# Appendix B – *Application of the* Environmental Protection Act 1986 *Clearing Principles in relation to the proposed vegetation clearing within part lot 963 Estuary Drive, Vittoria* (Emerge Associates, 2022)

PERTH OFFICE
Suite 4, 26 Railway Road
Subiaco
Western Australia 6008

P +61 8 9380 4988
F +61 8 9380 9636
emergeassociates.com.au

Emerge Environmental Services Pty Ltd ABN 57144772510 trading as Emerge Associates

Document Reference: EP22-080(02)—003 SKP

Emerge contact: Rachel Weber

5 October 2022

Attention: Native Vegetation Regulation
Department of Water and Environmental Regulation
Locked Bag 10
JOONDALUP WA 6919

*Delivered by email to: info@dwer.wa.gov.au*

Dear Sir/Madam

# APPLICATION OF THE *ENVIRONMENTAL PROTECTION ACT 1986* CLEARING PRINCIPLES IN RELATION TO PROPOSED VEGETATION CLEARING WITHIN PART LOT 963 ESTUARY DRIVE, VITTORIA

## Overview

Quantem ('the applicant') has engaged Emerge Associates (Emerge) to provide environmental consultancy services to support the clearing of vegetation within part of Lot 963 Estuary Drive in Vittoria (referred to as the 'application area').

The application area extends over approximately 4.3 hectares (ha) in size and is bounded by Leschenault Drive to the east and south, vacant land to the north and port facilities to the west. The location and extent of the application area is shown in **Figure 1**.

This letter is provided in support of a clearing permit application (purpose permit) pursuant to Part V of the *Environmental Protection Act 1986* (EP Act) and addresses the ten clearing principles.

## 1 INTRODUCTION AND BACKGROUND

Quantem are planning on building a bulk storage facility and transport corridor within the application area. The current leaseholder (Alcoa) holds an existing clearing permit for the majority of the application area (CPS 7825/1) which expires on the 23 February 2023.

## 2 SUMMARY OF SURVEY RESULTS

A flora, vegetation and fauna survey was completed across the application area and immediately adjacent area on 18 August 2022, with the full results presented within *Flora, Vegetation and Fauna Assessment – Part Lot 963 Estuary Drive, Vittoria* (Emerge Associates 2022).

A summary of the results as they relate to the application area are provided below:

- A total of 20 native and 37 non-native species were recorded.
- No threatened or priority flora species were recorded.
- Two species listed as a declared pest (C3) pursuant to the *Biosecurity and Agriculture Management Act 2007* (BAM Act), **Asparagus asparagoides* (bridal creeper) and

**Gomphocarpus fruticosus* (narrowleaf cotton bush), were recorded within the application area. Bridal creeper is also listed as a weed of national significance (WoNS) (DAWE 2021).

- Five native plant communities were identified: **As**, **BcGtSp**, **Co**, **EgA** and **T**. The areas of each community within the application area are shown in **Figure 2**.
- The majority of the application area (81%) consists of a **non-native** plant community which is dominated by non-native flora species with scattered native plants.
- The remainder of the application area comprises cleared areas devoid of vegetation (0.05 ha/1%).
- The native vegetation was identified as being in 'degraded' condition and the non-native plant community and cleared areas was identified as being in 'completely degraded' condition (**Table 1** and **Figure 3**).
- One 'black cockatoo habitat tree' occurs in the application area but does not currently provide breeding habitat for black cockatoos due to the absence of suitable hollows. Small areas of 'low-quality' black cockatoo foraging habitat occur within the application area. Small patches of native and non-native trees in the application area may provide roosting habitat for black cockatoos.

