ATTACHMENT 2: SUPPLEMENTARY INFORMATION

1. Project Status and Context

Delivery of lime sand from Lancelin to the Central Wheatbelt is undertaken by road trains using 'Agricultural Lime Sands Route 2 – Lancelin to Goomalling' (Route 2). This route traverses the Shire of Victoria Plains, and utilises Mogumber Road West, Calingiri-New Norcia Road, and the Calingiri-Goomalling Road (Figure 1). It is proposed that modifications to this route be undertaken, applying State-allocated funding (Main Roads WA) to improve and maintain this transport corridor. The program of works over short sections of the roads by RoadsWest will include:

- Road shoulder widening
- Minor road curve improvement
- Intersection pavement widening
- Culvert and roadside drainage improvements
- Pavement repairs (localised)
- Vegetation clearing on both verges to restore general safety for the road user.

Vegetation to be cleared for the program of works includes both remnant native vegetation and areas of regrowth. The proposed clearing area is shown in Figures 2a to 2h; these areas do not include proposed clearing within the maintenance zone of the relevant roads, which is exempt from requiring a Native Vegetation Clearing Permit (NVCP) under Regulation 5, Item 22 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

2. Previous Environmental Investigations

Flora and Vegetation Survey (Coterra Environment, November 2018)

A flora and vegetation survey (reconnaissance survey plus targeted search for conservation significant species and communities) of the proposed clearing areas (roadside vegetation) was undertaken on the 6th and 7th November, and 14th and 15th November 2018, by Coterra's senior botanist, Carolyn Harding. The survey areas included specific areas on the following roads, encompassing the proposed clearing areas and areas where clearing is proposed within the road maintenance zone:

- Mogumber Road West;
- Calingiri-New Norcia Road;
- Goomalling-Calingiri Road; and
- Several locations near a proposed new intersection in Calingiri.

The survey was undertaken at this time in order to capture the flowering period of many of the conservation significant flora species likely to occur in the area. Specimen identifications were undertaken by Carolyn Harding and Dr Chris Hancock.

3. Existing Clearing Permits Within the Proposed Area

There are no NVCPs approved, pending or otherwise within the proposed clearing area mapped in Figures 2a to 2h.

4. Native Vegetation Clearing Permit Application

The enclosed application is seeking approval for the clearing of approximately 1.98 ha of native vegetation.

The entire proposed clearing area footprint is 2.8 ha, however much of the proposed area to be cleared near Calingiri (Figure 2h) is pasture and as such has been removed from the clearing area calculations. The proposed clearing footprint is shown in Figures 2a to 2h. The proposed clearing area includes 0.068 ha of 'Eucalypt Woodlands (EW) of the WA Wheatbelt' Threatened Ecological Community (TEC). The detailed road design for the proposed clearing of the EW TEC is provided in Appendix A, and clearing in this location will be minimised as far as possible to limit the extent of impact on this community.

Additional areas of vegetation maintenance (eg. tree and shrub trimming, understorey clearing) are proposed within the maintenance zone of the roads on which works are proposed. Given that road maintenance in these locations is scheduled and undertaken every 8 years (Tony Saraullo, pers. comm. February 2019), these activities are considered to be exempt from requiring a NVCP (under Regulation 5, Item 22 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*) and as such have not been considered further in this document.

The flora and vegetation survey undertaken in November 2018 (across four survey days) specifically targeted any occurrences of conservation significant flora and Threatened Ecological Communities (TECs) / Priority Ecological Communities (PECs).

5. Site Characteristics

Topography

The proposed clearing area is relatively flat, with a topography of approximately 175 to 300 m AHD across the majority of the area, sloping towards the west (WALGA, 2019). The broader landscape is extensively dissected by the Moore River drainage system (DoW, 2009) (Figure 3).

Geology

The three roads and several locations near a proposed new intersection in Calingiri occur across a range of soil types (illustrated in Figure 3) including (WALGA, 2019):

- Capitella System - lateritic plateau, undulating to gently undulating low rises with gently undulating plain including dunes; pale and yellow deep sands, sandy gravels, some duplex.
- Udamong System - lateritic plateau with undulating low hills to gently undulating rises; loamy gravel, minor pale sand and clay.

- Yarawindah System - lateritic plateau with rolling to undulating low hills and undulating rises; loamy gravel, loamy earth, loamy duplex, some rock.
- Wannamal System - alluvial plain and fans; brown and red loamy earths, yellow/brown sandy duplexes, loamy duplexes,
- Glentrome System - stripped, weathered plateau with undulating low hills and rises; loamy earths, loams, loamy gravel and some clay and rock; weathered granite and migmatite.
- Greenhills System - undulating granitic terrain; deep sandy duplex (grey and red), red/brown deep loamy duplex, bare rock and shallow loamy duplex.
- Morbinnung System - undulating sandplain remnants, breakaways and slopes; grey deep sandy duplex (often alkaline), pale deep sand and yellow sandy earth.
- Ranfurly System - level to gently undulating plain being a relict flood plain, partially rejuvenated; loamy earths and clay, some duplex.

Hydrogeology and Groundwater

Calingiri lies on the western margin of the Yilgarn Craton where the bedrock consists of crystalline rocks such as granite, gneiss, schist and quartzite. The weathered profile, overlying the basement geology, consists of kaolinite clay, sandy clay and sand (WRC, 1999).

New Norcia also lies on the western margin of the Yilgarn Craton. In this area the bedrock consists of granite and gneiss, with a weathered profile of clayey sand and sandy clay (DoW, 2009).

Paleochannels and perched aquifers are common in this region (DoW, 2009).

The depth to the watertable in this area is largely unknown, however depth to water is approximately 18.5 m below ground level (mbgl) at the Yennart borefield that supplies the Calingiri town site water (DoW, 2016a).

Wetlands

Mogumber Road West passes through areas of Resource Enhancement, Multiple Use and Conservation category wetlands (Figure 4), however there are no wetlands located within the proposed clearing areas. The Avon (Wheatbelt) Wetland Mapping Scheme indicates a wetland mapped in close proximity to the Calingiri – New Norcia Rd (Figure 4).

Waterways

The proposed clearing areas on the Calingiri-New Norcia Rd pass over the Fletcher Gully (Figure 4). The clearing in the location noted on Figure 2e is for the purpose of installing a culvert for the gully.

6. Vegetation, Flora and Fauna

Regional Vegetation Complexes

The proposed clearing area occurs within the Avon Wheatbelt 'Interim Biogeographic Regionalisation of Australia' (IBRA) Bioregion as distinguished by Thackway and Cresswell (1995), located on the Yilgarn Plateau. Within this area, it lies within the Katanning subregion (AVW02), described by Beecham (2001). Vegetation associations within the proposed clearing area are described in Table 1 and Figure 5.

Table 1: Regional Vegetation Complex Representation within Avon Wheatbelt - Katanning Subregion (Government of Western Australia, 2017)

Vegetation Association (Beard)	Description	Pre-European Extent (ha)	Current Extent (ha)	% Remaining	% of Remaining in Conservation Reserve
4	Medium woodland; marri & wandoo	1,054,280	287,301	27.25	4.31
7	Medium woodland; York gum (Eucalyptus loxophleba) & wandoo	179,724	22,885	12.73	0.29
1022	Succulent steppe with woodland; Casuarina obesa & samphire	456	177	38.90	-

The Environmental Protection Authority (EPA) has an established set of Biodiversity Principles, which are applied where native vegetation clearing is proposed (EPA, 2008).

The target is to implement clearing controls to prevent the removal of ecological communities with an extent below 30% of the pre-European extent (i.e. that present before 1750). A level of 30% of the pre-clearing extent of an ecological community is considered to be the threshold level below which species loss appears to accelerate exponentially at the ecosystem level. The EPA therefore considers it important that ecological communities are maintained above the threshold level of 30% of the original pre-clearing extent of each vegetation type / community. The EPA also suggests that ecological communities now at levels below 30% of their original extent in regions should be fully retained, and threatened ecological communities should be fully retained and protected. A level of 10% or below of the original extent is regarded as representing "endangered" and should be avoided.

It is noted that vegetation associations 4 and 7 are below the 30% threshold (Table 1).

Flora and Vegetation Survey

A flora and vegetation survey (reconnaissance survey plus targeted search for conservation significant species and communities) was undertaken on the 6th and 7th November, and 14th and 15th November 2018, by Coterra's senior botanist, Carolyn Harding, and the results have only been reported in this document (there is not a separate survey report). The survey area included the proposed clearing areas

(roadside vegetation) and surrounding vegetation, as well as the maintenance zones proposed to be impacted, on the following roads:

- Mogumber Road West;
- Calingiri-New Norcia Road;
- Goomalling-Calingiri Road; and
- Several locations near a proposed new intersection in Calingiri.

The survey was undertaken in spring in order to capture the flowering period of the majority of the conservation significant flora species identified through database searches as potentially occurring in the area. Specimen identifications were undertaken by Carolyn Harding and Dr Chris Hancock.

Methods

The survey was undertaken over proposed clearing areas as identified by Roadswest. As a reconnaissance survey with targeted searching for conservation significant flora and TECs and PECs, broad vegetation types were recorded (Table 2). The survey was carried out over four days in November 2018.

Results

Vegetation Types

Broad vegetation types were observed and recorded within the survey area. These vegetation types and approximate locations are documented in Table 2. Note: a more detailed assessment was undertaken in areas considered likely to be TEC, and targeted searching within all vegetation for threatened and priority flora was undertaken during the survey. Vegetation types representing TECs are provided in bold in Table 2.

