COTERRA ENVIRONMENT

Native Vegetation Clearing Permit Application

Quail Road Extension – City of Mandurah

Rev 2 March 2026

CALIBRE | COMMITMENT | COLLABORATION

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1 Introduction

1.1 Background

The City of Mandurah (CoM) is seeking to extend Quail Road, Bouvard, to create a new northern access point for Yalgorup National Park (YNP), located approximately 85 kilometres (km) southwest of Perth ('the site'; Figure 1). The proposed extension of Quail Road is being delivered in line with the Yalgorup National Park Master Plan (YNPMP), a strategic document prepared by the Department of Biodiversity, Conservation and Attractions (DBCA) in collaboration with the CoM, the Peel Development Commission and the Shire of Waroona which identifies sustainable development opportunities within YNP, including trails, attractions and accommodation.

Quail Road is proposed to be extended approximately 1.5 km south through Road PIN 1379630 and Lot 100 Quail Road, to create a 6 m wide single lane road with overtaking bays.

1.2 Planning and Environmental Approvals

Both Lot 100 and the existing road reserve are zoned as 'Rural' under both the Peel Region Scheme (PRS) and the CoM Local Planning Scheme No. 12 (LPS 12).

To facilitate the creation of the new road, the City has entered into a Crown land exchange agreement with the private landowners of Lot 100 and the State of Western Australia to amalgamate an 18,755 m^2 portion of unconstructed road reserve north of Lot 100 into the Lot 100 cadastral area, in exchange for the exact same square meterage to be excised from the eastern section of Lot 100, to allow for the new road to be constructed.

Any clearing of native vegetation required within the YNP to facilitate the proposed extension will be undertaken on behalf of the DBCA (Robert Jordan 2025), and has therefore been excluded from this application.

Based on the potential for the proposal to impact Matters of National Environmental Significance (MNES), the proposed extension was referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) for consideration under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 16 October 2025 (EPBC 2025/10334). On 8 December 2025, the DCCEEW determined that the potential impacts associated with the proposed action was not so significant as to warrant formal assessment, and the project was deemed 'Not a Controlled Action' under the EPBC Act.

1.3 City of Mandurah Strategies, Plans and Policies

The long-term vision, goals and priorities of the City of Mandurah and more broadly the Mandurah community are captured within the CoM's Strategic Community Plan (2020-2040). This plan guides the CoM's operations, resourcing and decision-making (including in relation to the extension of Quail Road), based on the community's vision and aspirations (CoM, 2022).

From an environmental perspective, the CoM's Environmental Strategy (2023-2033) was prepared as a key outcome of the Strategic Community Plan, and provides the direction and priorities for the CoM's environmental work, with the strategic goal of achieving 'a healthy and diverse natural environment where we walk softly on our Mandjoogoordap' (CoM, 2022). The Strategy includes:

- Environmental constants, being the key environmental concepts that are considered across all environmental work within the City of Mandurah, including:
  - Climate Change
  - Engagement and Education

- Corporate Responsibility

- Themes, being the grouping of priority management areas aimed to discourage siloing, including:
  - Built in nature, not on nature
  - Woven by waterways
  - Lead and serve in equal measures
  - Steward of the environment, custodians of our culture
- Priorities, being the identified Priority Management Areas that will be targeted for the City of Mandurah's environmental work.

Underpinning the CoM's Environment Strategy are the following plans and policies:

- Bushland Conservation and Management Policy (2019) - which provides direction for how the City will manage bushland under the responsibility of the City
- Biodiversity Strategy (2013) – which provides an approach for the management of natural areas, including those outside of the City's direct management responsibilities.

The clearing of native vegetation to facilitate the proposed road extension has been minimised to the fullest extent practicable, in-line with the CoM's environmental policy framework and commitment to achieving environmentally sustainable outcomes.

1.4 Purpose of this Report

This report has been prepared in support of a Native Vegetation Clearing Permit (NVCP) (Purpose Permit) application to clear vegetation within the site to progress the extension of Quail Road, under Part V of the *Environmental Protection Act 1986* (EP Act).

2 Proposed Clearing

2.1 Proposed Works

The proposed works to be undertaken within the site will involve clearing of 0.86 ha of native vegetation, construction of a single lane, compacted limestone road with overtaking bays (delineated by steel post and mesh fence) and construction of concreted rock-pitch swales. Clearing activities specifically are proposed to be undertaken between May to August. As an outcome of ecological and Heritage assessments of the site, multiple design reviews of the proposed extension have been undertaken to minimise the extent of clearing required, such that this will be undertaken on the pre-existing firebreak track within the road reserve.

As on-ground works progress, opportunities for additional tree retention may be available. Trees within the site will be retained to the greatest extent possible, however determination on where construction works will enable this retention will need to be made as works progress on-ground.

2.2 Clearing Methodology

2.2.1 Pre-clearing

Prior to clearing, the works area will be clearly demarcated to ensure over-clearing does not occur. Site contractors will be provided with an Environment Induction Note to:

- Ensure knowledge of the environmental values within and adjacent to the project area, and the importance of minimising construction related impacts to these areas
- Adequately implement measures to protect the environment, including the use of dust minimisation strategies
- Acknowledge and advise the role of the on-site zoologist
- Requirement of and actions to ensure compliance with local, state and federal legislation.

2.2.2 Clearing

Clearing will be undertaken by mechanical removal. Dust emissions from the proposed works will be mitigated through the use of a watercarts where necessary, thereby ensuring that indirect impacts to proximal retained vegetation will be minimised to the fullest extent possible. Works will also be undertaken during the drier months of the year, to ensure no interactions between the proposed works and any surface water flows. Protocols for environmental incidents which occur during the course of clearing (such as contingency actions in the event of fauna strike) will be implemented and communicated to site contractors.

2.3 Alternatives Considered

The YNPMP, a collaborative effort between the DBCA and CoM, aims to transform the YNP into a unique ecotourism destination. The plan addresses key challenges and outlines opportunities to enhance visitor experiences.