***Table 1: Extent of vegetation community and condition categories within the application area***

| Plant community | Condition category (Keighery 1994) | Area (ha) |
|---|---|---|
| **As** | 'Degraded' | 0.10 |
| **BcGtSp** | 'Degraded' | 0.09 |
| **Co** | 'Degraded' | 0.27 |
| **EgA** | 'Degraded' | 0.18 |
| **T** | 'Degraded' | 0.15 |
| **Non-native** | 'Completely degraded' | 3.50 |
| **Cleared** | 'Completely degraded' | 0.05 |
| **Total** | | **4.34** |

## 3 RESPONSE TO EP ACT CLEARING PRINCIPLES

Under Section 51C of the EP Act, clearing of native vegetation is an offence unless a clearing permit has been obtained or an exemption applies. When assessing clearing permit applications, DWER has regard to the ten clearing principles contained in Schedule 5 of the EP Act so far as they are relevant to the matter under consideration.

To support the associated clearing permit application, the ten clearing principles have been considered and responded to in the following sections.

Principle (a) – Native vegetation should not be cleared if it comprises a high level of biological diversity.

The native vegetation present within the application area extends over 0.79 ha (18% of the application area). This vegetation is in 'degraded' condition according to the Keighery (1994) scale, indicating it has a 'severely impacted vegetation structure and very low native plant species diversity.

The remainder of the application area comprises **non-native** plant community and cleared areas, which extend over 3.55 ha (82% of the total). The **non-native** plant community is dominated by non-native species, with scattered native plants.

A total of 20 native (including four planted) and 35 non-native (weed) species were recorded in the field survey undertaken within the application area and immediately adjacent area.

No threatened or priority ecological communities were identified within the application area, nor were any threatened flora species. The vegetation within the application area is consistent with the vegetation which surrounds the application area, being all located on reclaimed land and dominated

by non-native vegetation. Based on the above, the application area is not considered to represent high floral diversity.

In addition, due to the small size, degraded nature of the application area and lack of connectivity to areas of intact native vegetation, the application area is considered to provide limited fauna habitat.

Therefore, the native vegetation within the application area is not considered to comprise a high level of biological diversity, and the proposed clearing is not at variance to principle (a).

Principle (b) – 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 indigenous to Western Australia.

A review of the *Protected Matters Search Tool* (DAWE 2021) and *NatureMap* (DBCA 2021) indicates that several conservation significant fauna species are known to occur within the broader area. A review of the *Atlas of Living Australia* (ALA 2021) indicates that there are no records of conservation significant species within or adjacent to the application area.

The application area occurs within the known range and breeding range of Carnaby's black cockatoo (*Zanda latirostris*), *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) and *Zanda baudinii* (Baudin's cockatoo). One threatened fauna species, Carnaby's black cockatoo, was recorded within the application area. Five individuals were observed resting in a *Casuarina obesa* tree during the survey.

Black cockatoo breeding habitat within the application area consists of one habitat tree[1] which occurs in the northern portion. This tree is a native species *Eucalyptus gomphocephala* (tuart) and is likely planted. The tree does not currently contain any hollows suitable for black cockatoo breeding. Black cockatoo foraging habitat within the application area consists of scattered trees such as native tuarts and *Acacia saligna* (orange wattle) and non-native *Eucalyptus* sp., *Melia azedarach* (white cedar) and *Olea europea* (olive). Most of these species are foraged on by black cockatoos but are not considered primary food sources. Due to the small size of this vegetation (<0.5 ha) and that they are secondary food sources for black cockatoos, it would not be considered a high value foraging resource for black cockatoos.

Some of the trees within plant community **EgA** in the application area may provide roosting habitat for black cockatoos. No evidence of roosting was observed within the application area during the field survey.

Fauna habitat values within the application area have been compromised by the removal of most of the native vegetation and high level of historical disturbance. Given the small size of the application area, and its location within a highly disturbed and fragmented fragmented landscape, it is considered unlikely that any conservation significant fauna would utilise the application area to any material or significant degree.

Based on the small extent of vegetation proposed to be cleared, the removal of vegetation within the application area is unlikely to have a significant impact on a habitat for fauna indigenous to Western Australia. Therefore, clearing within the application area is not considered to be at variance with Principle (b).