Table 2: Broad vegetation units observed during survey

Broad vegetation units observed	Description / Species Examples	Example SLK Location
Open to Closed *Leptospermum erubescens* Heath	Calingiri to New Norcia Road, Mogumber Road West	SLK -7.39 (Calingiri-New Norcia Rd),
Low *Tecticornia ?indica*, *Tecticornia ?pergranulata* samphire shrubland. Associated species: *Maireana brevifolia*	Calingiri to New Norcia Road	SLK 22.2, SLK 18.49, SLK -3.17, SLK-3.22, SLK -0.88
Shrubland to Tall Shrubland of *Meleleuca teretifolia*	Mogumber Road West, Calingiri to New Norcia Road	SLK 5.43
Eucalypt Woodland of the WA Wheatbelt TEC – *Eucalyptus wandoo* subsp. *wandoo* Woodland	Mogumber Road West, Proposed Calingiri Intersection, Calingiri to New Norcia Road	As mapped on Figure 7 (Proposed Calingiri Intersection) – see description and photos (Threatened and Priority Ecological Communities Section) Other example locations outside of proposed clearing area include: SLK 1.9 Mogumber Road West, SLK 25.42 Calingiri to New Norcia Road
Banksia (*Banksia attenuata*, *Banksia menziesii*, *Banksia prionotes*) Woodlands of the Swan Coastal Plain TEC	Mogumber Road West	As mapped on Figure 8 – see releve description and photos (Threatened and Priority Ecological Communities Section) Patches between SLK 5.43 and SLK 9.55
Scattered low shrubs to Low Shrubland of *Grevillea biternata*, *Gastrolobium spinosum, Dianella revoluta, Ericomyrtus serpyllifolia* (Appears to have been previously disturbed)	Proposed Calingiri Intersection	Proposed Calingiri Intersection
Low *Acacia dilatata*, *Leptospermum erubescens* Shrubland Associated species: *Glishrocaryon aureum*, *Goodenia trichophylla*, *Dampiera lavandulacea*, *Ericomyrtus*	Proposed Calingiri Intersection	Proposed Calingiri Intersection

serpyllifolia, *Synaphea spinulosa* subsp. *spinulosa*, *Tetratheca pauciflora*, *Acacia incrassata*, and *Tricoryne elatior* with *Lepidosperma leptostachyum* sedges and *Podolepis lessonii* herbs.		
Low *Ericomyrtus serpyllifolia* Shrubland to Shrubland Associated species: *Dianella revoluta*, *Dampiera lavandulacea*, with **Avena barbata* and *Austrostipa ?flavescens* grasses, *Podolepis lessonii* herbs and scattered emergent *Eucalyptus macrocarpa* subsp. *macrocarpa* Likely planted *Eucalyptus gomphocephala* and *Eucalyptus* spp. observed, and taxa including *Orthorsanthus laxus* var. *gramineus, Bossiaea spinescens, Acacia lasiocarpa var. bracteolata, Opercularia vaginata, Allocasuarina drummondiana, Stenanthemum tridentatum* recorded in nearby areas. *Banksia armata, Calothamnus quadrifidus* subsp. *angustifolius* and *Beaufortia bracteosa* also recorded in this linear vegetation patch with patches observed in Very Good, Good and Degraded condition.	Adjacent to golf course, Toodyay to Bindi Bindi Road, Proposed Calingiri Intersection	Proposed Calingiri Intersection
Banksia hewardiana, Banksia fraseri var. *fraseri*, *Banksia ?polycephala* Open Low Heath to Open Heath (Appears to have been previously disturbed)	Calingiri to New Norcia Road	SLK -25.32
Degraded *Acacia microbotryra* Shrubland to Tall Open Scrub	Proposed Calingiri Intersection, Calingiri to New Norcia Road	Proposed Calingiri Intersection, SLK 27.11 (C-NN Rd)
Degraded *Acacia acuminata* Shrubland to Tall Open Scrub	Calingiri to New Norcia Road	SLK 26.32, -22.41, SLK 18.49, SLK -17.86, SLK 12.02, SLK -3.22
Low *Banksia leptophylla* scattered heath	Mogumber Road West	SLK 6.2
Open Woodland to Woodland of *Casuarina ?obesa*	Calingiri to New Norcia Road	SLK -22.41, SLK 22.2
Low *Calothamnus quadrifidus* subsp. *angustifolius*, *Melaleuca cordata* Shrubland to Open Heath	Calingiri to New Norcia Road	SLK 7.39

Associated species: *Ericomytus serpyllifolia*, *Hakea incrassata Allocasuarina campestris* with scattered emergent *Acacia microbotrya* tall shrubs		
Eucalyptus loxophleba subsp. *loxophleba* scattered trees, *Acacia acuminata* and *Acacia microbotrya* tall shrubs, with degraded understorey Associated species: scattered *Maireana brevifolia* and/or *Enchylaena lanata* shrubs, **Avena barbata* and **Eragrostis curvula* grasses	Goomalling to Calingiri Road	SLK 1.3, SLK 3.48
Casuarina obesa degraded Low Open Woodland Associated species - scattered *Acacia microbotrya* tall shrubs, introduced grass including **Eragrostis curvula*, scattered native shrubs including *Dodonaea pinifolia*, *Enchylaena lanata*. *Atriplex ?semibaccata* recorded near culvert	Goomalling to Calingiri Road	SLK 2.2
Proteaceous/Myrtaceous Heath Associated species: Sometimes with *Eremaea pauciflora* var. *pauciflora Adendanthos cygnorum, Conostylis setigera* subsp. *setigera, Jacksonia furcellata, Alexgeorgea nitens,* scattered *Eucalyptus todtiana, Hakea costata, Phlebocarya filifolia, Verticordia* sp. (sterile), Scholtzia sp. Wongonderra (M.E. & M.R. Trudgen MET 12000), M*elaleuca seriata*. Also scattered *Allocasuarina ?campestris, Calytrix angulata, Johnsonia pubescens* subsp. *pubescens, Hibbertia striata, Jacksonia* floribunda, *Leptospermum erubescens*. *Patches sometimes contained Hakea psilorrhyncha, Stachystemon brachyphyllus, Daviesia ?preissii Lechenaultia* sp. with *Mesomelaena tetragona sedges*. Some patches of Proteaceous heath contained *Labichea lanceolata subsp. lanceolata* Open Low Heath to Open Heath. Some patches observed to be in Very Good condition, some in Good condition, and other patches were in Degraded condition (eg Degraded Tall Shrubland	Mogumber Road West	SLK 6.32, SLK 6.36, 6.64, SLK 8.18 and SLK 8.26 contained *Labichea lanceolata* subsp. *lanceolata* heath) Degraded *Adenanthos cygnorum* heath was recorded at SLK 6.22

to Open Heath of *Adenanthos cygnorum*). Occasional Scattered *Eucalyptus todtiana* observed in heath areas.		

Vegetation Condition

Vegetation condition was assessed in the locations where TECs potentially occurred, in order to determine whether relevant diagnostic criteria were met. This information is documented in the following sections.

Threatened and Priority Flora

A search of the Department of Biodiversity Conservation and Attractions (DBCA) and WA Museum's Naturemap database and the federal EPBC Act Protected Matters Search Tool found 45 flora species of conservation significance to potentially occur within or near the proposed clearing area. The database search results are provided in Appendix B, with the compiled list of potential conservation significant flora species occurring within the proposed clearing area provided in Appendix C.

Two priority flora were recorded during the survey (Figure 6), undertaken in spring 2018. Five plants of *Isopogon drummondii* (Priority 3) were recorded on Mogumber Road West within or adjacent to a maintenance zone clearing area (i.e. not within a formal proposed clearing area as illustrated in Figures 2a to 2h). *Eucalyptus sargentii* subsp. *onesis* (Priority 3) was recorded near the proposed new intersection in Calingiri next to a disturbed track (Figure 6). This was a mallee specimen, leading to the identification as subsp. *onesis*, which is a Priority 3 taxa. Location coordinates for these specimens are provided in Appendix D. No Declared Rare Flora (DRF) were encountered during the survey.

Eucalyptus macrocarpa trees were recorded at various locations across the survey areas, however the collected specimens were subsequently identified as the non-threatened subsp. *macrocarpa* as opposed to the two Priority subspecies of this taxa. A complete table of flora species recorded across the survey areas is provided in Appendix E.

Several range extensions of species were identified during the survey, with species recorded or collected outside of their known range. These include:

- *Alexgeorgea nitens*
- *Chordifex microcodon*
- *Eucalyptus tephroclada* (range extension/planted)
- *Eucalyptus gomphocephala* (planted)
- *Hakea costata*
- *Jacksonia nutans*
- *Leptocarpus canus*
- *Melaleuca teretifolia*

Threatened and Priority Ecological Communities

The DBCA Threatened and Priority Ecological Communities database, NatureMap and the DEE Protected Matters Database (Appendix B) were searched to ascertain significant flora species and communities that have been recorded within the vicinity of the proposed clearing areas and maintenance zones. The DBCA and DEE databases indicated that the Eucalypt Woodlands of the Western Australian Wheatbelt TEC (Eucalypt Wheatbelt TEC) and the Banksia Woodlands of the Swan Coastal Plain TEC (Banksia Woodlands TEC) may occur within and / or near the survey area.

Eucalypt Woodlands of the Western Australian Wheatbelt TEC

There are several criteria that are required to be met for inclusion in this TEC. For patches that occur as roadside verges, a minimum patch width of 5 metres applies. DotE (2015) states:

"It is intended that the condition thresholds will exclude degraded patches from any requirement for protection, for instance: roadside and other woodland remnants that are too small and narrow, or where the tree canopy has become too patchy and discontinuous (effectively <10% cover), or the understorey has lost considerable elements of its native structure and diversity".

For this reason, and based on the surveyed areas, much of the surveyed woodland areas / scattered trees would not meet the criteria for TEC status. Many of the roadside woodland areas included in this survey contained *Eucalyptus loxophleba* subsp. *loxophleba* (York Gum), or *Eucalyptus wandoo* (Wandoo), both of which are listed tree species of the Eucalypt Wheatbelt TEC. The TEC is noted to be "*naturally variable but its vegetation cover should be mostly due to native species. The fewer the weeds and the higher the natural diversity of native plant species, the better the condition of the patch*". Several contra-indicators are also noted to apply, including:

- roadside vegetation that is less than 5 metres wide; and
- areas where the native understorey is considerably gone (DotE, 2015)

The majority of woodland areas containing indicator eucalypt species were observed to have a Degraded, to Completely Degraded understorey.

Table 3 identifies areas of Eucalypt Wheatbelt TEC surveyed, where the understorey was observed to be in Good or Very Good condition (according to the Keighery (1994) scale. Other areas surveyed to contain the Eucalypt Wheatbelt TEC were recorded (Table 3) but do not fall within the proposed clearing areas. Areas considered to be representative of the Eucalypt Wheatbelt TEC and occurring within the proposed clearing area are mapped in Figure 7.

Table 3: Patches of Eucalypt Wheatbelt TEC proposed for clearing

Patch location (SLK)	Tree species	Patch Condition (as per Keighery (1994))	Patch Width / Size	Meets TEC Criteria
Proposed new Calingiri intersection (see Plates 1 and 2 below and Figure 7)	*Eucalyptus wandoo* subsp. *wandoo*	Good	0.05 ha	Intersects larger potential TEC patch
1.9 SLK Mogumber Road West - Good to Degraded	*Eucalyptus wandoo* subsp. *wandoo*	Good to Degraded	~10 metre width	Potentially. No clearing proposed outside of maintenance area.
25.42 Calingiri-New Norcia Road	*Eucalyptus wandoo* subsp. *wandoo*	Very Good	~10 metre width	Potentially. No clearing proposed outside of maintenance area.

Photos of the area described in Table 3 and illustrated in Figure 7 are provided below.

Plate 1: ***Eucalyptus wandoo*** **woodland at proposed new intersection near Calingiri.**

Plate 2: ***Eucalyptus wandoo*** **woodland at proposed new intersection near Calingiri**

Bare open patches were observed in this area, to the right of the trees flagged in Plate 2, however the area was still considered to be in Good condition.

Banksia Woodlands of the Swan Coastal Plain (TEC)

The Banksia Woodlands TEC is listed as Endangered at the federal EPBC Act level, and as a Priority 3 ecological community at the state level (the TEC also encompasses a number of Floristic Community Types (FCTs) that are of conservation significance at the state level). Several areas within the survey area potentially support the Banksia Woodlands TEC, along Mogumber Road West, however they do not fall within the proposed clearing areas (maintenance zone clearing only). These areas of vegetation are shown in Figure 8.

