (iii) the methodology used to survey the permit area.

PART III - RECORD KEEPING AND REPORTING

8. 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 4; and (f) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 5.
2.	In relation to flora management pursuant to condition 7	<ul style="list-style-type: none"> (a) the name and location of each individual <i>Jacksonia gracillima</i>, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (b) actions taken to demarcate each individual <i>Jacksonia gracillima</i>; and (c) actions taken to avoid the clearing of each individual <i>Jacksonia gracillima</i>.
3.	In relation to flora management pursuant to condition 7	<ul style="list-style-type: none"> (d) the name and location of each <i>threatened flora</i>, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (e) actions taken to demarcate each individual <i>threatened flora</i> and their buffers; and (f) actions taken to avoid the clearing of each individual <i>threatened flora</i>.

9. 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 8; 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 8, where these records have not already been provided under condition 9(a).

DEFINITIONS

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

Table 2: Definitions

Term	Definition
<i>botanist</i>	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of two (2) years work experience in Western Australian flora identification and undertaking flora surveys native to the bioregion being inspected or surveyed, or who is approved by the CEO as a suitable environmental specialist for the bioregion, and who holds a valid flora licence issued under the <i>Biodiversity Conservation Act 2016</i> .
<i>CEO</i>	means the Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
<i>fill</i>	means material used to increase the ground level, or to fill a depression.
<i>dieback</i>	means the effect of <i>Phytophthora</i> species on native vegetation.
<i>EP Act</i>	<i>Environmental Protection Act 1986 (WA)</i>
<i>mulch</i>	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
<i>native vegetation</i>	has the meaning given under section 3(1) and section 51A of the EP Act.
<i>threatened flora</i>	means those plant taxa listed as threatened flora under the <i>Biodiversity Conservation Act 2016 (WA)</i> .
<i>weeds</i>	means any plant – <ol 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