Principle (c) – Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

No occurrences of rare (threatened) flora were recorded and no suitable habitat for threatened flora was identified within the application area. The flora and vegetation survey over the application area was undertaken in August during which most of the threatened flora species known to occur in the wider local area would have either been flowering or detectable (perennial species). As such most of these species would likely have been visible at the time of the survey.

[1] 'Black cockatoo habitat trees' are defined as native *Eucalyptus* sp./*Corymbia* sp. known to support black cockatoo breeding with a diameter at breast height of at least 500 mm.

The proposed clearing is therefore not at variance with Principle (c).

Principle (d) – 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.

The vegetation within the application area is not representative of any threatened or priority ecological communities, nor are any considered likely to occur within the application area.

The proposed clearing is therefore not at variance with Principle (d).

Principle (e) – Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Regional vegetation mapping shows that the application area is located within the 'Quindalup' and 'Yoongarillup' vegetation complexes. The 'Quindalup' vegetation complex is described as coastal dunes consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of *Melaleuca lanceolata, Callitris preissii* and closed scrub of *Acacia rostellifera*. The 'Yoongarillup' vegetation complex is described as comprising woodland to tall woodland of *Eucalyptus gomphocephala* (tuart) with *Agonis flexuosa* (peppermint) in the overstorey, sometimes with *Eucalyptus marginata* (jarrah) and *Corymbia calophylla* (marri) (Heddle *et al.* 1980).

The 'Quindalup' complex was determined to have 60.49% of its pre-European extent remaining, with 9.84% protected for conservation purposes (Government of Western Australia 2018). The 'Yoongarillup' complex was determined to have 35.81% of its pre-European extent remaining, with 14.14% protected for conservation purposes (Government of Western Australia 2018).

The application area comprises an artificial landform and has been subject to intensive historical disturbance. The vegetation within the application area is in 'degraded' and 'completely degraded' condition, indicating it is not intact native vegetation. Therefore, the vegetation within the application area does not meet the above descriptions of the 'Quindalup' or 'Yoongarillup' complexes and so does not represent these complexes.

Based on the above, the vegetation in the application area does not represent remnant native vegetation and a high percentage of native vegetation remains within the relevant complexes. Therefore, clearing is not considered to be at variance with Principle (e).

Principle (f) – Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

A review of the *Wetlands of the Swan Coastal Plain* dataset (DBCA 2017) indicates that no wetland features occurs within the application area. One 'conservation' wetland (UFI 15513, Lechenault Estuary) occurs approximately 240 m to the east of the application area and extends to the north and south. Two 'multiple use' wetlands also occur close to the application area: UFI 1052 lies approximately 70 m to the south and UFI 15505 which occurs approximately 100 m to the north-east. A review of the Department of Water and Environmental Regulation (DWER) hydrography dataset does not show any watercourses within the application area (DWER 2018).

The southern-most portion of the application area comprises a man-made sump and contains plant community **T** in degraded condition. This area is not considered to comprise an intact wetland area but is comparable with the multiple use wetland present to the south of the railway track.

As the vegetation within the application area to be cleared is not associated with a watercourse or wetland, the proposed clearing is not considered to be at variance with Principle (f).

Principle (g) – Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Soil landscape mapping indicates that the application area is mapped within an area described as comprising 'disturbed soils and landfill' (DPIRD 2019). Due to the features of these soils, the key risk for land degradation is wind and water erosion.

The proposed clearing of vegetation is unlikely to cause substantial wind or water erosion within the application area, given the small amount of vegetation to be cleared. Procedures will be undertaken during construction to stabilise the landform to support the proposed infrastructure. In addition, mitigation measures will be employed during clearing, including dust suppression and surface stabilisation, where required.

The proposed clearing is therefore not at variance to Principle (g).

Principle (h) – 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.

The application area is located approximately 240 m from the Lechenault Estuary, which extends extensively to the east. Therefore, the clearing has the potential to impact the environmental values within a conservation area. However, the application area is not located directly adjacent to the conservation area and is not connected through a waterway or vegetated ecological linkage. Weeds are already well established within the application area and between the application area and the estuary. Therefore, removal of native vegetation is unlikely to have an impact on the estuary, such as introducing weeds.