As per the Approved Conservation Advice for the Banksia Woodlands TEC (DotE, 2016), identification of vegetation as being representative of the TEC is based on several key diagnostic criteria (Table 4).

Table 4: Key diagnostic criteria for the determination of presence of Banksia Woodlands TEC

Key diagnostic characteristics and information	Relevance to survey area
Location and physical environment (bioregion)	Met – SCP
Soils and landform (soil type, location in the landscape, topography)	Met – alluvial plains, sand, gravel, loam
Vegetation composition (dominant tree species, emergent tree layer, understory)	Met in some locations, with dominant tree species being either *Banksia prionotes, Banksia attentuata*, or *Banksia menziesii.*
Vegetation structure (tree composition, understory composition, diversity, species)	Met in some locations, with a species rich understorey

Vegetation condition ratings are provided in Table 5.

Table 5: Condition Rating Scale (Keighery, 1994)

Rating	Description	Explanation
1	Pristine	Pristine or nearly so, no obvious signs of disturbance.
2	Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
3	Very Good	Vegetation structure altered, obvious signs of disturbance.
4	Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it.
5	Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.
6	Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species.

In order to be considered representative of the TEC, vegetation must meet conditions of minimum patch size corresponding to vegetation condition. This is described in Table 6 (DotE, 2016).

Table 6: Minimum patch sizes determined by vegetation condition

Condition	Minimum patch size required in order to be considered representative of Banksia Woodlands TEC (DotE, 2016)
Pristine	No minimum patch size
Excellent	0.5 ha
Very Good	1 ha
Good	2 ha
Degraded	Condition too degraded to be considered as TEC
Completely Degraded	Condition too degraded to be considered as TEC

The Banksia woodland shown in Plate 3 contains *Banksia prionotes* as the dominant overstorey species, while other areas of Banksia woodland along Mogumber Road West (areas mapped on Figure 8) contained either *Banksia attenuata*, and/or *Banksia menziesii* as dominant overstorey species. All three Banksia species are indicators of the Banksia Woodland TEC. Although the roadside vegetation patches were not of sufficient size to establish a 10 x 10m quadrat within, native understorey species were recorded in releves, and included *Adenanthos cygnorum*, *Allocasuarina* ?*campestris*, *Acacia pulchella*, *Lechenaultia floribunda*, *Lyginia imberbis*, *Xanthorrhoea preissii*, *Gompholobium tomentosum*, *Austrostipa compressa*, *Eremaea pauciflora*, *Stirlingia latiflora*, *Melaleuca seriata*, *Alexgeorgea nitens*, *Boronia ramosa*, *Conospermum filifolium* subsp. *filifolium*, *Chordifex micrcodon*, *Acacia stenoptera*, *Jacksonia floribunda*, *Labichea lanceolata* subsp. *lanceolata*), *Scaevola* ?*repens*, *Synaphea spinulosa* subsp. *spinulosa*, *Lomandra hermaphrodita*, *Melaleuca ciliosa*, *Melaleuca* sp., and *Gastrolobium* ?*calycinum*. Introduced species observed included **Ehrharta calycina* and**Briza maxima*.

Plate 3: Banksia woodland on Mogumber Road West

Other areas of Banksia woodland along Mogumber Road West included native understorey species *Bossiaea eriocarpa*, *Patersonia occidentalis*, *Dampiera alata*, *Hovea trisperma* and *Acacia ericifolia*.

The various patches of Banksia woodland within the survey area (Figure 8) have been found likely to meet the criteria for inclusion within the TEC where in Good condition or better as per the Keighery (1994) scale shown in Table 4 (patch size condition criteria area met). Clearing in the vicinity of the mapped Banksia Woodland TEC is only proposed within the maintenance zone so it is not likely that clearing of Banksia woodland in Good or better condition will be undertaken.

Environmentally Sensitive Areas

A group of Environmentally Sensitive Areas (ESA), associated with wetlands, is located on or near the Mogumber Road West, approximately halfway between Mogumber and the boundary of the Shire of Victoria Plains (WALGA, 2019) (Figure 5). The proposed clearing area does not intersect these ESAs.

Local Natural Areas and Ecological Linkages

There are no known local natural areas or ecological linkages mapped within or in the near vicinity of the proposed clearing area (WALGA, 2019).

Dieback

Dieback mapping shows that dieback has the potential to occur in the project area (Project Dieback, 2018). No dieback assessment has been completed for the proposed clearing area.

Fauna and Fauna Habitat

A recent search of the DBCA and WA Museum's Naturemap database and the federal EPBC Act Protected Matters Search Tool found 22 fauna species of conservation significance to potentially occur within or near the proposed clearing area (Appendix B).

A list of conservation significant fauna species and the likelihood of their occurrence within the proposed clearing area (with respect to habitat availability and known range) is provided in Appendix F. Species identified as known to occur in the area and / or likely to utilise the proposed clearing area include:

- Carnaby's Black Cockatoo *Calyptorhynchus latirostris* (Endangered under State and EPBC Act level)
- Shield-backed Trapdoor Spider *Idiosoma nigrum* (Vulnerable under State and EPBC Act level)
- Rainbow Bee-eater *Merops ornatus* (Marine under EPBC Act)

During a site visit undertaken by Coterra Environment in July 2018, Carnaby's black cockatoos were observed in the area. As part of this site visit, all trees which are to be removed were assessed, and all had a trunk breadth of less than 500 mm Diameter at Breast Height (DBH), and less than 300 mm DBH where they were Salmon Gums. Trees smaller than 500 mm DBH (300 mm DBH for Salmon Gums) are noted unlikely to be

large enough to provide nesting habitat for Black Cockatoos as referred to in the Black Cockatoo Referral Guidelines (DSEWPaC, 2012).

Banksia woodland / shrubland and proteaceous and myrtaceous heath and shrubland described in Table 2 are likely to provide some foraging habitat to local Carnaby's black cockatoo populations. However, there are large areas of adjacent vegetation likely to be in equal or better condition that provide extensive foraging opportunities. No evidence of black cockatoo foraging was noted during the July 2018 site visit.

Whilst known roost sites occur in the area (Figure 9 – EPT roost site data), there are no known roost sites or buffers that intersect the proposed clearing area. The closest roost site is located in Goomalling and the Great Cocky Count data for that site (GOOGOO001) indicates that the last time cockatoos were recorded was in 2011 (9 white tailed cockatoos) (Birdlife, 2018). Similarly, the roost site approximately 15 km west of the Mogumber Road West proposed clearing area (DANREGR001) recorded 22 white-tailed black cockatoos in 2011 but none in years since. Site VCTOLDR001 approximately 15 km south of the Calingiri-New Norcia Rd clearing areas has never recorded any roosting cockatoos during the Great Cocky Count program lifetime of 2010 – 2018 (Birdlife, 2018).

Based on the information regarding the size of trees surveyed within the proposed clearing area, known roost site information (Birdlife, 2018) and known vegetation types in the proposed survey area:

- It is unlikely that cockatoos breed or roost within the proposed clearing area; and
- There is some potential foraging habitat available to local black cockatoo populations within the proposed clearing area.

It is unknown whether the shield-backed trapdoor spider occurs in the proposed clearing area, however little of the proposed clearing area contains the habitat critical to this species (open York gum, Salmon gum and Wheatbelt Wandoo woodland, where *Acacia acuminata* forms a sparse understorey in heavy clay soils) (DEE, 2019).

The rainbow bee-eater is a widespread, common species that has limited threats, based on the fact that it does not rely upon particular vegetation types for habitat (it is a ground-nesting species) (DEE, 2019). It is not likely to be significantly impacted as a result of the proposed clearing.

7. Assessment against Clearing Principles

Table 7 provides assessment of the proposed clearing against the EPA's ten clearing principles, as provided in Schedule 5 of the *Environmental Protection Act 1986.*

Table 7: Assessment Against Clearing Principles

Native Vegetation Clearing Principles	Assessment of Proposed Clearing
1. Native vegetation should not be cleared if it comprises a high level of biological diversity	A reconnaissance and targeted flora and vegetation survey found that the proposed clearing area contains vegetation in varying condition. The record of flora species found within the area (Appendix E) lists 195 species, of which 19 are introduced. The proposed clearing may be at variance to this principle.
2. 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	Appendix F provides a list of the conservation significant fauna species that may occur within the proposed clearing area. Of these species, only the Carnaby's black cockatoo is likely to utilise the proposed clearing area as a habitat area, for potential roosting and / or foraging. No evidence of foraging or roosting was noted during the site visit. All trees which are proposed to be removed have a trunk breadth of less than 500 mm DBH, and less than 300 mm DBH where they were Salmon Gums, and as such have no breeding habitat potential for black cockatoos. Given the very small area proposed to be cleared (1.98 ha) and the extent of foraging habitat available to this species in the immediate vicinity, it is considered unlikely that a significant impact to this species would result from the proposed clearing. It should also be noted that the proposed clearing consists entirely of roadside remnants that have been and would continue to be subject to degradation processes. The proposed clearing is unlikely to be at variance to this principle.
3. Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora	Two priority flora were recorded during the survey; five plants of *Isopogon drummondii* (Priority 3) were recorded on Mogumber Road West (Figure 6) and *Eucalyptus sargentii subsp. onesis* (Priority 3) recorded near the proposed new intersection in Calingiri next to a disturbed track (Figure 6). No Declared Rare Flora was recorded within the proposed clearing area. The proposed clearing may be at variance to this principle.
4. 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 proposed clearing area includes a small portion of the following Eucalypt Wheatbelt TEC (0.068 ha), which is Critically Endangered under the EPBC Act and Priority 3 under DBCA priority ecological community rankings. It is considered unlikely that Banksia Woodlands TEC will be cleared as this TEC occurs only in the areas where 'maintenance zone' clearing is proposed, which is exempt from requiring a NVCP. Maintenance zone vegetation is unlikely to be in a sufficiently good condition to meet the minimum patch size condition requirements for this TEC due to the regular maintenance scheduling (approx. 8 years) within the 'maintenance zone' within the road reserve.

Native Vegetation Clearing Principles	Assessment of Proposed Clearing
	The proposed clearing is likely to be at variance to this principle.
5. 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 regional vegetation complexes within which the broadly mapped clearing area occurs are listed in Table 1. It is noted that vegetation associations 4 and 7 are below the 30% threshold (Table 1). The proposed clearing is likely to be at variance to this principle.
6. Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or a wetland	Mogumber Road West passes through areas of Resource Enhancement, Multiple Use and Conservation category wetlands (Figure 4), however there are no wetlands located within the proposed clearing areas. The proposed clearing areas on the Calingiri-New Norcia Rd pass over the Fletcher Gully (Figure 4). The clearing in the location noted on Figure 2e is for the purpose of installing a culvert for the gully, for which all required approvals will be obtained. The proposed clearing is likely to be at variance to this principle.
7. Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation	The area proposed to be cleared is required for the maintenance and expansion of road infrastructure, which will provide a hard surface that will minimise issues such as erosion and dust generation. Appropriate roadside drainage infrastructure is proposed to be designed and constructed (where necessary) to address the introduction of impervious surfaces and to maintain local surface water flows. The proposed clearing is not likely to be at variance to this principle.
8. 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	There are no conservation reserves or areas located within or near the proposed clearing area. One portion of the proposed clearing area (Mogumber Road West) occurs adjacent to freehold crown land considered to be of interest to the Department of Biodiversity, Conservation and Attractions (DBCA) (Figure 10), presumably for conservation purposes. Clearing will be localised to the roadside vegetation in the road reserve and there will be management measures in place at time of clearing to ensure that there is no unintended clearing or damage to any vegetation outside of the approved clearing area. The proposed clearing is not likely to be at variance to this principle.