The plan emphasises that well-designed tourism can significantly benefit individuals, expand local economies, protect natural environments and integrate seamlessly into communities with minimal disruption. Ecotourism is a key theme of the YNPMP, encouraging visitors to appreciate the environment, contribute to consistent natural area maintenance and to support generation of revenue for park management.

The CoM is committed to achieving sustainable environmental outcomes. By utilising a pre-existing and already cleared firebreak, and designated road reserve, the project aims to minimise long-term environmental damage and reduce native vegetation clearing, thereby lessening overall environmental

impact compared to alternative locations in the surrounding area with denser, higher quality native vegetation. The Quail Road extension will facilitate controlled access to the YNP, reducing the potential for uncontrolled access to increase damage to the environment.

3 Existing Environment

3.1 Topography, Geology and Soils

Topography within the proposed clearing area is relatively flat, ranging from 2 m Australian Height Datum (mAHD) in the south, to 10 mAHD in the north, sloping downgradient toward Lake Clifton (MNG Access, 2025) (Figure 3).

The project area contains soils mapped in the Qts (Predominantly Sand) unit, described as 'partly consolidated, a high natural density, high permeability and no cohesion or shrinkage' (Biggs, 1977). Some soils within the disturbance footprint have a moderate to low risk of Acid Sulphate Soils (ASS) occurring within 3 m of natural surface levels (Figure 3).

The Department of Primary Industries and Regional Development (DPIRD) mapped soil systems and sub-systems/phases within the project area comprise (DPIRD, 2025):

- Spearwood System (unit 211Sp): Sand dunes and Plains. Yellow deep sands, pale deep sands and yellow/brown shallow sands
  - Spearwood S4a Phase (sub-unit 211Sp_S4a): Flat to gently undulating sandplain with deep, pale and sometimes bleached. Sands with yellow-brown subsoils.
- Vasse System (unit 211Va): Poorly drained estuarine flats, of the Swan Coastal Plain. Tidal flat soil, saline wet soil and pale deep sand. Samphire, sedges and paperbark woodland.
  - Vasse V6 Phase (sub-unit211Va_V6): Upper level sandy terrace ad gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Land degradation for the Spearwood S4a phase and Vasse V6 phase are provided below (Table 3-1). Wind erosion for both Phases is considered the highest land degradation risk, however given that most of the project area is already cleared, and that compacted limestone will be installed immediately after clearing, it is not anticipated that this risk is likely to be encountered during the clearing required for the project.

Table 3-1: Land Degradation Risk Categories

Land Degradation Risk Category	Spearwood S4a Phase	Vasse V6 Phase
Water Erosion	Less than 3% of the map unit has a very high to extreme hazard	Less than 3% of the map unit has a very high to extreme hazard
Wind Erosion	70% of mapped unit has a high to extreme hazard	10-30% of map unit has a high to extreme hazard
Flood Hazard	Less than 3% of the map unit has a moderate to high hazard	Less than 3% of the map unit has a moderate to high hazard
Salinity Risk	Less than 3% of map unit has a moderate hazard	Less than 3% of map unit has a moderate hazard
Water logging and Inundation	Less than 3% of map unit has a moderate to very high risk	Less than 3% of map unit has a moderate to very high risk

Source: DPIRD (2025)

3.2 Hydrology

3.2.1 Groundwater

The site is not within a Public Drinking Water Source Area (PDWSA) and is identified as unsuitable for development of a garden bore within the watertable (superficial) aquifer (DWER, 2025a).

The project area falls within the South West Coastal groundwater area (Whitehills subarea) and is underlain by the Superficial Swan and Leederville aquifers. There are no current active groundwater licences for the project area. (DWER, 2025b).

The DWER Water Register notes that the superficial aquifer (Perth – Superficial Swan) in this location has additional water available for abstraction, whereas the underlying aquifer (Perth – Leederville) has limited information (DWER, 2025b). The project will not require any water abstraction to occur.

3.2.2 Surface water

There are no regionally mapped surface water features or drainage lines within the project area. However, in proximity to the site are:

- Lake Clifton (approximately 250 m South)
- Collins Pool (approximately 2.46 km East)
- Whitehills Beach (approximately 2.92 km Northwest).

The separation distance afforded by heavily vegetated land between the project area and these surface water features ensures that there will be no hydrological changes to these systems as a result of the project area.

3.2.3 Wetlands

No geomorphic wetlands are mapped within the project area (Landgate, 2025a). The Peel-Yalgorup System, a Ramsar Wetland listed as an MNES under the EPBC Act, lies approximately 350 m south of the project area. The closest geomorphic wetland within the Peel-Yalgorup System to the project area (as mapped by the DBCA) is Lake Clifton, a Conservation Category Wetland (CCW) (UFI: 3089) covering about 2,390 hectares, located approximately 250 m south of the project area.

3.3 Flora and Vegetation

3.3.1 Pre-European Vegetation

Broadscale mapping of pre-European vegetation within the Perth region was undertaken by Beard (1975) which recorded major categories of plants. Shepherd et al. (2002) reassessed Beard's mapping and divided some of the larger vegetation units into small units, which then resulted in a total of 89 vegetation units being mapped across Western Australia.

The project area contains one vegetation system association, being Spearwood_998 (Table 3-2). This vegetation system is described as a 'southwest woodland of Jarrah, marri and wandoo; *Eucalyptus marginata*, *Corymbia calophylla*, *E. wandoo'* (Landgate, 2025).