Term	Definition
	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*

29 September 2021

Schedule 1

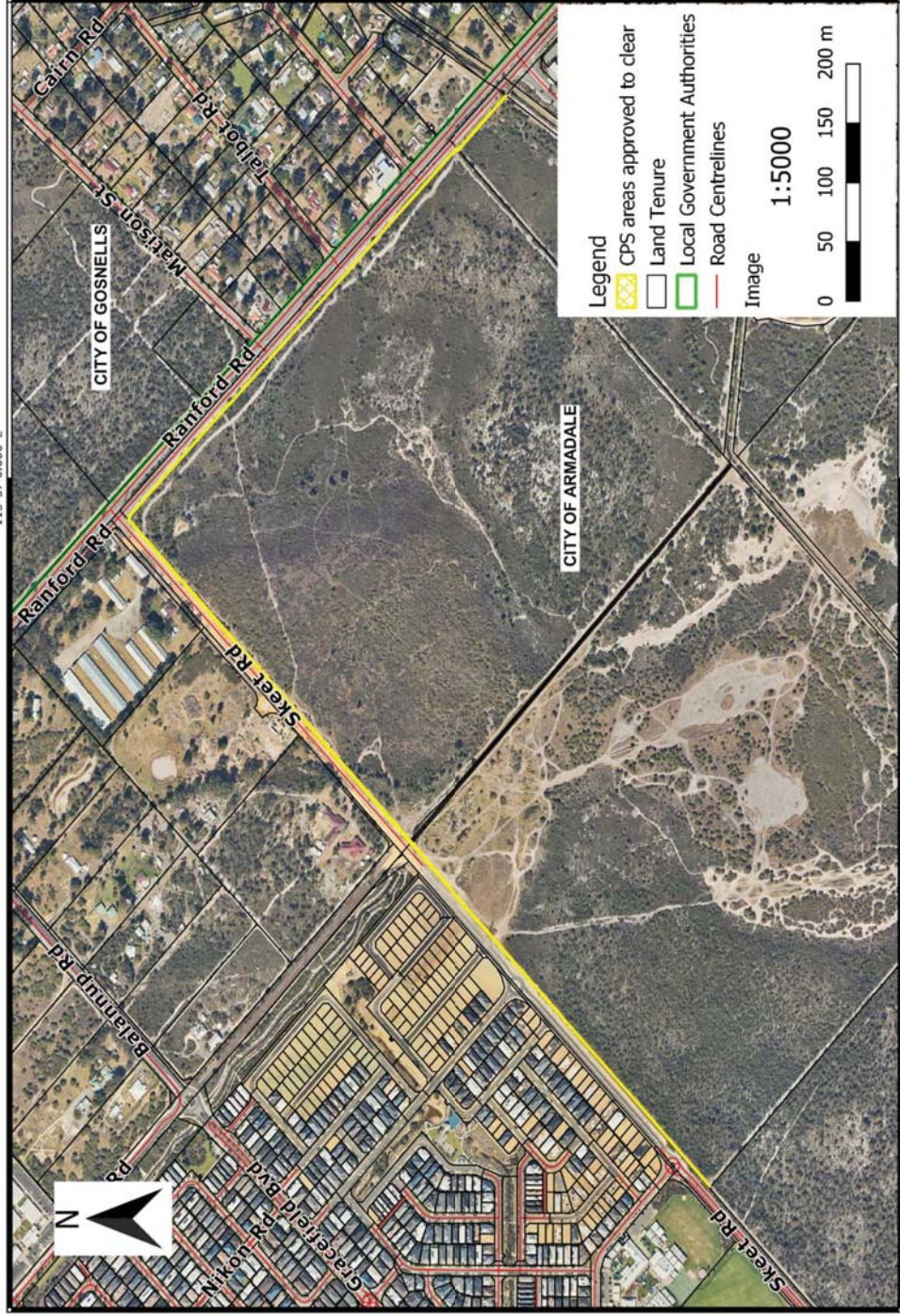


Figure 1: The boundaries of the areas to which this permit applies are cross-hatched yellow.