Given the application area is located near to the Lechenault Estuary, the proposed clearing has the potential to impact on the environmental values of a conservation area. However, due to the lack of connectivity between the application area and the conservation area, presence of similar weed-dominated vegetation adjacent to the application area and the management measures that will occur during clearing to prevent the spread of weeds and pathogens/disease, there is not likely to be an impact on environmental values associated with the Lechenault Estuary and the proposed clearing is not considered to be at variance to Principle (h).

Principle (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.

Due to the small size of the clearing and high level of degradation currently present, it is unlikely that the clearing will cause acid sulphate soil disturbance or other issues that could cause a deterioration in groundwater quality. Similarly, no waterways occur within or adjacent to the application area and so it is unlikely that clearing will impact surface water and associated runoff.

Based on the above, the clearing is not at variance to Principle (i).

Principle (j) – Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

There are no wetland or waterway features within the application area and the application area is not identified as being within a floodplain area (DWER 2020). Based on this, the proposed removal of native vegetation within the application area is not considered likely to cause or exacerbate the incidence of flooding. The proposed clearing is not considered to be at variance with Principle (j).

## 4 SUMMARY AND CLOSING

The application area is approximately 4.34 hectares (ha) in size, and contains:

- five native plant communities, in ‘degraded’ condition
- one non-native plant community and cleared areas, in ‘completely degraded’ condition
- no threatened or priority flora species
- no threatened or priority ecological communities
- one ‘black cockatoo habitat tree’ which does not currently provide breeding habitat for black cockatoos
- small areas of low-quality black cockatoo foraging habitat
- small areas of black cockatoo roosting habitat.

A summary of response to clearing principles is provided in **Table 2**.

***Table 2: Summary of response to each clearing principle***

| Clearing principle | Response to clearing permit principle |
|---|---|
| Principle (a) | Not at variance – the vegetation within the application area does not comprise a high level of floral or faunal diversity.<br>The small area of native vegetation within the application area extends over 18% of the total area and is in 'degraded' condition which indicates it has low native species diversity. The application area is considered to provide limited fauna habitat due to its small size, degraded nature of the vegetation and lack of connectivity to areas of intact native vegetation. |
| Principle (b) | Not at variance – the vegetation within the application area does not contain significant habitat for conservation significant fauna species.<br>The application area contains habitat for black cockatoos but it is limited in size and value and not considered significant. One black cockatoo habitat tree occurs but this tree does not currently provide breeding habitat for black cockatoos as it does not contain suitable hollows. Small areas of low-value black cockatoo foraging habitat and roosting habitat occur within the application area. |
| Principle (c) | Not at variance – no threatened flora occur or are likely to occur within the application area.<br>No threatened flora species were recorded and no suitable habitat for threatened flora was identified within the application area. |
| Principle (d) | Not at variance – no threatened ecological communities occur within the application area.<br>No threatened ecological communities were recorded and none are considered likely to occur within the application area. |
| Principle (e) | Not at variance – vegetation in the application area does not represent a significant remnant of native vegetation.<br>The vegetation within the application area has established following land reclamation and disturbance and does not comprise intact native vegetation representative of the associated vegetation complexes. A high percentage of intact native vegetation associated with the vegetation complexes applicable to the application area occur outside of the application area. |
| Principle (f) | Not at variance – no watercourses or wetlands are present within the application area.<br>Wetland features occur in the surrounding area but the native vegetation within the application area is not considered to be associated with these features. |
| Principle (g) | Not at variance – the clearing is unlikely to cause appreciable land degradation.<br>Actions will be undertaken during construction to stabilise landform and management of topsoil during clearing will prevent any land degradation. |
| Principle (h) | Not at variance – the clearing is unlikely to impact on environmental values of nearby conservation area.<br>The Lechenault Estuary is near the application area. However, the small scale of clearing, the high weed cover currently present within the application area, lack of vegetated connectivity between the application area and the estuary and management of weed and pathogens/disease prior to and during clearing are considered to not cause any impacts on environmental values within the Lechenault Estuary conservation area. |
| Principle (i) | Not at variance – the clearing is unlikely to cause deterioration in the quality of surface or groundwater.<br>There are no surface water features within or adjacent to the application area, and there is unlikely to be any impacts to underground water sources through the clearing process. |
| Principle (j) | Not at variance – the clearing is unlikely to cause or exacerbate the incidence or intensity of flooding.<br>The application area is not located within or adjacent to any watercourses, wetlands or floodways, and clearing will therefore not cause any flooding. |