Table 3-2: Spearwood_998 Vegetation Statistics

Area	Pre-European Extent	Current Extent	Current Extent managed in DBCA lands (proportion of Pre-European Extent)
Western Australia (1b)	48,441.77 ha	17,667.16 ha (36.47%)	18.25%

Area	Pre-European Extent	Current Extent	Current Extent managed in DBCA lands (proportion of Pre-European Extent)
Swan Coastal Plain (2b)	48,293.94 ha	17,666.85 ha (36.58%)	18.30%
City of Mandurah (4b)	4,255.74 ha	2,306.82 ha (54.20%)	37.32%

Source: GoWA (2019a)

3.3.2 Vegetation Complex

The site is mapped as containing vegetation which forms part of the Yoongarillup Complex, described as (Heddle et al., 1980):

- Woodland to tall woodland of *Eucalyptus gomphocephala* (Tuart) with *Agonis flexuosa* in the second storey. Less consistently an open forest of *Eucalyptus gomphocephala* (Tuart) - *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri).

The Environmental Protection Authority (EPA) use vegetation complexes as the basis for regional representation of biodiversity and has an overall objective to seek retention of at least 30% of the pre-clearing extent of each ecological community or at least 10% of the pre-clearing extent of each ecological community within defined constrained areas including the Peel Region Scheme area (EPA, 2008).

The current extent of the Yoongarillup vegetation complex remains above the 30% threshold at a regional and local level (Table 3-3).

Table 3-3: Yoongarillup Complex Vegetation Statistics

Area	Pre-European Extent	Current Extent	Current Extent secure (EPA definition) for conservation
Swan Coastal Plain	27,977.93	10,018.14 (35.81%)	5,151.57 (18.41%)
Peel Region Scheme	10,662.7	5,567.72 (52.22%)	3,304.76 (30.99%)
City of Mandurah	6,501.01	3,060.17 (47.07%)	-

Source: GoWA (2019b)

3.3.3 Site Assessment

On 24 November 2023 a flora and vegetation survey in line with the *EPA's Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment* was undertaken by Natural Area (Appendix 2). The survey was undertaken across a total of 4.12 ha. Approximately 0.01 ha of the project area is located outside of this survey area, however based on the relatively uniform environmental values observed during the survey, the small size of the omitted area, and the availability of information in the immediate proximity, environmental values in this omitted area have been extrapolated from existing data, and were ground-truthed through a site inspection undertaken by Coterra Environment on the 20th of February 2025. While the results of this site inspection were not compiled into a dedicated report, the findings have been incorporated into the following summary.

The survey identified 61 flora species, comprising 31 (51%) introduced weeds and 30 (49%) native species (Natural Area, 2024). The entire survey area featured a single vegetation type: *Eucalyptus gomphocephala* and *Agonis flexuosa* woodland. Most of the survey area was in completely degraded condition, due to historic clearing for an unused track. However, some of the survey area was in good condition, showing some impact but still maintaining structural integrity with only a few aggressive weeds (Natural Area, 2024).

The Natural Area (2024) assessment also identified key characteristics and ecological thresholds for the Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain, which is a threatened ecological community (TEC) under the EPBC Act and Priority 3 Ecological Community (PEC) under the *Biodiversity Conservation Act* (2016) (BC Act). A total of0.86 ha of the Tuart woodland TEC/PEC is proposed to be cleared, however it should be noted that the clearing area encompasses a total of five mature tuart trees, and as such the mapped extent of Tuart TEC/PEC will not reduce as a result of the proposed clearing.

The vegetation across the survey area varied significantly in condition, ranging from completely degraded to good (Natural Area, 2024). Notably, 40 of the Tuart trees observed during the field survey were either dead or in poor condition (Natural Area, 2024).

No threatened or priority flora species listed at either the state or federal levels were recorded across the survey area (Natural Area, 2024).

3.4 Fauna and Habitat

On 24 November 2023 a fauna, habitat and targeted black cockatoo survey in line with the *EPA's Technical Guidance – Terrestrial Vertebrate Surveys for Environmental Impact Assessment (EPA, 2020)* was undertaken by Natural Area (Appendix 2).

A total of 10 fauna species were recorded during the assessment, comprising two introduced species and eight native species. Two conservation significant species were recorded, being the Western Ringtail Possum (WRP; *Pseudocheirus occidentalis*) and a *Zanda* spp. (only identified to genus level). Fauna refuge was present in the form of leaf litter, dead wood and areas of dense understorey species (Natural Area, 2024).

3.4.1 Black Cockatoos

The black cockatoo habitat assessment undertaken for the survey area concluded that the survey area contains the following key features:

- Tuart, Grass Trees (*Xanthorrhoea preissii*) and Peppermint (*Agonis flexuosa*) were identified as the key foraging species present for black cockatoos
- The DCCEEW black cockatoo foraging score tool was used, and a score of 7 was given for Carnaby's Black Cockatoo, Forest Red-tailed Black Cockatoo and Baudin's Black Cockatoo foraging value within the survey area (equating to high value foraging habitat)
- No evidence of roosting in the form of scats or feathers was observed within the survey area
- A total of 59 trees which had a Diameter at Breast Height (DBH) of greater than 500 millimetres (mm) were recorded, consisting of Tuart and Peppermint trees
- Of these 59 trees, a total of 17 contained at least one hollow, with a total of 42 hollows observed. Only Tuart trees were observed to contain hollows
- Eight hollows from six trees were considered to be potentially suitable for black cockatoos based on entrance diameter and orientation.

The project area is not within any mapped confirmed or unconfirmed Carnaby's Black Cockatoo roost sites, or Black Cockatoo roosting site buffer (Landgate, 2025a). The closest confirmed Carnaby's Black Cockatoo roost site is approximately 172 m north of the project areas boundary.

3.4.2 Western Ringtail Possum

The fauna assessment recorded one instance of a WRP on site, utilising a hollow in a tuart tree. It was determined based on the presence of both Peppermint trees within the survey area and large hollow-bearing trees, combined with the observation of a WRP individual, that the project area contains habitat suitable for WRP.

The proposed action will remove 0.86 ha of vegetation which is considered to be habitat for the WRP.

3.5 Conservation Areas

The project area is located adjacent to the YNP, a 12,888 ha park that includes conservation significant attributes such as habitat for threatened species.