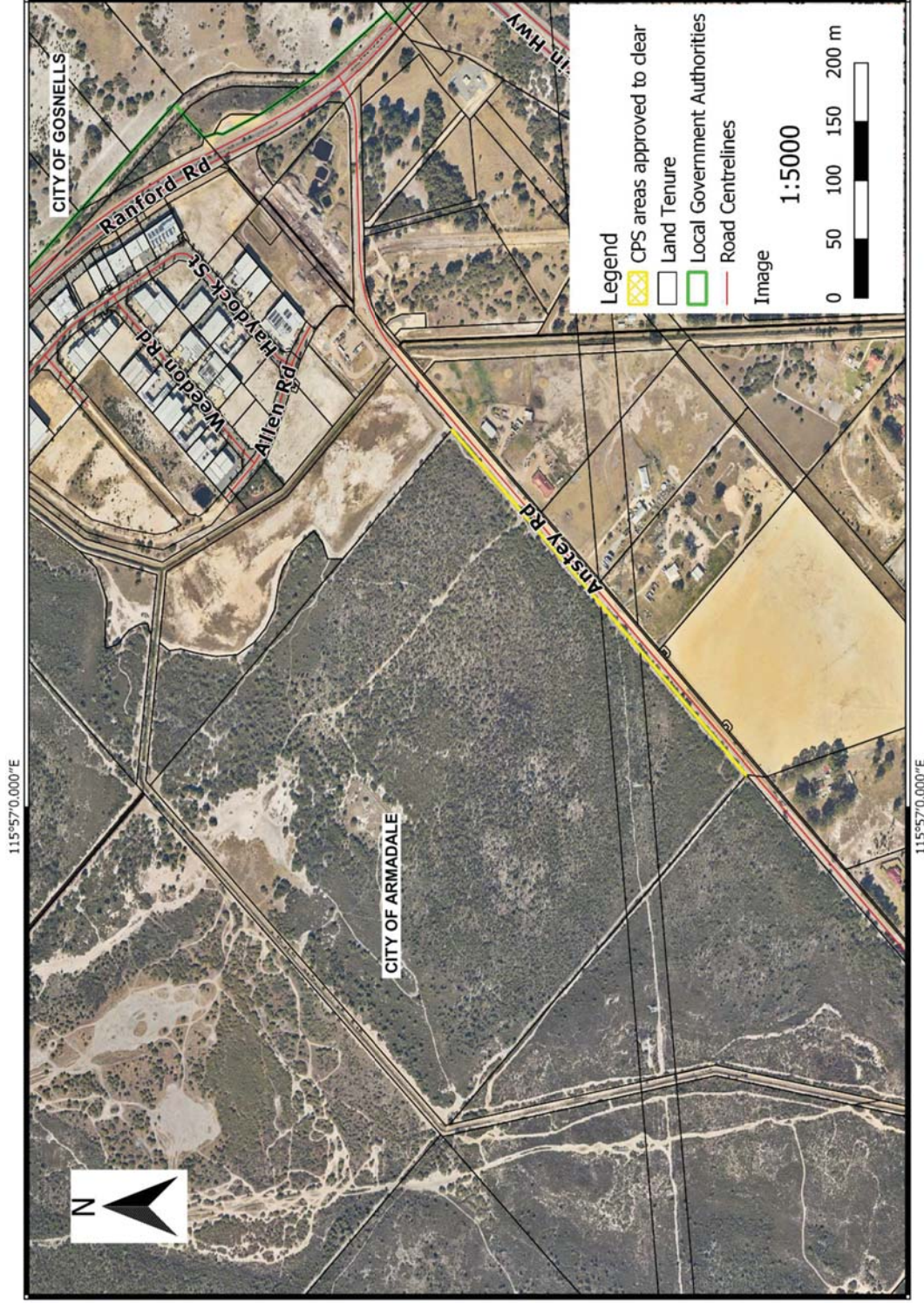


Figure 2: The boundaries of the areas to which this permit applies are cross-hatched yellow.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9275/1
Permit type:	Purpose permit
Applicant name:	Natural Area Holdings Pty Ltd T/A Natural Area Consulting and Management Services
Application received:	29 April 2021
Application area:	0.398 hectares of native vegetation
Purpose of clearing:	Fence line installation
Method of clearing:	Mechanical
Property:	Lot 67 on Deposited Plan 226007 Lot 68 on Deposited Plan 226007 Lot 171 on Deposited Plan 56604 Lot 800 on Deposited Plan 62603
Location (LGA area/s):	City of Armadale
Localities (suburb/s):	Forrestdale

1.2. Description of clearing activities

The application is to prune and brush cut vegetation within a one-meter-wide corridor along an existing fence around Bush Forever Site No. 342 (Natural Area, 2021a). The intent of the fencing works is to upgrade and replace the existing fencing with cable fencing and heavy-duty gates to protect vegetation within the Bush Forever Area by preventing unauthorised access. The fence will run linearly along Anstey Road, Skeet Road and Ranford Road for approximately three kilometres (Natural Area, 2021a). Upgrading the existing fence will provide an additional physical barrier against anthropogenic disturbances and provide better land management through controlled access (Natural Area, 2021a).

The application was reduced from 0.58 hectares to 0.398 hectares during the validation process due to a correction in the area identified to be cleared.

1.3. Decision on application

Decision:	Granted
Decision date:	29 September 2021
Decision area:	0.398 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 information provided in the application and a basic flora assessment (Natural Area, 2021a), site characteristics (see Appendix A), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant datasets (see Appendix E.1), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration that the purpose of the clearing is to prevent further degradation of the adjacent Bush Forever Area (BFA) 342 by unauthorised vehicle access.

The assessment identified that the proposed clearing will result in:

- the potential clearing of four threatened flora species
- the potential clearing of a single plant of Priority 3 flora species *Jacksonia gracillima* and
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of vegetation within the adjacent BFA 342.

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 can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

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

- avoid, minimise and reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- ensure clearing of the single *Jacksonia gracillima* plant does not occur and
- ensure clearing of the listed threatened flora species does not occur.