Native Vegetation Clearing Principles	Assessment of Proposed Clearing
9. 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	Given the minimal extent of clearing proposed (1.98 ha adjacent to previously cleared areas for road infrastructure), the proposed clearing is not likely to have any impact on the quality of surface water or groundwater. Any road modifications will be required to account for existing surface water flows and appropriate roadside drainage infrastructure will address the introduction of impervious surfaces and maintain local surface water flows as needed. A culvert is proposed as part of the roadworks to maintain existing flows, and will be subject to obtaining necessary approvals. The proposed clearing is not likely to be at variance to this principle.
10. Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding	As the proposed clearing area is an extension of previously cleared land that has been capped by impervious surfaces, there are not expected to be any further significant impacts to flooding in the area. The proposed clearing is not likely to be at variance to this principle.

8. Avoidance and Mitigation Measures

To avoid and minimise the clearing extent to the minimum area required to complete the proposed works, the project engineer (Tony Saraullo, Roadswest) accompanied Carolyn Harding (Coterra Environment) on her survey of the proposed clearing areas (mapped in Figures 2a to 2h) and maintenance zone clearing locations, to accurately delineate these areas. Where possible, clearing in these areas has been minimised as far as possible to allow for the infrastructure engineering and construction works.

Clearing will be restricted to the maintenance zone in the vicinity of the Banksia Woodlands TEC (Figure 8). Whilst this NVCP application has assumed a worst-case scenario regarding the clearing of Eucalypt Whealtbelt TEC (Figure 7), clearing will be minimised to the extent of the earthworks required for the road construction in this location (proposed new Calingiri intersection).

9. References

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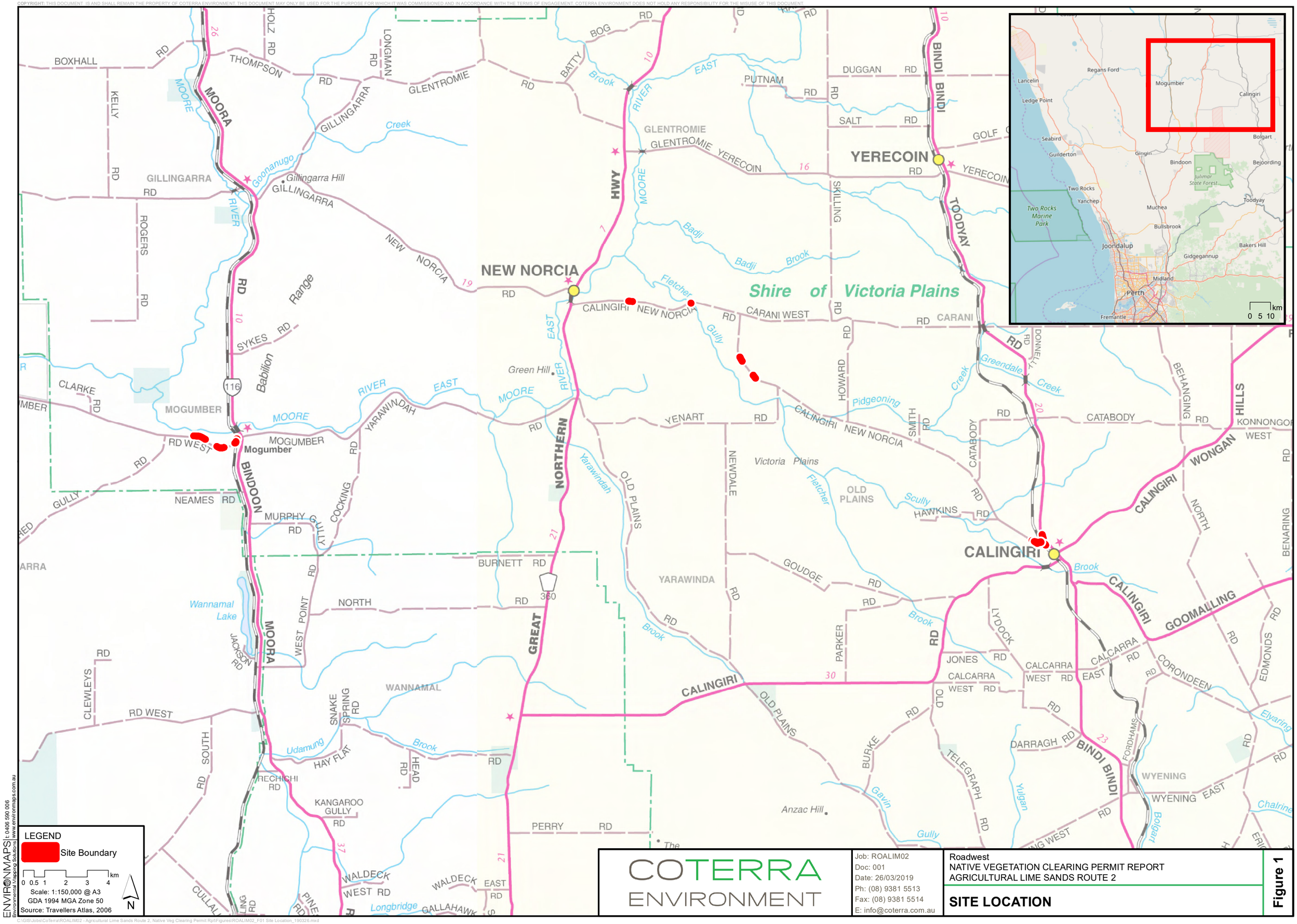
10. Figures

Figure 1:	Site Location
Figures 2a – 2h:	Proposed Clearing Area
Figure 3:	Topography and Soils
Figure 4:	Surface Water Features
Figure 5:	Regional Vegetation Associations
Figure 6:	Threatened and Priority Flora
Figure 7:	Eucalypt Woodlands TEC Mapping
Figure 8:	Banksia Woodlands TEC Mapping
Figure 9:	Great Cocky Count Roost Sites
Figure 10:	DBCA Managed Lands and Waters

11. Appendices

Appendix A:	Earthworks plan for new intersection (Toodyay Bindi Bindi Road)
Appendix B:	Flora, fauna and ecological communities database search results
Appendix C:	List of conservation significant flora species (State and Federal) potentially occurring in the proposed clearing area
Appendix D:	Conservation significant flora recorded within or near proposed clearing area
Appendix E:	Floristic taxa recorded in Mogumber Road West to Goomalling survey area
Appendix F:	List of conservation significant fauna species (State and Federal) potentially occurring in the proposed clearing area

FIGURES



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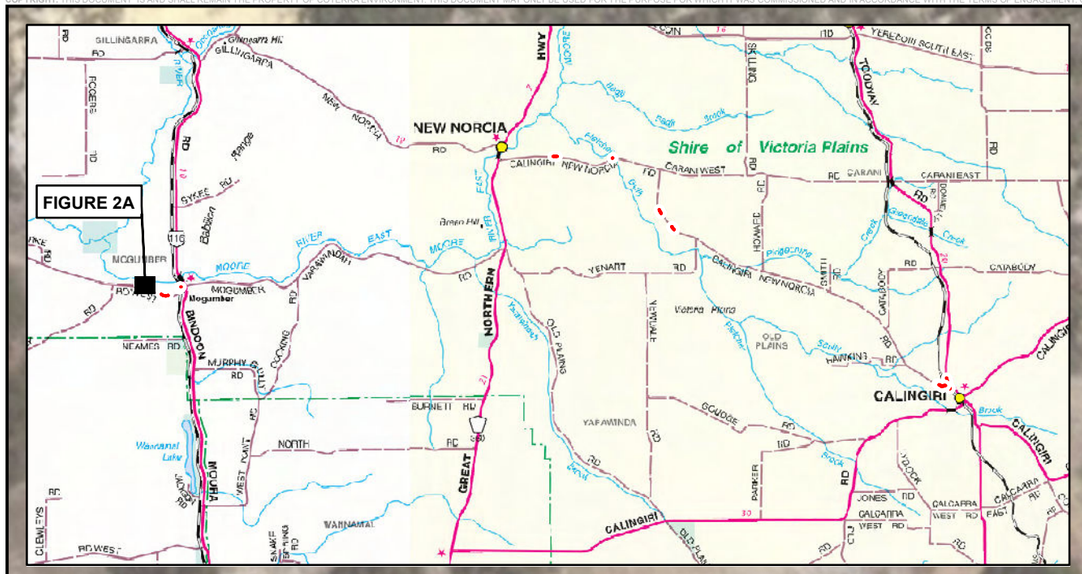
SITE LOCATION

Figure 1



LEGEND

Proposed Clearing Area

N

0 5 10 20 30 40 m

Scale: 1:1,500 @ A3

GDA 1994 MGA Zone 50

Source: Ortho - World Imagery

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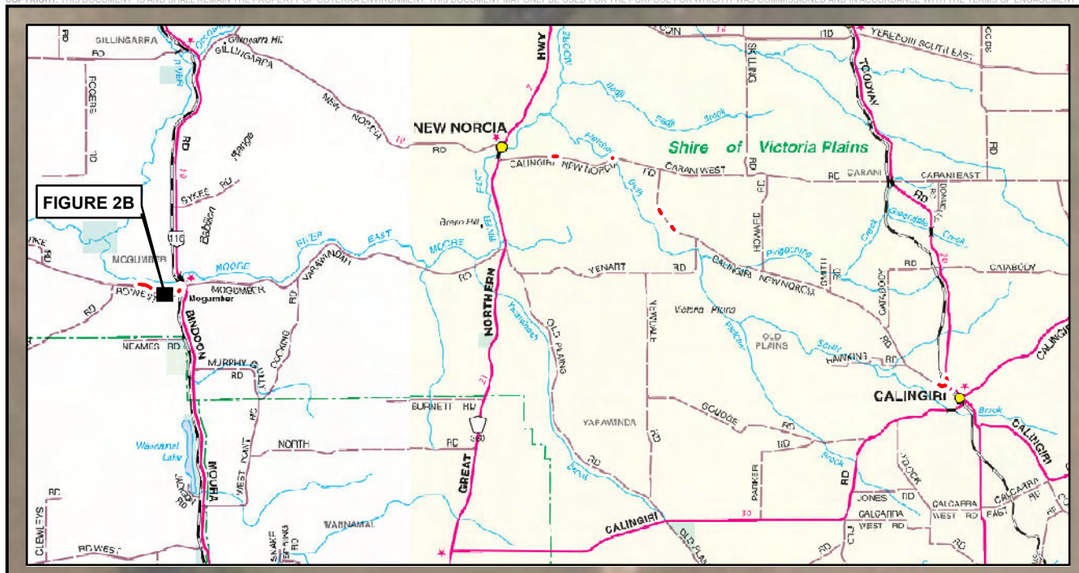
PROPOSED CLEARING AREAS