The project area is located approximately 350 m directly north of the Peel-Yalgorup System, a Ramsar Wetland afforded protection under the EPBC Act. The Ramsar site contains Lake Clifton, a Conservation Category Wetland, which is mapped as being approximately 250 m from the project area.

The project area is outside of the boundary of the State Planning Policy 2.8 area (Bush Forever Areas), and is not mapped as part of an EPA Redbook Recommended Conservation Reserve (Landgate, 2025).

3.6 Heritage

3.6.1 Aboriginal Heritage

3.6.1.1 Consultation

The project area is located on Gnaala Karla Boodja (GKB) of the Bindjareb Noongar people.

An Aboriginal Cultural Heritage assessment was undertaken on 24 April 2023, with reporting prepared by Dortch Cuthbert. One archaeologist, three GKB representatives and one CoM representative traversed the project area on foot alongside the two private landowners, prior to the all parties (excluding the private landholders) meeting to discuss the proposed action, alongside a Traditional Owner representative body from Bindjareb Country (Winjan Aboriginal Corporation), two additional archaeological consultants, three additional GKB representatives, three DBCA representatives and an additional CoM representative. The group then returned to the project area to discuss any ethnographic knowledge or concerns for the project area.

Traditional Owners expressed support for the proposed upgrade of the road, as it would facilitate public exploration of the YNP on foot, which harmonises with the natural environment. In addition, it was determined that the proposed action would help facilitate Noongar led tourism of the YNP, and that Noongar Monitors should be engaged for any earth disturbing works.

3.6.1.2 Survey Findings

As a part of the project's due diligence, an addendum to the *Aboriginal cultural heritage values, Binjareb Boodjar, Western Australia: a roadmap for caring for Yalgorup National Park and surrounds* was prepared. The key findings include:

- No new Aboriginal Heritage sites were identified
- Three significant dead trees were identified for retention
- One Balga (*Xanthorrhoea preissii*) was identified for retention
- Traditional Owners are supportive of the proposed action, given the above trees are retained.

Based on the outcomes of the Aboriginal Cultural Heritage Assessment, the following cultural heritage values have been strategically avoided by the proposal:

- Large dead trees (particularly those with potential bird nesting hollows)
- Large Balga observed.

Traditional Owner engagement will continue as the project progresses, and opportunities for Noongar-led tourism will play a key role in the proposed recreation node's operations.

3.6.2 European Heritage

A search of the InHerit database (State Heritage Council, 2025) revealed no known European Heritage items within the proposed clearing area. The closest known European Heritage sites are (MNG Access, 2025):

- Herron Homestead (Place number 9070) approximately 350 m north-west of the project area
- Lake Clifton, Peel Region (Place number 17171) approximately 250 m south of the site boundary.

4 Actions to Reduce Environmental Impacts

4.1 Avoidance

The project requires the removal of five Tuart trees and one Peppermint tree which are of suitable DBH to support potential black cockatoo breeding. Although these trees are large enough to potentially offer suitable breeding hollows for black cockatoos, no currently suitable hollows are present.

The CoM has strategically prepared the proposed road alignment to avoid key environmental values within the project area. This has resulted in:

- Reduction of road width from two lanes to a single lane with passing bays
- Realignment of the road to follow existing degraded/ fire break areas
- The proposed road alignment avoids 53 (89%) of the trees considered of suitable size to be suitable for black cockatoo breeding within the project area, and all trees which contain hollows (both suitable and unsuitable)
- The proposed road alignment avoids all cultural values identified during the Aboriginal Heritage assessment for the site (four trees total).

In terms of impact minimisation, the proponent is committed to ensuring best environmental outcomes during development and will implement the following:

- A zoologist will undertake a pre-clearing survey of the clearing area to ensure no fauna are presently utilising the area for breeding
- A zoologist will be present on-site during clearing
- Materials used in the construction of the road are environmentally inert, and do not pose risk of runoff or groundwater contamination
- A stop works procedure during significant rainfall events to minimise the potential for impacts on surface water quality and/or erosion.
- The proposed action will not alter the landscape, ensuring no disturbance to groundwater flow patterns.
- The heavily vegetated buffer of 250 m to Lake Clifton and 350 m to the Peel-Yalgorup System ensures no impacts to the surface water of these systems.

As such, it is considered that all practical avoidance and mitigation measures have been implemented by the proponent.

4.2 Minimisation

The proposed road alignment has been strategically designed to avoid impacts to environmental values as much as practicable. There are no other locations where formalisation of access paths would result in a lesser extent of native vegetation being cleared, thus the proposed alignment is considered of lowest environmental impact to facilitate the required access. Providing formal access in this location also limits unmanaged public access into the YNP, which could lead to greater impacts through (for example) soil erosion, weed and/or pathogen introduction and spread, or vegetation condition degradation.

5 Assessment Against Native Vegetation Clearing Permit Clearing Principles

An assessment of the proposed vegetation clearing against the ten native vegetation clearing principles contained in Schedule 5 of the EP Act is provided in Sections 5.1 to 5.10. Based on the outcomes of the assessment, it is considered that the development is not at variance with seven out of ten clearing principles. The proposed action is considered to potentially be at variance with principles (a), (b) and (d).

5.1 Comprises high level of biological diversity

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

The botanical assessment undertaken by Natural Area (2024) recorded a total of 31 weed species within the survey area, comprising a total of 51% of all species recorded.

No Threatened or Priority flora species listed under the BC Act or EPBC Act were recorded.

The vegetation proposed to be cleared is in 'completely degraded' to 'good' condition (Natural Area, 2024). However, historical aerial photographs indicate that vegetation within the 'good' portion of the project area has degraded over time, with the proposed works predominantly limited to the existing firebreak.

The proposed clearing area contains 0.86 ha of vegetation which is considered to align with the Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain, listed as a TEC under the EPBC Act and a PEC by the DBCA. However, removal of five Tuarts will not reduce the mapped extent of the Tuart TEC/PEC in this location, given the abundance of tuarts in proximity which overlap the project area.