1.5. Site map

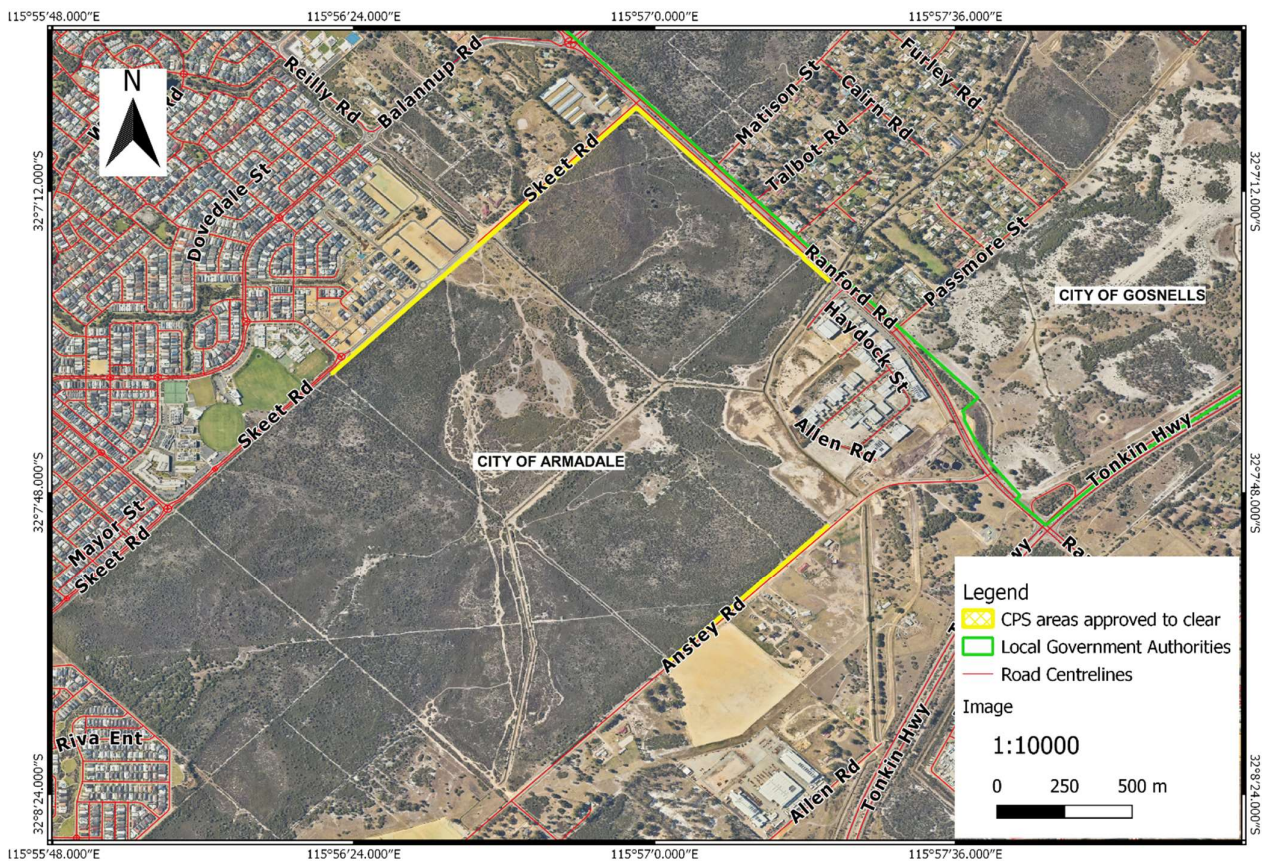


Figure 1. The areas shaded yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)

Relevant policies considered during the assessment include:

- *State Planning Policy 2.8 – Bushland policy for the Perth Metropolitan Region* (2010)

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant (Natural Area, 2021a) advised:

- The one-metre-wide corridor required for the installation of the fence requires minimal vegetation removal as the alignment runs along an existing fence line, adjacent to firebreaks/access tracks and road verges which have been impacted by development with several areas already cleared.
- Clearing will be limited to minor pruning and brush cutting to clear footprint and working space of new fence line.
- The proposed style of fencing includes steel cables with intermediate star-pickets and steel posts strainer assemblies, there will be minimal disturbance and impact to the surrounding areas, with star pickets and box braces driven directly into the ground, resulting in minimal soil disturbance, and limiting potential erosion.
- Proposed entry gates will be installed in areas with existing tracks, utilising existing cleared areas with minimal to no vegetation clearing required.
- The fence will be constructed around mature trees to prevent unnecessary clearing.
- The proposed works will accommodate the retention of the one individual *Jacksonia gracillima* (Priority 3). Spacing and alignment of the star-pickets will occur in a manner which does not disturb or damage the plant.

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 impacts of the proposed clearing present a risk to biological values (threatened and priority flora). 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 (threatened and priority flora) - Clearing Principles (a, c)

Assessment

Priority flora

Considering extent, size, shape and condition (See Appendix A.1), the proposed clearing is unlikely to contain significant populations of priority flora. The applicant has committed to retain the single plant of Priority 3 species *Jacksonia gracillima* recorded within the area proposed to be cleared.

Threatened flora

Considering the site characteristics (see Appendix A.1) and habitat preferences of the threatened flora within the local area that occur on the same soil types as the area proposed to be cleared (see Appendix A.2), the vegetation comprises suitable habitat for four threatened flora species. The flora assessment reported that timing was a limitation: "the on-ground survey was conducted outside of the optimal time of year for flora surveys in the south-west region; as such some species (e.g., orchids) would not be visible during the survey and only those observed were recorded" (Natural Area, 2021a).

Austrostipa jacobsoniana is a clumping perennial grass (Western Australian Herbarium, 1998-) for which there are records on highly disturbed nearby roadside where herbicides are maintained with spraying and slashing. This species may have been identifiable during the flora assessment conducted however Natural Area (2021a) did not indicate it was actively searched for. Considering the area proposed to be cleared comprises suitable habitat for this species and its persistence in disturbed areas, this species may be present within the area proposed to be cleared. The remaining three species are orchids (*Drakea elastica*, *D. micrantha*, *Caladenia huegelii*) and can only be identified in their spring flowering period. The flora assessment (Natural Area, 2021a) was conducted outside of this time. Considering the area proposed to be cleared comprises suitable habitat for these orchid species and they can persist in disturbed areas, they may be present within the area proposed to be cleared.

Given the threatened status of these species, any impacts to individuals may represent significant impacts to local populations and at the species levels.