Figure 2a



LEGEND

Proposed Clearing Area

N

0 3.75 7.5 15 22.5 30 m

Scale: 1:1,000 @ A3

GDA 1994 MGA Zone 50

Source: Ortho - World Imagery

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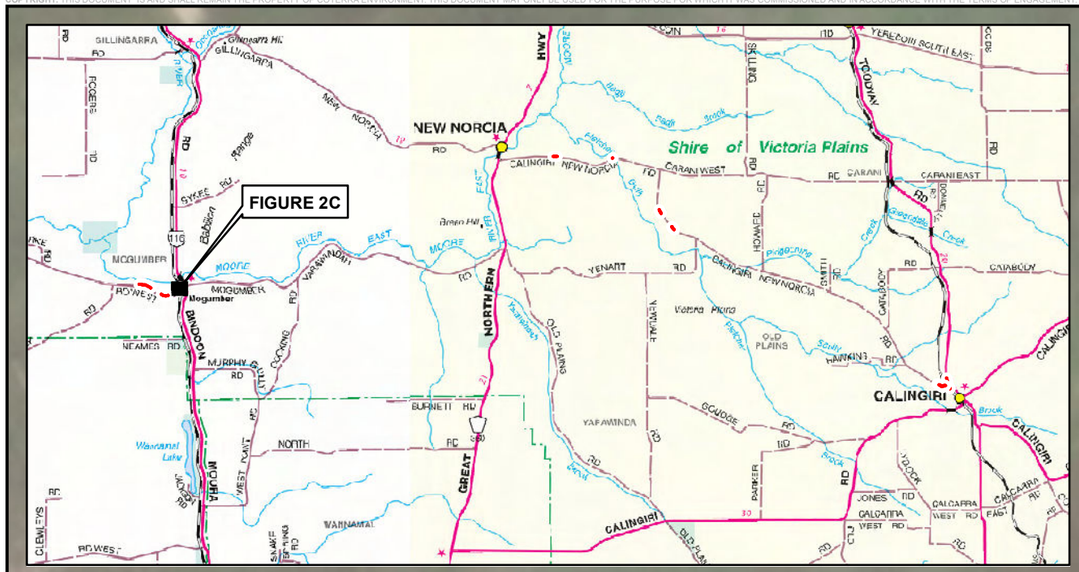
PROPOSED CLEARING AREAS

Figure 2b



LEGEND

Proposed Clearing Area

N

0 3.75 7.5 15 22.5 30 m

Scale: 1:1,000 @ A3

GDA 1994 MGA Zone 50

MOGUMBER - YARAWINDA RD

MOGUMBER WEST RD

LANIGAN ST

BINDOON MOORA RD

Source: Ortho - World Imagery

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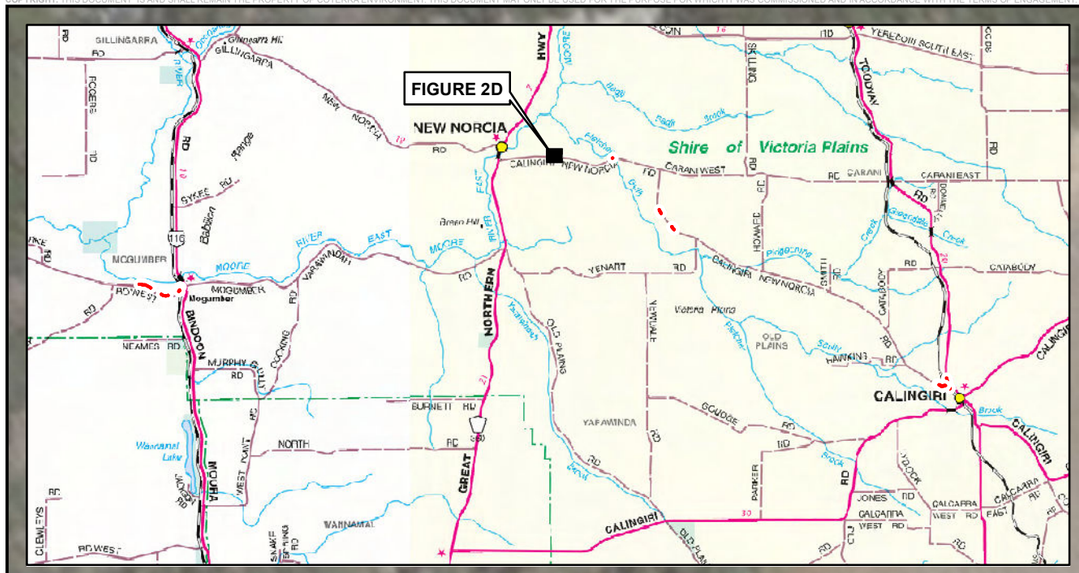
PROPOSED CLEARING AREAS

Figure 2c



LEGEND

Proposed Clearing Area

N

0 3.75 7.5 15 22.5 30 m

Scale: 1:1,000 @ A3

GDA 1994 MGA Zone 50

CALINGIRI - NEW NORCIA RD

Source: Ortho - World Imagery

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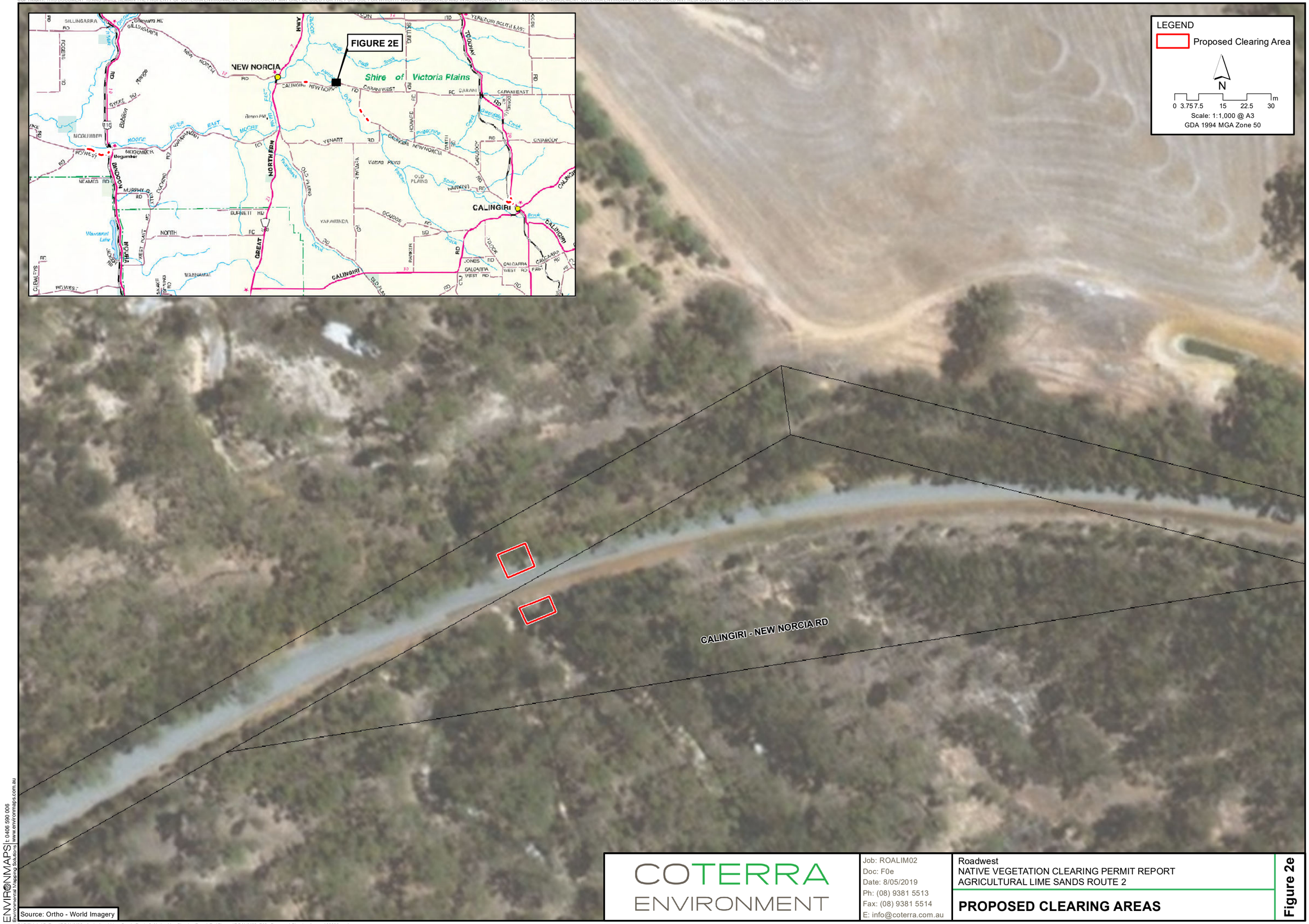
PROPOSED CLEARING AREAS

Figure 2d



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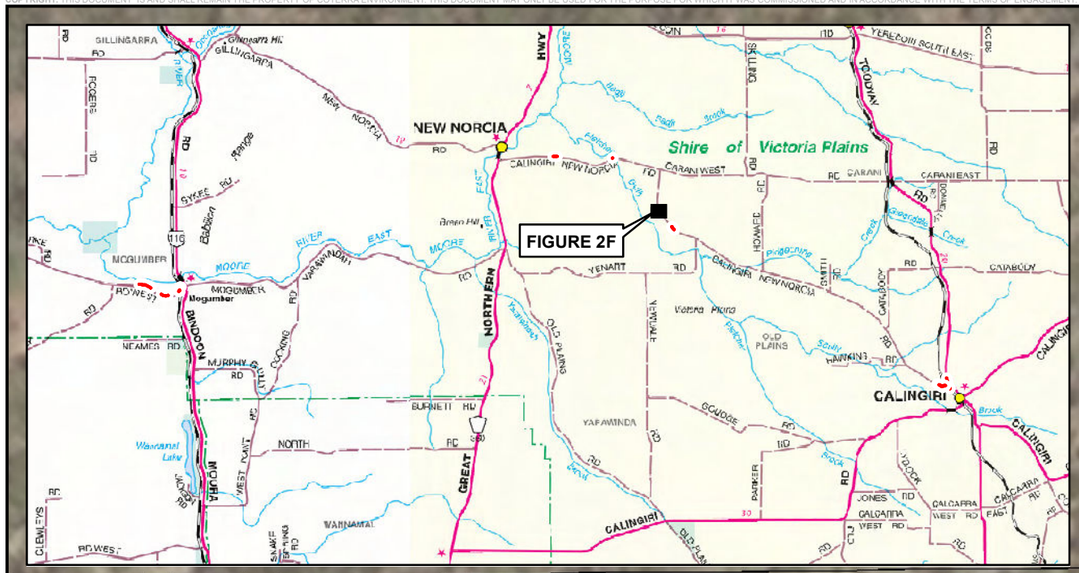
PROPOSED CLEARING AREAS