Given the above, the proposed clearing is considered potentially at variance with this principle.

5.2 Potential impact to any significant habitat

Principle (b): Native vegetation should not be cleared if it comprises the whole or apart of, or necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

The project area provides habitat for the following conservation significant species:

- *Zanda latirostris* (Carnaby's Black Cockatoo) – Endangered (EPBC Act and BC Act)
- *Zanda baudinii* (Baudin's Black Cockatoo) – Endangered (EPBC Act and BC Act)
- *Calyptorhynchus banksii naso* (Forest Red-tailed Black Cockatoo) – Vulnerable (EPBC Act and BC Act)
- *Pseudocheirus occidentalis* (Western Ringtail Possum) – Critically Endangered (EPBC Act and BC Act).

Tuart TEC/PEC with Peppermint understorey also provides the primary sustenance for the Swan Coastal Plain populations of the WRP, with hollows in tuart trees providing daytime refuge for WRP. A WRP was observed onsite utilising a tree hollow during the survey (Natural Area, 2024).

The vegetation on site provided suitable habitat for WRP. Furthermore, the survey area provides adequate habitat for roosting, foraging and breeding for black cockatoos. In total eight hollows (from six trees) were considered potentially suitable for black cockatoos, based on their entrance diameter, and orientation (Natural Area, 2024).

The proposed clearing is potentially at variance with this principle.

5.3 Potential impacts to any rare flora

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

No flora listed as Threatened under the BC Act or EPBC Act were recorded on site. Due to historic disturbance, there is a low likelihood of conservation significant flora occurring within the site (Natural Area, 2024).

The proposed clearing is not considered to be at variance with this principle.

5.4 Presence of any threatened ecological communities

Principle (d): Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a threatened ecological community.

The project area contains vegetation which meet the diagnostic characteristics and biotic thresholds of the Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain TEC/PEC. The removal of a total of five Tuarts trees within the project area will not reduce the mapped extent of the Tuart TEC/PEC.

The proposed clearing is potentially at variance with this principle.

5.5 Significance of remnant native vegetation

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.

The DBCA 2018 statewide vegetation statistics indicate that approximately 36.58% of the pre-European extent of the Spearwood_998 vegetation association remains within the Swan Coastal Plain and 54.20% remains within the City of Mandurah (GoWA, 2019a).

The DBCA 2018 vegetation complex statistics identifies the Yoongarillup complex remains at approximately 35.81% within the Swan Coastal Plain, and 47.07% within the City of Mandurah (GoWA, 2019b).

Both the vegetation association and vegetation complex remain above the 30% target threshold set by the EPA.

The clearing is therefore not considered to be at variance with this principle.

5.6 Potential impact on watercourse and/or wetlands

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

The project area is not located within a mapped wetland, and does not contain any riparian vegetation. The project area is located approximately 250 m from Lake Clifton (the nearest wetland).

The clearing is therefore not considered to be at variance with this principle.

5.7 Potential to cause appreciable land degradation

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

The installation of the proposed road will result in a more stable and durable site compared to the existing conditions. Currently, the firebreak consists of loose sand, which is highly susceptible to erosion from wind and water. The proposed limestone track will mitigate land degradation by providing a firm, erosion-resistant surface. Additionally, the formalisation of an access road in this location will ensure vehicle movement is restricted to a designated route, thereby preventing unauthorised access and reducing the risk of environmental disturbance elsewhere on the site.

The clearing is therefore not considered to be at variance with this principle.

5.8 Potential impact on adjacent or nearby conservation areas

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 areas.

The project area is located adjacent to the YNP. Mitigation measures to be employed throughout the clearing and construction phases of the proposal will ensure that indirect impacts on the YNP will be minimised to the fullest extent practicable. These measures include the availability and use of a water cart for dust suppression purposes, implementation of a pre-clearing fauna trapping and relocation program, and the effective demarcation of adjacent, retained vegetation. Further, no hydrological changes to the project area are anticipated as a result of the proposed clearing.

The clearing is therefore not considered to be at variance with this Principle.

5.9 Potential deterioration in the quality of surface or underground water

Principle (i): Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of the surface or underground water.

The mapped soils within the proposed clearing area are not at risk of salinity, flood, waterlogging or inundation risk (Table 3-1). There is no surface water near the proposed clearing area that will be affected by the proposed works.

Furthermore, works are limited to the construction of road infrastructure and materials used in the construction of the road are environmentally inert, and do not pose risk of runoff or groundwater contamination. No changes to surface water flows, or emissions to the environment (including groundwater) of any kind are anticipated.

The clearing is therefore not considered to be at variance with this principle.

5.10 Potential for clearing to cause or exacerbate the incidence of flooding

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

The soils within the proposed area are not mapped as being at risk of flood hazard (Table 3-1). No changes to surface water flows or groundwater levels of any kind will occur as a result of the proposed works.

The clearing is therefore not considered to be at variance with this principle.