Conclusion

Based on the above assessment, the proposed clearing will result in the possible loss of a single *Jacksonia gracillima* (P3) plant and the threatened flora species *Austrostipa jacobsoniana*, *Drakea elastica*, *Drakea micrantha* and *Caladenia huegelii*.

For the reasons set out above, it is considered that the impacts of the proposed clearing on threatened flora can be managed by taking steps to identify, demarcate and avoid clearing flora of conservation significance.

Conditions

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

- Flora management – threatened flora: pre-clearing targeted survey and actions to avoid clearing the above-listed threatened species
- Flora management – *Jacksonia gracillima* actions to avoid clearing the identified plant.

3.3. Relevant planning instruments and other matters

The Department of Biodiversity Conservation and Attractions (DBCA) noted that the fence will be constructed around mature trees and conservation significant species to prevent unnecessary clearing (DBCA, 2021). Following handover from the Department of Planning, Lands and Heritage (DPLH), DBCA's Regional Parks Unit will be managing these properties as part of Jandakot Regional Park and the fence is an essential requirement to keep out unauthorised vehicles and prevent further degradation of the high conservation values that are present in the Anstey-Keane dampland (DBCA, 2021).

The area is zoned by the City of Armadale as Parks and Recreation within Town Planning Scheme No. 4. The City of Armadale (2021) advised "Illegal access that results in rubbish dumping, erosion, vegetation damage and fire risk has been an issue in these reserves for some time and therefore the City is supportive of the fencing of these reserves to help prevent ongoing illegal access".

There are no Aboriginal sites of significance mapped within the application area.


End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is in a rapidly developing area in the southern part of the Perth metropolitan area, approximately 30 km south of the CBD. It is adjacent to roads on one side and the narrow strip of vegetation that lies between the roads and the firebreak to a 368-hectare patch of native vegetation on the other.</p> <p>Aerial imagery indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 20 per cent of the original native vegetation cover.</p>
Ecological linkage	Perth Regional Ecological Linkage number 57 intersects the area proposed to be cleared.
Conservation areas	<p>The area proposed to be cleared is along the north, south and north-east boundaries of Anstey-Keane Dampland (Bush Forever Site 342), which is a component of Jandakot Regional Park. The Anstey-Keane Dampland contains high diversity of plant species and is associated with seasonal wetlands with both Conservation Category and Resource Enhancement Wetlands (Natural Area, 2021a).</p> <p>It is also located within 5 km of a Wetland of International Importance (Ramsar) (Natural Area, 2021a).</p>
Vegetation description	<p>The area proposed to be cleared is mapped as the Southern River vegetation complex, which is described as described as Marri-Jarra-Banksia Open Woodland on the elevated areas and a fringing Woodland of <i>Eucalyptus rudis</i>, <i>Melaleuca raphiophylla</i> along the streams. South of the Murray River, <i>Agonis flexuosa</i> occurs in association with the <i>Eucalyptus rudis</i> and <i>Melaleuca raphiophylla</i> (Hedde et al, 1980).</p> <p>The flora assessment reported the vegetation proposed to be cleared is consistent with this vegetation type (Natural Area, 2021a). Representative photos are available in Appendix D.</p> <p>The Southern River vegetation complex retains approximately 18 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>A flora assessment (Natural Area Holdings, 2021a) reported the vegetation within the proposed clearing area ranges from Very Good to Completely Degraded, with majority of the proposed fence alignment clearing area (77.8%) being Completely Degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> • 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.