It is Emerge's opinion that the proposed clearing is consistent with the EP Act Clearing Principles, as detailed in this letter. This application relates to a relatively small amount of clearing, that will only impact upon degraded vegetation. Should you have any questions regarding the content of this letter, please do not hesitate to contact the undersigned.

Yours sincerely
Emerge Associates

**Rachel Weber**
SENIOR ENVIRONMENTAL CONSULTANT, TEAM LEADER - ECOLOGY

Encl: Figure 1: Application Area Location
Figure 2: Plant Communities
Figure 3: Vegetation Condition

## General References

Department of Agriculture, Water and the Environment (DAWE) 2021, *Weeds of National Significance (WoNS)*, Centre for Invasive Species Solutions (CISS), <https://weeds.org.au/weeds-profiles/>.

Department of Biodiversity, Conservation and Attractions (DBCA) 2017, *Wetlands of the Wheatbelt and other prioritised areas (DBCA-021)*, <https://catalogue.data.wa.gov.au/dataset/wheatbelt-wetlands-stage-1>.

Department of Primary Industries and Regional Development (DPIRD) 2019, *Soil Landscape Mapping - Best Available (DPIRD-027)*, <https://catalogue.data.wa.gov.au/dataset/soil-landscape-mapping-best-available>.

Department of Water and Environmental Regulation (DWER) 2018, *Hydrography Linear (Heirarchy) (DWER-031)*, Perth.

Department of Water and Environmental Regulation (DWER) 2020, *FPM Floodplain Area (DWER-020)*.

Emerge Associates 2022, *Flora, Vegetation and Fauna Assessment - Part Lot 963 Estuary Drive Vittoria*, EP22-080(01)—002 SKP, Version 1.

Government of Western Australia 2018, *Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017*, WA Department of Biodiversity, Conservation and Attractions, Perth.

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

Keighery, B. 1994, *Bushland Plant Survey: A guide to plant community survey for the community*, Wildflower Society of WA (Inc), Nedlands.

## Online References

Atlas of Living Australia (ALA) 2021, *Atlas of Living Australia*, viewed 03 October 2022 <https://www.ala.org.au/>