6 References

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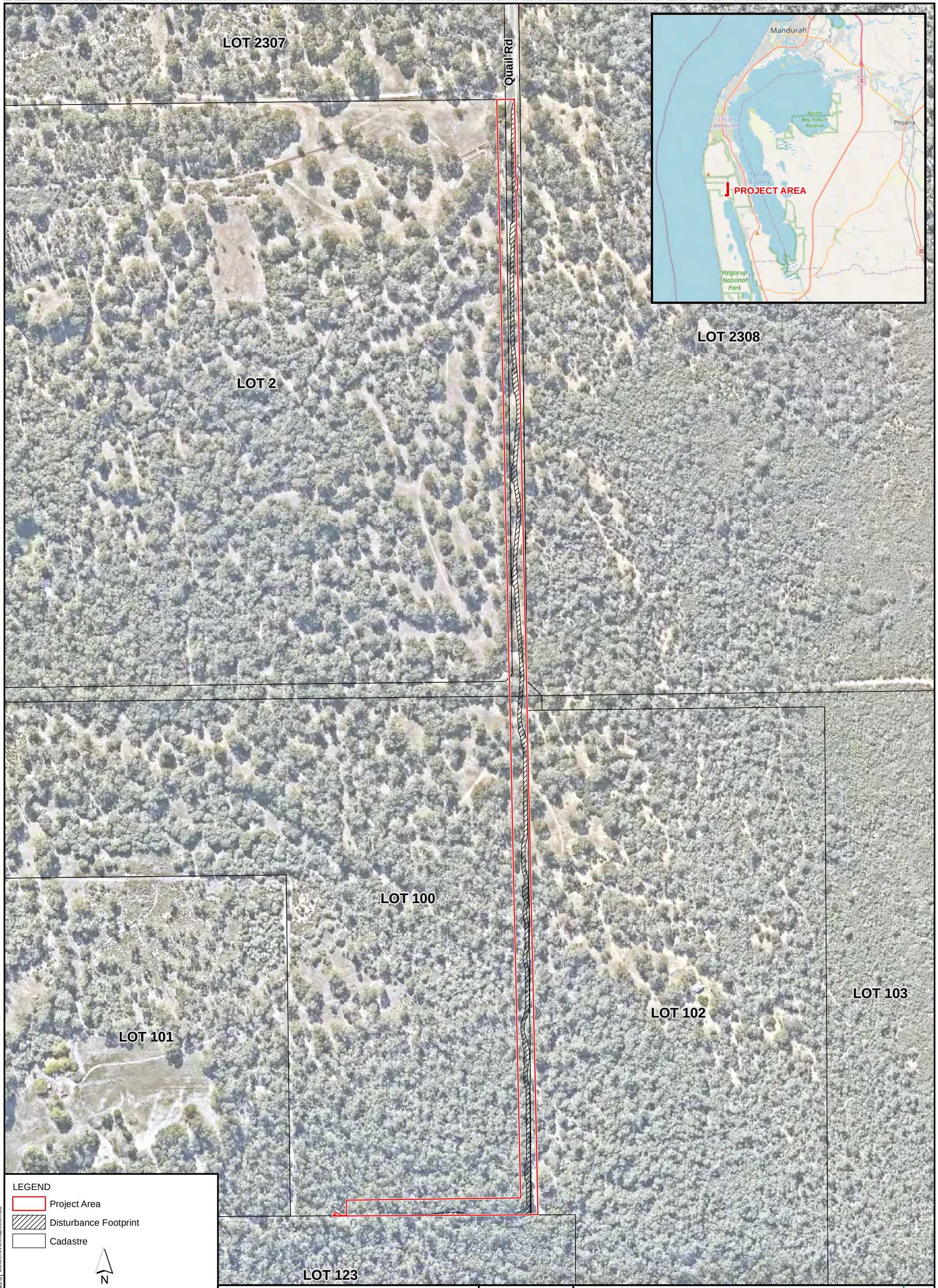
Figures



LEGEND

- Project Area
- Disturbance Footprint
- Cadastre

N

0 25 50 100 150 200 m

Scale: 1:4,500 @ A3
GDA2020 MGA Zone 50

Source: Cadastre - Landgate
Orthophoto - NearMaps, 17.05.25

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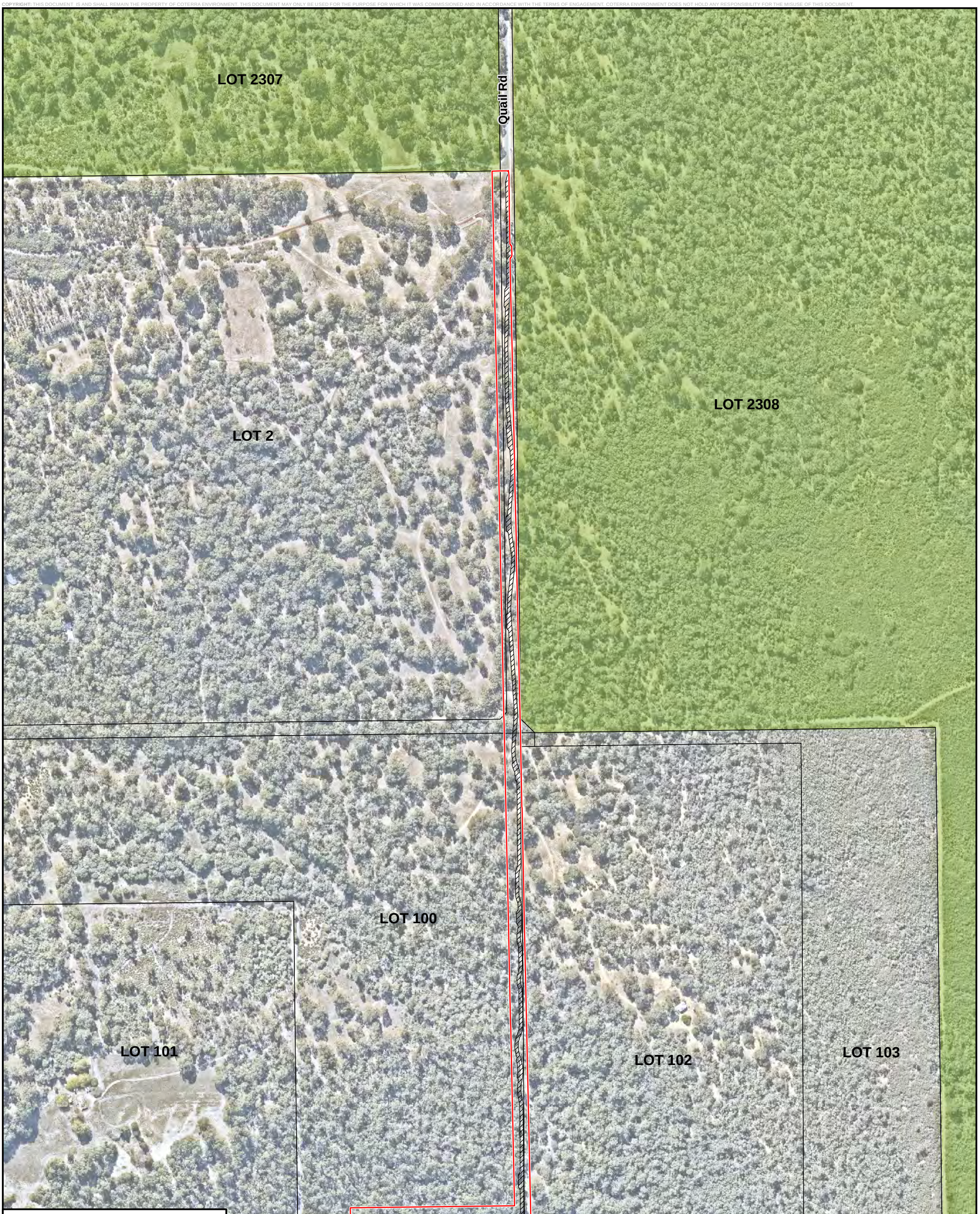
SITE LOCATION