Characteristic	Details																					
	<p>The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos of the vegetation proposed to be cleared were provided by the applicant (Natural Area, 2021b) and are available in Appendix D.</p> <p>The flora assessment provided (Natural Area, 2021a) reported numerous unauthorised entries and evidence of off-road vehicles utilising Anstey-Keane Dampland were noted, along with illegal rubbish dumping. These activities continue to deteriorate the surrounding environment (Natural Area, 2021a).</p>																					
Climate and landform	<p>The climate experienced in the area is Mediterranean, with dry, hot summers and cool, wet winters. According to the Bureau of Meteorology; Gosnells City, Site No. 009106: rainfall averages 804.3 mm per annum, with rain falling predominantly between May and August (Natural Area, 2021a).</p> <p>The site is relatively flat with gentle rises in the north-west and south-east boundaries, with site contours ranging from 22 to 24 m AHD (Australian Height Datum) (Natural Area, 2021a).</p>																					
Soil description	<p>Natural Area (2021a) identified six soil types are present across the site.</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Symbol</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Bassendean B1 Phase</td> <td>212Bs_B1</td> <td>Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands. Sometimes with a pale-yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 m; <i>Banksia</i> dominant.</td> </tr> <tr> <td>Bassendean B2 Phase</td> <td>212Bs_B2</td> <td>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.</td> </tr> <tr> <td>Bassendean B3 Phase</td> <td>212Bs_B3</td> <td>Closed depressions and poorly defined stream channels with moderately deep, poorly to very poorly drained bleached sands with an iron-organic pan, or clay subsoil. Surfaces are dark grey sand or sandy loam.</td> </tr> <tr> <td>Bassendean B4 Phase</td> <td>212Bs_B4</td> <td>Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan.</td> </tr> <tr> <td>Pinjarra P1b Phase</td> <td>213Pj_P1b</td> <td>Flat to very gently undulating plain with deep acidic mottled yellow duplex (or effective duplex) soils. Moderately deep pale sand to loamy sand over clay: imperfectly drained and moderately susceptible to salinity in limited areas.</td> </tr> <tr> <td>Pinjarra P8 Phase</td> <td>213Pj_P8</td> <td>Broad poorly drained flats and poorly defined stream channels with moderately deep to deep sands over mottled clays; acidic or less commonly alkaline grey and yellow duplex soils to uniform bleached or pale brown sands over clay.</td> </tr> </tbody> </table>	Name	Symbol	Description	Bassendean B1 Phase	212Bs_B1	Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands. Sometimes with a pale-yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 m; <i>Banksia</i> dominant.	Bassendean B2 Phase	212Bs_B2	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.	Bassendean B3 Phase	212Bs_B3	Closed depressions and poorly defined stream channels with moderately deep, poorly to very poorly drained bleached sands with an iron-organic pan, or clay subsoil. Surfaces are dark grey sand or sandy loam.	Bassendean B4 Phase	212Bs_B4	Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan.	Pinjarra P1b Phase	213Pj_P1b	Flat to very gently undulating plain with deep acidic mottled yellow duplex (or effective duplex) soils. Moderately deep pale sand to loamy sand over clay: imperfectly drained and moderately susceptible to salinity in limited areas.	Pinjarra P8 Phase	213Pj_P8	Broad poorly drained flats and poorly defined stream channels with moderately deep to deep sands over mottled clays; acidic or less commonly alkaline grey and yellow duplex soils to uniform bleached or pale brown sands over clay.
Name	Symbol	Description																				
Bassendean B1 Phase	212Bs_B1	Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands. Sometimes with a pale-yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 m; <i>Banksia</i> dominant.																				
Bassendean B2 Phase	212Bs_B2	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.																				
Bassendean B3 Phase	212Bs_B3	Closed depressions and poorly defined stream channels with moderately deep, poorly to very poorly drained bleached sands with an iron-organic pan, or clay subsoil. Surfaces are dark grey sand or sandy loam.																				
Bassendean B4 Phase	212Bs_B4	Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan.																				
Pinjarra P1b Phase	213Pj_P1b	Flat to very gently undulating plain with deep acidic mottled yellow duplex (or effective duplex) soils. Moderately deep pale sand to loamy sand over clay: imperfectly drained and moderately susceptible to salinity in limited areas.																				
Pinjarra P8 Phase	213Pj_P8	Broad poorly drained flats and poorly defined stream channels with moderately deep to deep sands over mottled clays; acidic or less commonly alkaline grey and yellow duplex soils to uniform bleached or pale brown sands over clay.																				
Land degradation risk	<p>High risk for : Phosphorus export, waterlogging, acidification Moderate risk for : Compaction, salinity, water erosion, water repellence Low risk for : Water Repellence, wind erosion</p>																					
Waterbodies	<p>The area proposed to be cleared is at the edge of the Anstey-Keane Dampland, which contains high diversity of plant species and is associated with seasonal wetlands with both Conservation Category and Resource Enhancement Wetlands (Department of Biodiversity, Conservation and Attractions, 2016).</p>																					
Hydrogeography	<p>The area proposed to be cleared is within the Perth Ground Water Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i>.</p>																					
Flora	<p>There are records of 62 flora species of conservation significance within the local area including 18 threatened species. Seven threatened flora are found on the same soil types mapped over the area proposed to be cleared.</p> <p>The applicant undertook a basic flora assessment (Natural Area, 2021a) however this was not conducted in accordance with the EPA's Guidance for flora surveys (EPA, 2016). One plant of Priority 3 <i>Jacksonia gracillima</i> listed under the <i>Biodiversity Conservation Act 2016</i> (WA) was recorded within the area proposed to be cleared (Natural Area, 2021a).</p>																					