Figure 2e



LEGEND

Proposed Clearing Area

N

0 3.75 7.5 15 22.5 30 m

Scale: 1:1,000 @ A3

GDA 1994 MGA Zone 50

CALINGIRI - NEW NORCIA RD

Source: Ortho - World Imagery

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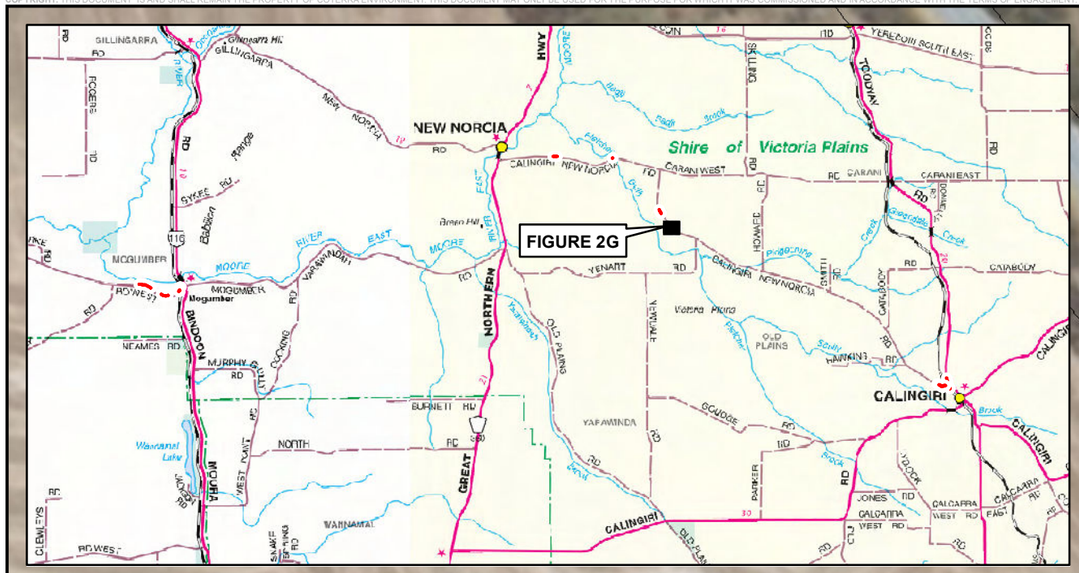
PROPOSED CLEARING AREAS

Figure 2f



LEGEND

Proposed Clearing Area

N

0 3.75 7.5 15 22.5 30 m

Scale: 1:1,000 @ A3

GDA 1994 MGA Zone 50

Source: Ortho - World Imagery

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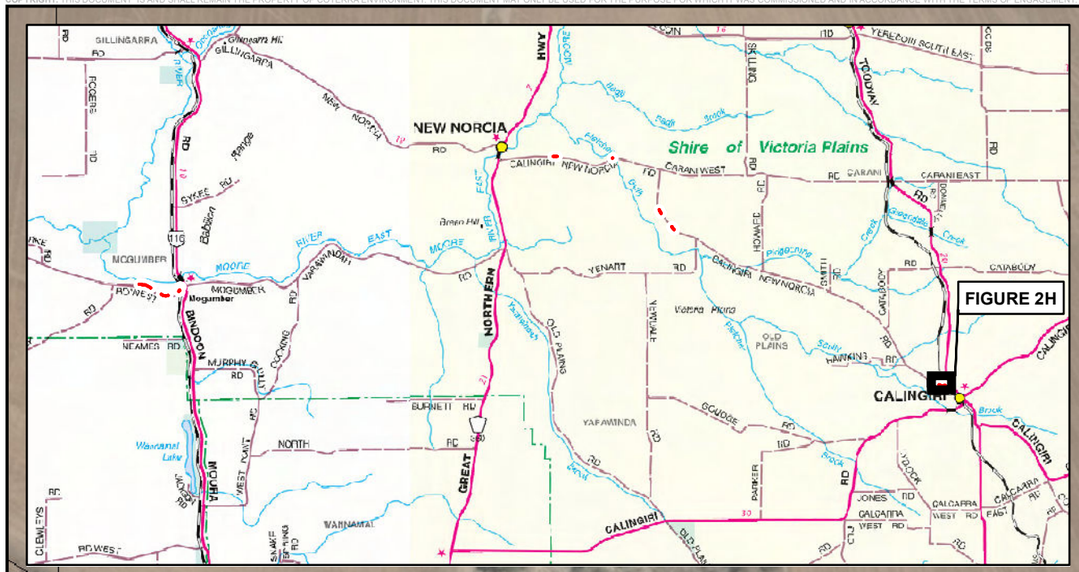
PROPOSED CLEARING AREAS

Figure 2g



LEGEND

- Proposed Clearing
- Proposed Clearing Area – No Native Vegetation

N

0 12.5 25 50 75 100 m

Scale: 1:2,500 @ A3
GDA 1994 MGA Zone 50

Source: Ortho - World Imagery

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PROPOSED CLEARING AREAS

Figure 2h

Soils Mapping

- Capitella System: subdued stripped lateritic plateau, undulating to gently undulating low rises with gently undulating plain including dunes; pale and yellow deep sands, sandy gravels, some duplex; from sandstones plus alluvial and aeolian deposits.
- Glentrome System: stripped, weathered plateau with undulating low hills and rises; loamy earths, loams, loamy gravel and some clay and rock; weathered granite and migmatite.
- Greenhills System: Undulating granitic terrain, in the northern Zone of Rejuvenated Drainage, with deep sandy duplex (grey and red), red/brown deep loamy duplex, bare rock and shallow loamy duplex. York Gum-Jam-Salmon Gum-Wandoo-Sheoak woodland.
- Jelcobine System: Isolated steep low hills with undulating low granite hills and isolated lateritic remnants in the Zone of Rejuvenated Drainage. Gravels, and grey shallow to deep sandy duplexes. Wandoo, york gum, Jam and Casuarina woodland predominate.
- Julimar System: Moderately dissected areas with gravelly slopes and ridges and minor rock outcrop on the eastern side of the Darling Plateau over weathered granite and granitic gneiss. loamy gravel, shallow duplexes and pale deep sand common.
- Moochamulla System: level to gently undulating plain being a relict flood plain, partially rejuvenated; sandy duplex, sandy earth, some sandy gravel; alluvium and weathered sandstone.
- Morbinning System: Undulating sandplain remnants, breakaways and slopes, in the northern Zone of Rejuvenated Drainage, with grey deep sandy duplex (often alkaline), pale deep sand and yellow sandy earth. Wandoo-jam-salmon gum woodland and heath.
- Phillips Sandplain System: Gently undulating sandplain, in the northern Zone of Rejuvenated Drainage, with pale deep sand, yellow sandy earth and yellow deep sand.
- Ranfurly System: level to gently undulating plain being a relict flood plain, partially rejuvenated; loamy earths and clay, some duplex; from alluvium.
- Udamong System: Northern Darling Range near New Norcia. Partially stripped lateritic plateau with undulating low hills to gently undulating rises. Loamy gravel, minor pale sand and clay; deep weathered granitic gneiss, gneiss and schist.
- Wannamal System: Alluvial plain and fans; Brown and red loamy earths, Yellow/brown sandy duplexes, loamy duplexes.
- Yarawindah System: dissected lateritic plateau with rolling to undulating low hills and undulating rises; loamy gravel, loamy earth, loamy duplex, some rock; weathered schist and some gneiss.

LEGEND

- Site Boundary
- Contour (mAHD)
- Watercourse
- Localities

0 0.5 1 2 3 4 km

Scale: 1:125,000 @ A3
GDA 1994 MGA Zone 50

Source: Soils - DPIRD, 2019
Watercourse - DoW, 2017
Contours - Geoscience Australia

N

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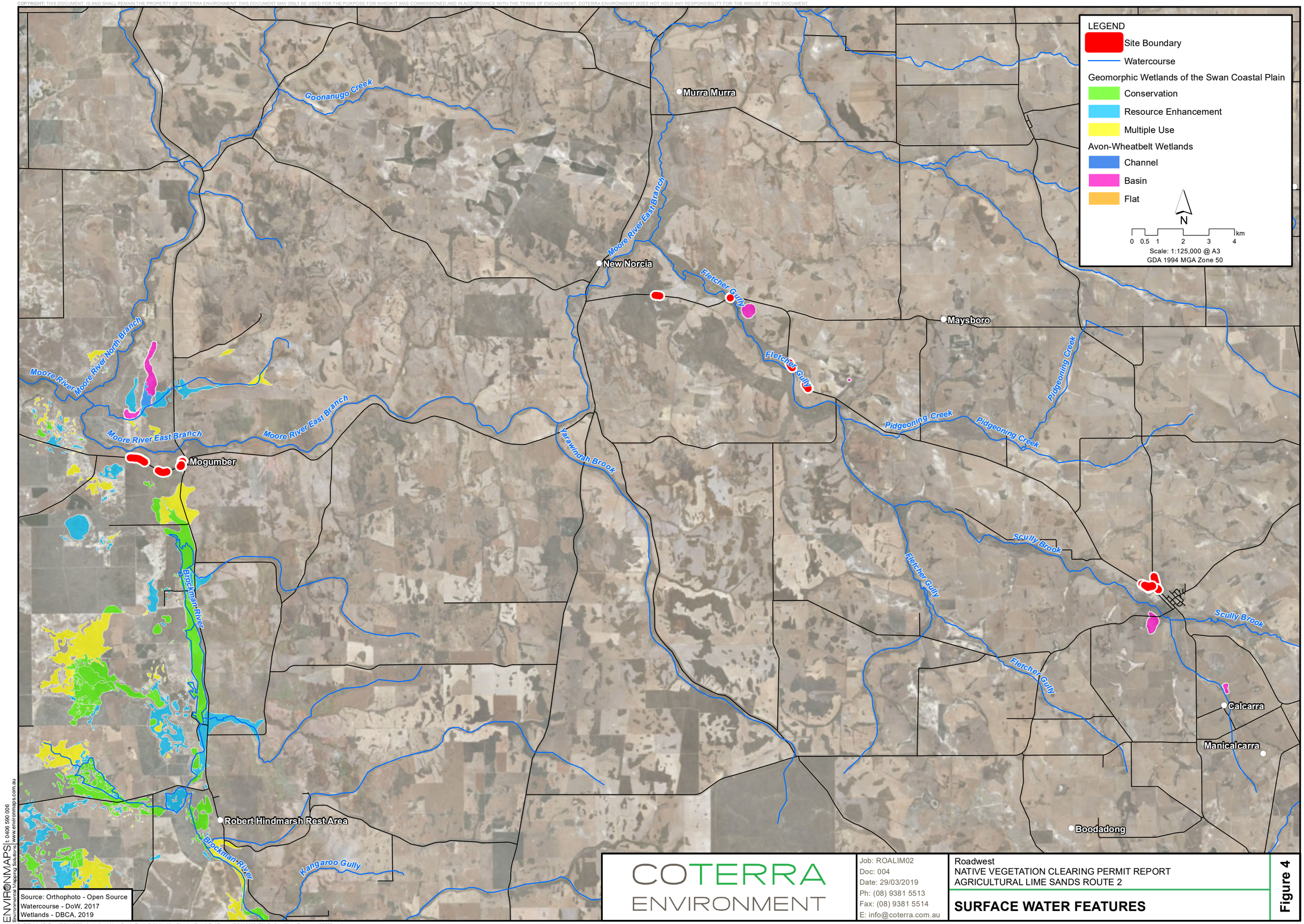
TOPOGRAPHY AND SOILS