Figure 1



LEGEND

- Project Area
- Disturbance Footprint
- Cadastre
- Yalgorup National Park

N

0 25 50 100 150 200 m

Scale: 1:5,000 @ A3
GDA2020 MGA Zone 50

Source: Cadastre - Landgate
Orthophoto - NearMaps, 17.05.25

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PROJECT AREA AND DISTURBANCE FOOTPRINT

Figure 2

Contour (mAHD)

Geology
- Qhs, SAFETY BAY SAND
- Qtl, TAMALA LIMESTONE: predominantly limestone
- Qts, TAMALA LIMESTONE: predominantly sand

Quail Rd

LOT 2307
LOT 2
LOT 2308
LOT 100
LOT 101
LOT 102
LOT 103
123

Qtl
Qts
Qhs

LEGEND
- Project Area
- Disturbance Footprint
- Cadastre
- Contour (mAHD)

Acid Sulphate Soil Risk Mapping
- High to Moderate Risk
- Moderate to Low Risk

N

0 25 50 100 150 200 m

Scale: 1:5,000 @ A3
GDA2020 MGA Zone 50

Source: Cadastre - Landgate | ASS - DWER
Ortho - NearMaps, 17.05.25 | Geology - DPIRD

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TOPOGRAPHY AND SOILS

Figure 3

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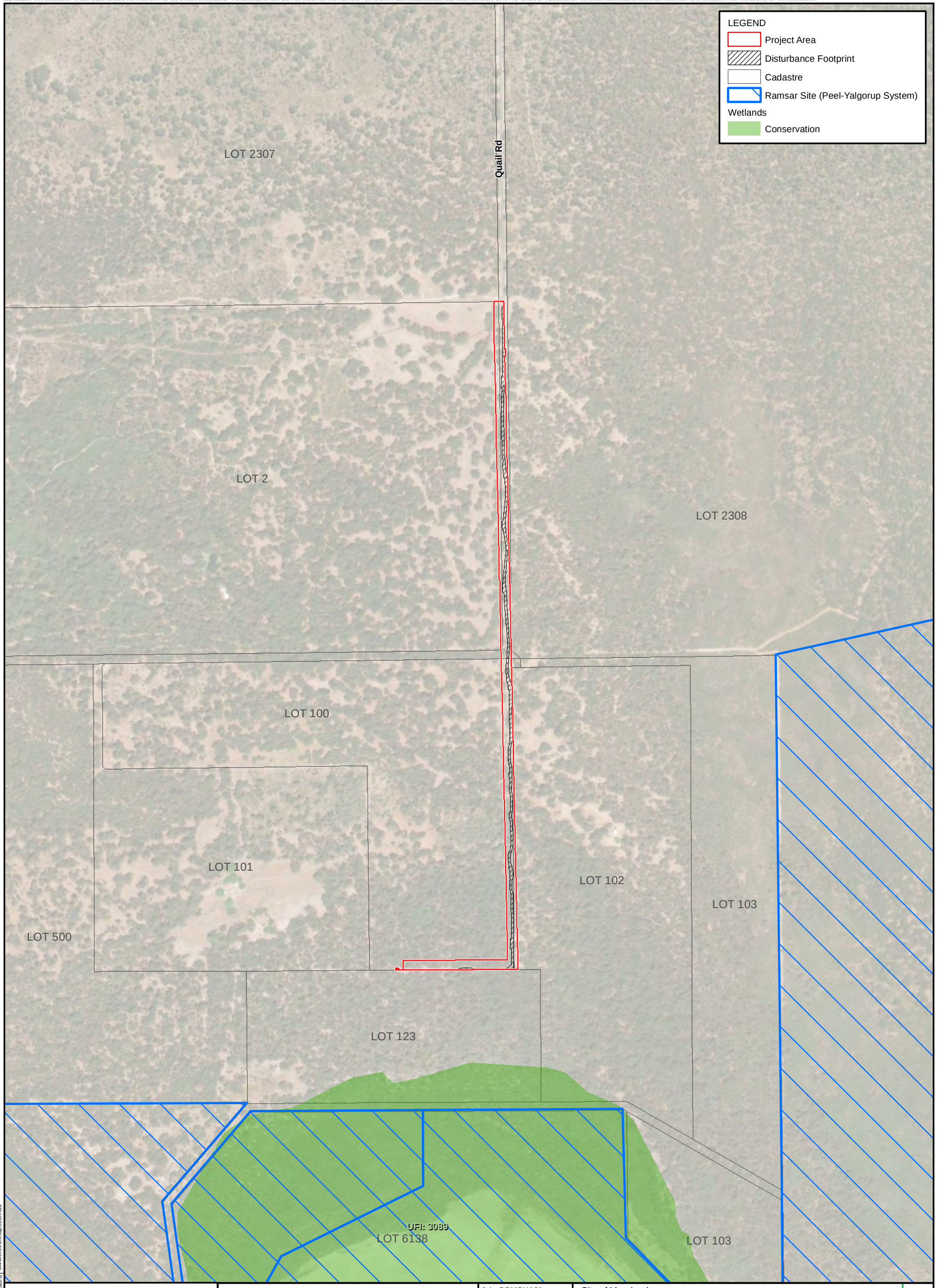