Characteristic	Details
	<p><i>Gomphocarpus fruticosus</i> (Narrowleaf Cottonbush) was also recorded on site (Natural Area, 2021a). This species is listed as a Declared Pest in Western Australia and landowners are required to manage its population under the <i>Biosecurity and Agriculture Management Act 2007</i> (WA).</p>  <p><i>*Gomphocarpus fruticosus</i> (Declared Pest)</p>
Ecological communities	<p>The vegetation proposed to be cleared is mapped as 'Banksia Dominated Woodland of the Swan Coastal Plain' Priority 3 PEC, which is also a federally listed TEC.</p> <p>There are also records of 4 state-listed TECs mapped in the local area, the nearest being the critically endangered TEC "Shrublands on dry clay flats (floristic community type 10a as originally described in Gibson et al. (1994))" that is within the adjacent BFA 342.</p>
Fauna	<p>There are records of numerous fauna of conservation significance within the local area, including records of 4 species within the adjacent BFA 342 and multiple black cockatoo roost sites.</p>

A.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and flora assessment information (Natural Area, 2021a), impacts to the following threatened flora required further consideration due to the potential for them to occur within the area proposed to be cleared and the significance of the impacts, were they to be cleared.

Species name	Conservation status (WA)	Suitable mapped soil type? [Y/N]	Suitable vegetation? [Y/N]	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Austrostipa jacobsoniana</i>	CR	Y	Y	Y	970 m	N – intensity unknown
<i>Caladenia huegelii</i>	EN	Y	Y	Y	990 m	N – timing incorrect (flowers Sep – Oct) and intensity unknown
<i>Diuris drummondii</i>	EN	Y	N	N	8000 m	N/A
<i>Diuris purdiei</i>	EN	Y	N	N	670 m	N/A
<i>Drakea elastica</i>	EN	Y	Y	Y	3400 m	N – timing incorrect (flowers Sep – Nov) and intensity unknown
<i>Drakea micrantha</i>	VU	Y	Y	Y	4200 m	N – timing incorrect (flowers Sep – Oct) and intensity unknown
<i>Lepidosperma rostratum</i>	EN	Y	N	N	2400 m	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> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u> The vegetation proposed to be cleared is part of a conservation category wetland, adjacent to a Bush Forever conservation area, contributes to a Regional Ecological Linkage and may comprise a priority ecological community (Priority 3). However, the area proposed to be cleared is small in relation to the extent of PEC vegetation types present in the adjacent BFA 342 and the wider Jandakot Regional Park in larger, intact patches and in better condition than the vegetation proposed to be cleared. Considering the size, scale and condition of the vegetation (see Appendix A.1), with low impact clearing methods and standard hygiene practices, the proposed clearing is unlikely to have an appreciable impact on the function of the ecological linkage or result in appreciable deterioration of adjacent vegetation. This is particularly so, considering the purpose of the clearing. The area proposed to be cleared contains a Priority 3 flora however the applicant intends to and is required to retain this plant.</p>	Not likely to be at variance	No
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u> Considering the condition, extent and location of the vegetation proposed to be cleared, it does not contain significant habitat for native fauna.</p>	Not likely to be at variance	No
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared comprises suitable habitat for 4 flora species listed under the BC Act.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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 that can indicate 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 mapped vegetation type and the local area both retain less than 30% of the original extent and the vegetation proposed to be cleared is part of a significant ecological linkage in the local area. However, the area proposed to be cleared is within the Perth Metropolitan Region constrained area, where a minimum 10% representation threshold for ecological communities is recommended (EPA, 2008). The current vegetation extent for the Swan Coastal Plain IBRA Bioregion, the Southern River Complex, and the local area are above the 10% threshold for constrained areas. Considering the vegetation condition, the extent and type of clearing proposed, there is not likely to be an appreciable impact to the function of the ecological linkage.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<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>Assessment: Although the vegetation is part of a conservation category wetland and adjacent to a Bush Forever conservation area, considering the size, scale and condition of the vegetation (see Appendix A.1), the proposed clearing is unlikely to result in appreciable deterioration of adjacent vegetation. On the contrary, the purpose of the clearing is to control anthropogenic disturbances by upgrading the existing fencing to the Bush Forever site, and hence will help improve the condition of adjacent vegetation in the long term.</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>Assessment: Given the vegetation is within a ‘dampland’ type of wetland it is likely to comprise riparian vegetation. However, considering the size, scale and condition of the vegetation (see Appendix A.1), the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	At variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p>Assessment: The mapped soils are highly susceptible to nutrient export and acidification and moderately susceptible to water erosion. 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>Assessment: The vegetation is situated at the edge of a wetland however, considering the size, scale and condition of the vegetation (see Appendix A.1), the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p>Assessment: Although the vegetation is situated at the edge of a wetland the topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. Considering the size, scale and condition of the vegetation (see Appendix A.1), the proposed clearing is unlikely to result in an appreciable increase in water logging.</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. Flora assessment information excerpts and photographs of the vegetation

Below are the photos of vegetation condition along the proposed fence line for Ranford Road, Skeet Road and Anstey Road and photo point locations provided by the applicant during assessment (Natural Area, 2021b).