Figure 3



Source: Orthophoto - Open Source
Watercourse - DoW, 2017
Wetlands - DBCA, 2019

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AGRICULTURAL LIME SANDS ROUTE 2

SURFACE WATER FEATURES

Figure 4

Pre-European Vegetation

- 4: Medium woodland; marri & wandoo
- 7: Medium woodland; York gum (Eucalyptus loxophleba) & wandoo
- 37: Shrublands; teatree thicket
- 142: Medium woodland; York gum & salmon gum
- 352: Medium woodland; York gum
- 694: Shrublands; scrub-heath on yellow sandplain banksia-xylomelum alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions
- 936: Medium woodland; salmon gum
- 949: Low woodland: Banksia
- 952: Shrublands; dryandra heath
- 968: Medium woodland; jarrah, marri & wandoo
- 988: Succulent steppe with thicket; Melaleuca thyoides over samphire
- 1015: Mosaic: Mixed scrub-heath / Shrublands; dryandra thicket
- 1017: Medium open woodland; jarrah & marri, with low woodland; banksia
- 1022: Succulent steppe with woodland; Casuarina obesa & samphire
- 1023: Medium woodland; York gum, wandoo & salmon gum (Eucalyptus salmonophloia)
- 1024: Shrublands; mallee & casuarina thicket
- 1030: Low woodland; Banksia attenuata & B. menziesii
- 1043: Mosaic: Medium open woodland; wandoo & powderbark wandoo / Shrublands; dryandra heath
- 1046: Succulent steppe with woodland; york gum & samphire

Murra Murra
New Norcia
Maysboro
Mogumber
Robert Hindmarsh Rest Area
Calcarra
Manicalcarra
Boodadong

LEGEND
- Site Boundary
- Environmentally Sensitive Area

0 0.5 1 2 3 4 km

Scale: 1:125,000 @ A3
GDA 1994 MGA Zone 50

Source: ESA - DER, 2018
Pre-European Vegetation - DPIRD, 2018

N

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REGIONAL VEGETATION ASSOCIATIONS

Figure 5

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LEGEND

Site Boundary

Threatened and Priority Flora

Priority 3: *Eucalyptus sargentii subsp. onesis*

Priority 3, *Isopogon drummondii* (x5)

N

0 1 2 4 6 8 km

Scale: 1:125,000 @ A3

GDA 1994 MGA Zone 50

Murra Murra

New Norcia

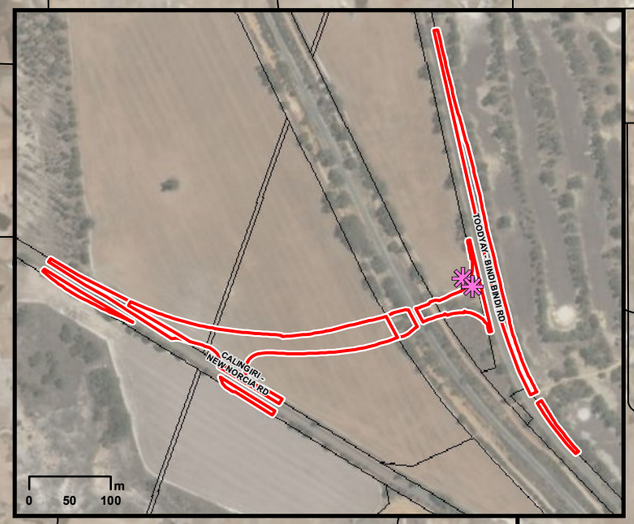
Maysboro

Mogumber

Mogumber West

Robert Hindmarsh Rest Area

Boodadong



ENVIRONMAPS | t: 0406 590 006
Environmental Mapping Solutions | www.environmaps.com.au

C:\GIS\Jobs\CoTerra\ROALIM02 - Agricultural Lime Sands Route 2, Native Veg Clearing Permit Rpt\Figures\ROALIM02_F06 Threatened and Priority Flora_190508.mxd

COTERRA ENVIRONMENT

Job: ROALIM02
Doc: 006
Date: 8/05/2019
Ph: (08) 9381 5513
Fax: (08) 9381 5514
E: info@coterra.com.au

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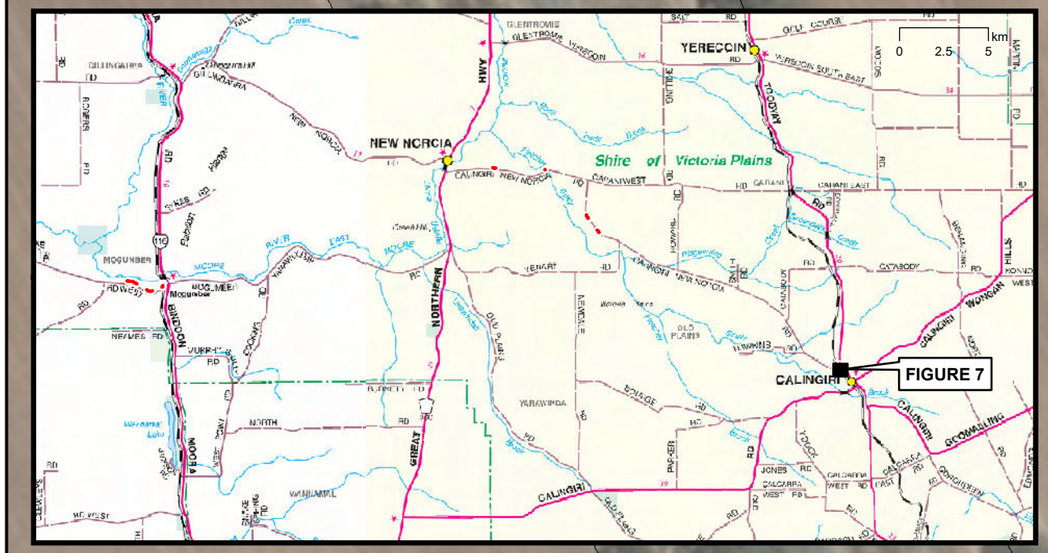
AGRICULTURAL LIME SANDS ROUTE 2

THREATENED AND PRIORITY FLORA

Figure 6



TOODYAY - BINDI BINDI RD

RAILWAY

LEGEND

- Proposed Clearing Area
- Proposed Clearing Area – No Native Vegetation
- Eucalypt Woodlands TEC

N

0 5 10 20 30 40 m

Scale: 1:1,000 @ A3
GDA 1994 MGA Zone 50

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AGRICULTURAL LIME SANDS ROUTE 2

EUCALYPTUS WOODLANDS TEC

Figure 7

C:\GIS\Jobs\CoTerra\ROALIM02 - Agricultural Lime Sands Route 2, Native Veg Clearing Permit Rpt\Figures\ROALIM02_F07 Eucalypt Woodlands TEC_190508.mxd

CLARKE RD

MOGUMBER WEST RD

MOGUMBER RD WEST

LEGEND

- Proposed Clearing Area

Significant Flora

- Priority 3, *Isopogon drummondii* (x5)
- Banksia Woodlands TEC

Banksia Woodland Condition

- Excellent
- Very Good
- Good
- Good to Degraded
- Degraded

N

0 62.5 125 250 375 500 m

Scale: 1:12,500 @ A3
GDA 1994 MGA Zone 50

0 50 100 m

Source: Ortho - World Imagery

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AGRICULTURAL LIME SANDS ROUTE 2

BANKSIA WOODLAND TEC AND CONDITION MAPPING

Figure 8

Dandaragan
Cataby
Nature Reserve
Lancelin Defence Training Area
Nilgen Nature Reserve
Regans Ford
Lancelin
Ledge Point
Seabird
Guilderton
Two Rocks
Yanchep
Two Rocks Marine Park
Muchea
Bullsbrook
Joondalup
Bindoon
Julimar State Forest
Bindoon Army Training Area
Bolgart
Goomalling
Bejoording
Toodyay
Northam
Clackline
Bakers Hill
Gidgegannup
Wooroloo

LEGEND
- Proposed Clearing Areas
- Carnaby Cockatoo Confirmed Roost Site
- Carnaby Cockatoo Confirmed Roost Sites Buffered 6km

N
0 2.5 5 10 15 20 km
Scale: 1:500,000 @ A3
GCS WGS 1984

Source: Orthophoto - Open Source
Carnaby Cockatoo - DBCA, 2019

ENVIRONMAPS | t: 0406 590 006 | Environmental Mapping Solutions | www.environmaps.com.au

C:\GIS\Jobs\CoTerra\ROALIM02 - Agricultural Lime Sands Route 2, Native Veg Clearing Permit Rpt\Figures\ROALIM02_F09 Great Cocky Count Roost Sites_190326.mxd