N

0 37.5 75 150 225 300 m

Scale: 1:7,500 @ A3
GDA2020 MGA Zone 50

Source: Cadastre - Landgate | Wetlands - DBCA
Ortho - NearMaps, 17.05.25 | RAMSAR - DBCA

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HYDROLOGY

Figure 4

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LOT 2307

LEGEND

- Project Area
- Disturbance Footprint
- Ecological Survey Area
- Cadastre
- High Quality Black Cockatoo Foraging Habitat and Western Ringtail Possum Habitat
- *Agonis flexuosa*: Within Disturbance Footprint
- *Agonis flexuosa*: Outside Disturbance Footprint
- *Eucalyptus gomphocephala*: Within Disturbance Footprint
- *Eucalyptus gomphocephala*: Outside Disturbance Footprint
- Hollow Present
- Suitable Hollow Present

LOT 2

LOT 2308

LOT 103

LOT 100

LOT 102

LOT 101

55

52

39

36

35

6

N

0 25 50 100 150 200 m

Scale: 1:4,000 @ A3
GDA2020 MGA Zone 50
Source: Cadastre - Landgate
Orthophoto - NearMaps, 17.05.25

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FAUNA HABITAT

Figure 5

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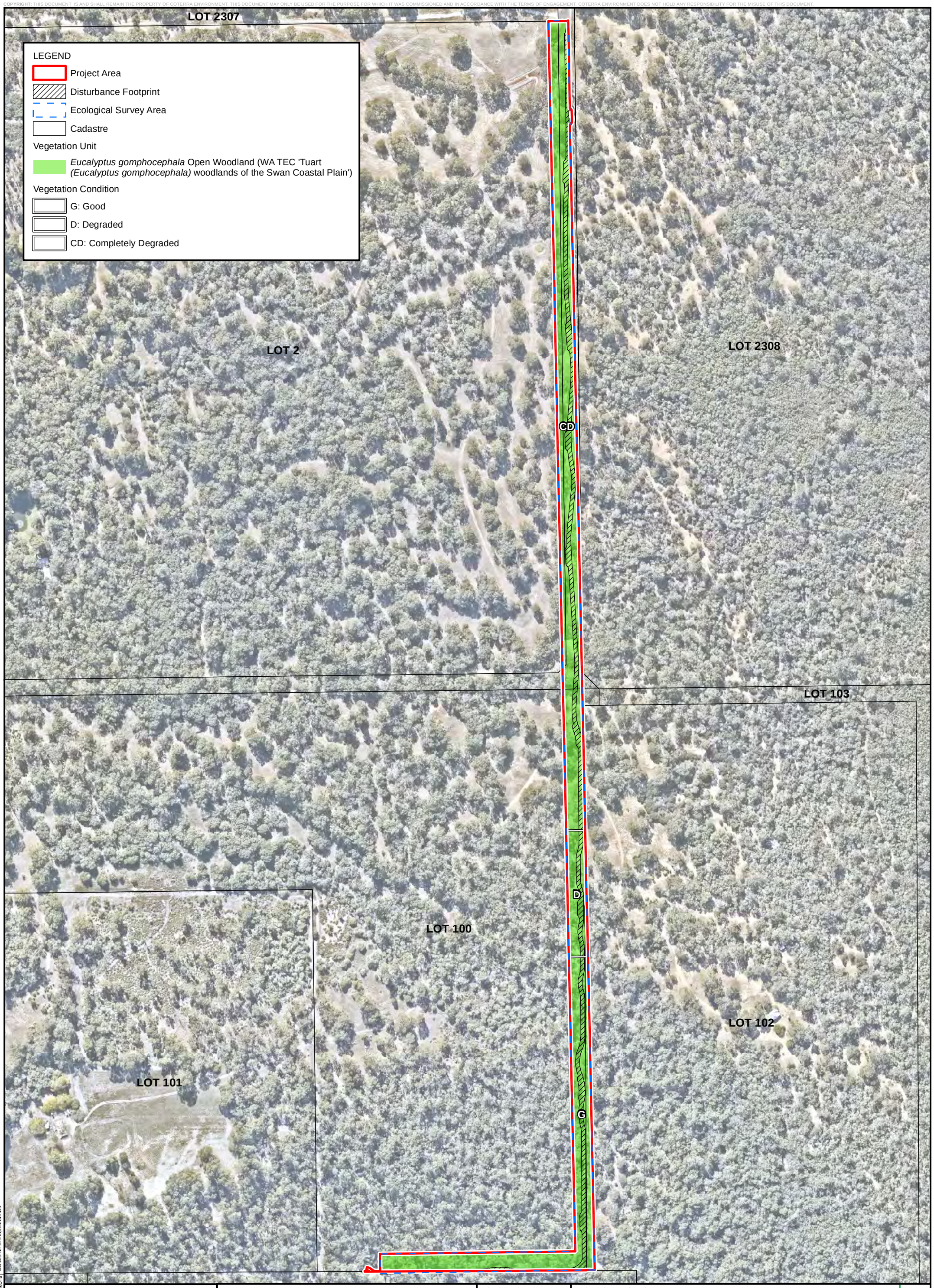

N

0 25 50 100 150 200 m

Scale: 1:4,000 @ A3
GDA2020 MGA Zone 50

Source: Cadastre - Landgate
Orthophoto - NearMaps, 17.05.25

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VEGETATION TYPE AND CONDITION

Figure 6

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Appendix 1 Ecological Survey (Natural Area, 2024)