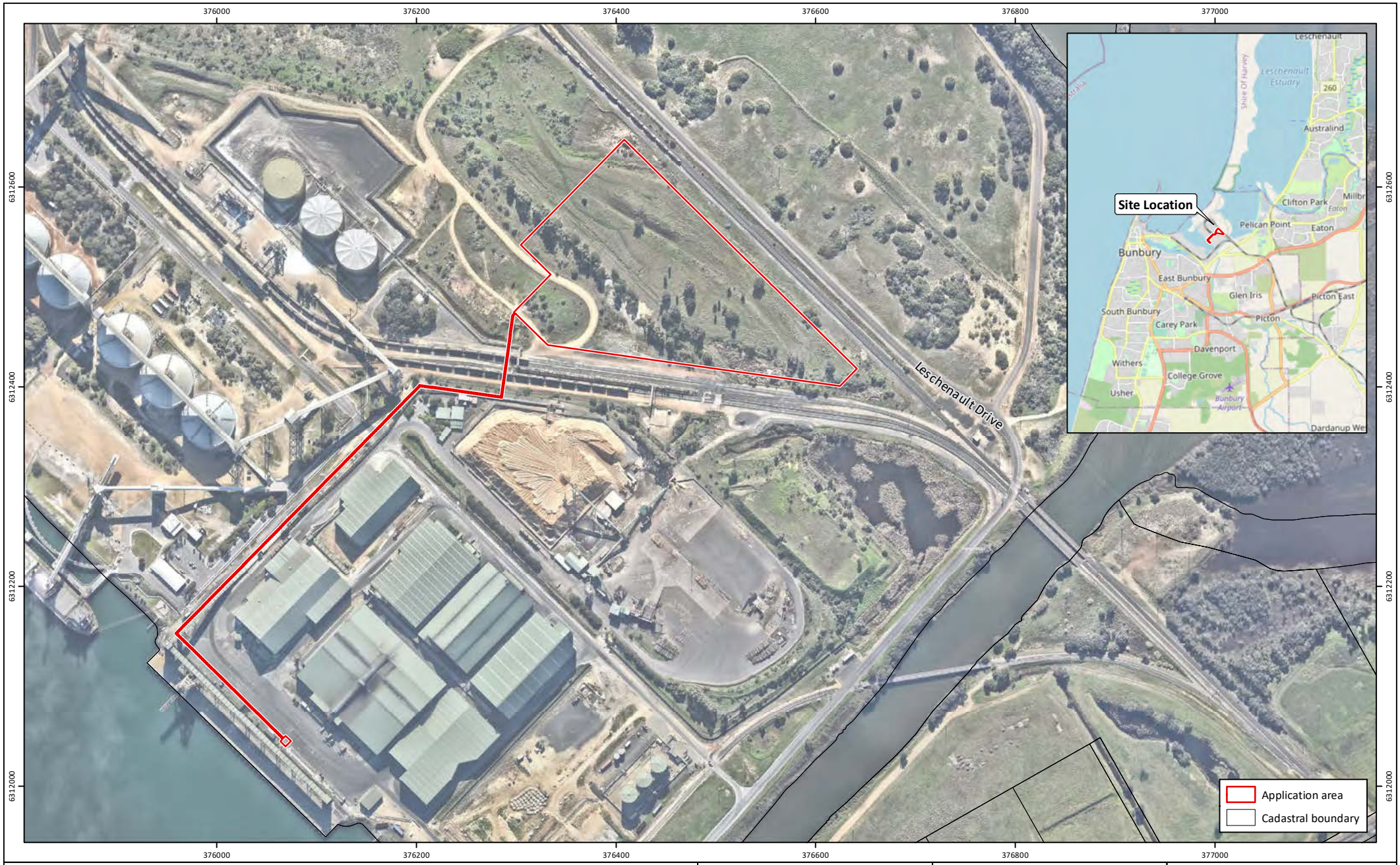


**Figure 1: Application Area Location**

| | |
|---|---|
| **Project:** | Letter Addressing the *Environmental Protection Act 1986* Clearing Principles<br>Part Lot 963 Estuary Drive Vittoria |
| **Client:** | Quantem |

**Plan Number:**
**EP22-080(02)--F04**

| | |
|---|---|
| Drawn: | GAR |
| Date: | 03/10/2022 |
| Checked: | SKP |
| Approved: | RAW |
| Date: | 04/10/2022 |

N

0 50 100 150
Metres

Scale: 1:5,000@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES


**Figure 2: Plant Communities**

**Project:** Letter Addressing the *Environmental Protection Act 1986* Clearing Principles
Part Lot 963 Estuary Drive Vittoria

**Client:** Quantem

**Plan Number:**
**EP22-080(02)--F05**

| | |
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| Drawn: | GAR |
| Date: | 03/10/2022 |
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| Approved: | RAW |
| Date: | 04/10/2022 |

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GDA 1994 MGA Zone 50

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**Figure 3: Vegetation Condition**

**Project:** Letter Addressing the *Environmental Protection Act 1986* Clearing Principles
Part Lot 963 Estuary Drive Vittoria

**Client:** Quantem

**Plan Number:**
**EP22-080(02)--F06**

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| Drawn: | GAR |
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| Approved: | RAW |
| Date: | 04/10/2022 |

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Scale: 1:4,000@A4

GDA 1994 MGA Zone 50

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