Easting and Northings	Location	Direction	Photo No.
Point (401318.87, 6444369.70)	Anstey road	NE	17
Point (401461.05, 6444511.74)	Anstey Road	NE	18
Point (400728.54, 6445922.54)	Skeet Road	NE	9
Point (400457.51, 6445634.90)	Skeet Road	NE	10
Point (400364.59, 6445538.38)	Skeet Road	SW	11
Point (400292.25, 6445462.09)	Skeet Road	SW	12
Point (400120.58, 6445287.36)	Skeet Road	SW	13
Point (400016.99, 6445174.24)	Skeet Road	SW	14
Point (401012.97, 6444055.40)	Anstey Road	NE	15
Point (401167.10, 6444210.95)	Anstey Road	NE	16
Point (401498.42, 6445456.72)	Ranford Road	NW	1
Point (401411.71, 6445551.28)	Ranford Road	NW	2
Point (401273.54, 6445695.62)	Ranford Road	NW	3
Point (401148.49, 6445819.58)	Ranford Road	NW	4
Point (401078.21, 6445895.16)	Ranford Road	NW	5
Point (401016.93, 6445958.04)	Ranford Road	NW	6
Point (400942.75, 6446032.96)	Ranford Road	NW	7
Point (400871.75, 6446071.43)	Skeet Road	NE	8



Photo 1: Completely Degraded vegetation – Ranford Road



Photo 2: Good condition vegetation – Ranford Road



Photo 3: Completely Degraded vegetation – Ranford Road



Photo 4: Completely Degraded vegetation – Ranford Road



Photo 5: very Good Condition vegetation – Ranford Road



Photo 6: very Good Condition vegetation – Ranford Road



Photo 7: very Good Condition vegetation – Ranford Road



Photo 8: Completely Degraded vegetation –Skeet Road



Photo 9: Completely Degraded vegetation –Skeet Road



Photo 10: Completely Degraded vegetation –Skeet Road NE



Photo 10: Completely Degraded vegetation –Skeet Road SW



Photo 11: Completely Degraded vegetation –Skeet Road



Photo 12: Completely Degraded vegetation –Skeet Road



Photo 13: Completely Degraded vegetation –Skeet Road



Photo 14: Completely Degraded vegetation –Skeet Road



Photo 15: Completely Degraded vegetation – Anstey Road



Photo 16: Good vegetation – Anstey Road



Photo 17: Degraded vegetation – Anstey Road



Photo 18: Completely Degraded vegetation – Anstey Road

Table 4: Vegetation condition across site

Vegetation Condition	Pristine	Excellent	Very Good	Good	Degraded	Completely Degraded	Total
Area (ha)	0	0	0.0160	0.0752	0.0377	0.451	0.580
Area (%)	0	0	2.7	13	6.5	77.8	100

(Natural Area, 2021a)

Appendix E. Sources of information

E.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Hydrography – Inland Waters – Waterlines
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Perth Regional Ecological Linkages
- 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

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)

E.2. References

City of Armadale (2021) *Advice for clearing permit application CPS 9275/1*, received 3 June 2021 (DWER Ref: DWERDT460110).

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

Department Biodiversity Conservation and Attractions (DBCAs) (2021) *Advice for clearing permit application CPS 9275/1*, received 25 May 2021 (DWER Ref: DWERDT456816).

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

Department of Planning Lands and Heritage (DPLH) (2021) *Advice for clearing permit application CPS 9275/1*, received 28 May 2021 (DWER Ref: DWERDT457936).

Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development*. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (accessed 30 June 2020).

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

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

Government of Western Australia (2019) *2018 South West Vegetation Complex Statistics. Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions, Perth, <https://catalogue.data.wa.gov.au/dataset/dbca>

Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) *Vegetation Complexes of the Darling System, Western Australia*. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Natural Area Consulting Management Services (Natural Area) (2021a) *Anstey Road, Ranford Road, Skeet Road Flora Assessment* prepared for Department of Planning, Lands and Heritage.

Natural Area Consulting Management Services (Natural Area) (2021b) *Supporting information for clearing permit application CPS 9275/1*, received 22 June 2021 (DWER Ref: A2020146).

Western Australian Herbarium (1998-) *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 22 September 2021)