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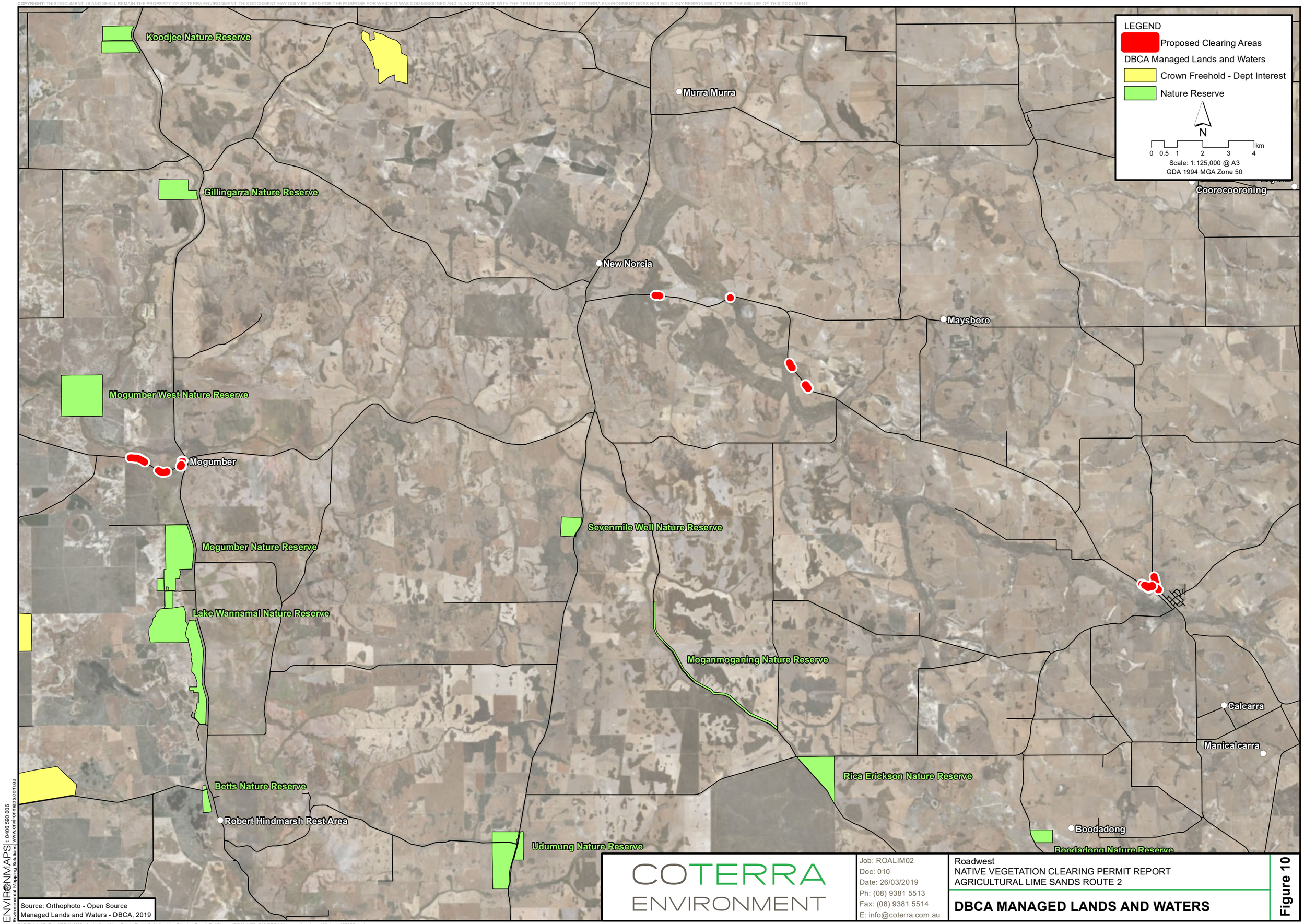
AGRICULTURAL LIME SANDS ROUTE 2

GREAT COCKY COUNT ROOST SITES

Figure 9



Source: Orthophoto - Open Source
Managed Lands and Waters - DBCA, 2019

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Environmental Mapping Solutions | www.environmaps.com.au

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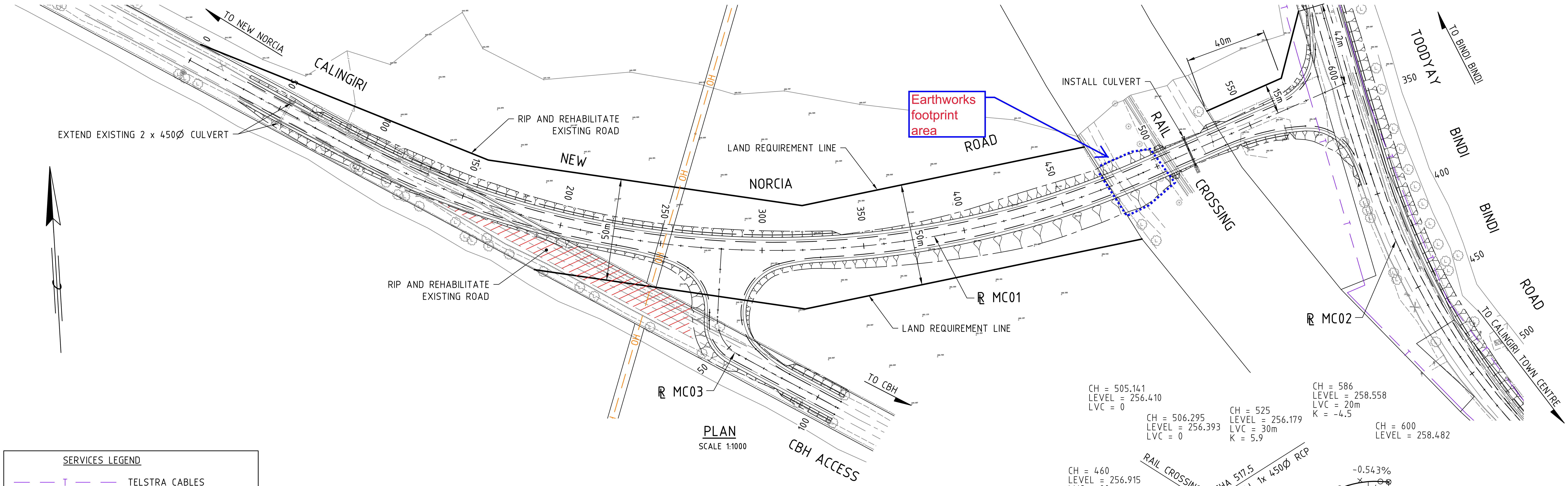
AGRICULTURAL LIME SANDS ROUTE 2

DBCA MANAGED LANDS AND WATERS

Figure 10

APPENDIX A – EARTHWORKS PLAN FOR NEW INTERSECTION (TOODYAY BINDI BINDI ROAD)



PLAN
SCALE 1:1000

SERVICES LEGEND

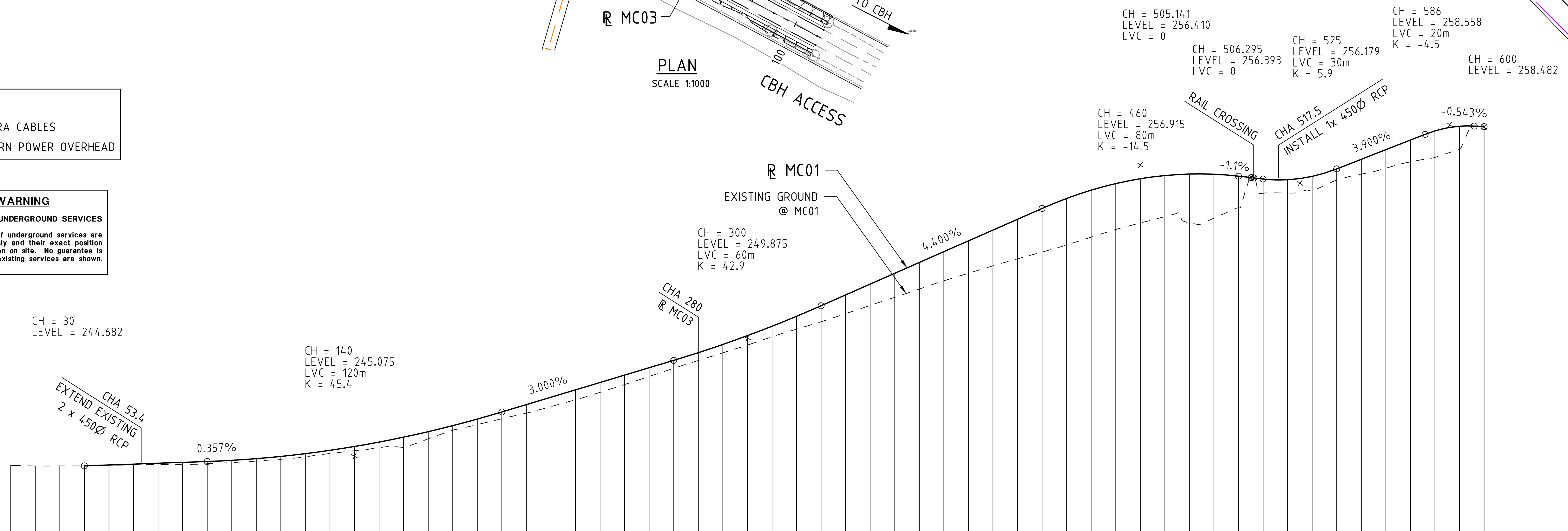
— — T — —	TELSTRA CABLES
— — OH — —	WESTERN POWER OVERHEAD

WARNING

BEWARE OF UNDERGROUND SERVICES

The locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown.

PERTH ONE CALL SYSTEM DIAL 1100 DIAL BEFORE YOU DIG



DATUM 242.0

CHAINAGE MC01	+CUT/-FILL	DESIGN MC01	EXISTING CL
0	0.000	244.700	244.700
10	0.000	244.677	244.677
20	0.000	244.679	244.679
30	0.000	244.682	244.682
40	-0.014	244.718	244.704
50	-0.033	244.753	244.720
60	-0.053	244.789	244.737
70	-0.081	244.825	244.743
80	-0.092	244.861	244.769
90	-0.089	244.907	244.818
100	-0.099	244.976	244.878
110	-0.114	245.067	244.953
120	-0.127	245.180	245.052
130	-0.130	245.315	245.185
140	-0.171	245.471	245.301
150	-0.229	245.650	245.422
160	-0.426	245.851	245.426
170	-0.291	246.074	245.784
180	-0.190	246.319	246.130
190	-0.226	246.586	246.361
200	-0.274	246.875	246.601
210	-0.348	247.175	246.827
220	-0.382	247.475	247.094
230	-0.404	247.775	247.371
240	-0.404	248.075	247.672
250	-0.383	248.375	247.992
260	-0.355	248.675	248.320
270	-0.324	248.975	248.651
280	-0.318	249.287	248.968
290	-0.341	249.622	249.280
300	-0.385	249.980	249.595
310	-0.432	250.362	249.929
320	-0.523	250.767	250.244
330	-0.652	251.195	250.543
340	-0.762	251.635	250.874
350	-0.867	252.075	251.209
360	-0.976	252.515	251.540
370	-1.081	252.955	251.875
380	-1.183	253.395	252.212
390	-1.319	253.835	252.517
400	-1.453	254.275	252.823
410	-1.612	254.715	253.103
420	-1.775	255.155	253.380
430	-1.892	255.561	253.668
440	-1.909	255.897	253.989
450	-1.867	256.165	254.298
460	-1.802	256.363	254.561
470	-1.671	256.493	254.821
480	-1.998	256.553	254.555
490	-1.786	256.545	254.759
500	-1.291	256.468	255.176
510	-0.577	256.351	255.774
520	-0.539	256.320	255.782
530	-0.595	256.458	255.863
540	-0.458	256.764	256.306
550	-0.602	257.154	256.553
560	-0.753	257.544	256.791
570	-0.889	257.934	257.045
580	-1.078	258.306	257.229
590	-0.937	258.496	257.559
600	-0.003	258.482	258.479

HORIZ ALIGN MC01: TANGENT | CURVE LEFT RADIUS 450 | TANGENT

PROFILE
SCALE: H 1:1000 V 1:100

SCALE: VERT. 1:100 | HORIZ. 1:1000 | A1

AMENDMENTS

No.	DESCRIPTION	APPROVED & DATE
C	SERVICES ADDED	28-11-18
B.	ISSUED FOR 15% CLIENT REVIEW	30-10-18
A.	ISSUED FOR 15% CLIENT REVIEW	13-07-18

VICTORIA PLAINS WESTERN AUSTRALIA

BASE DATA INFORMATION

SURVEY GRID:	GDA94 MDA ZONE 50
HEIGHT DATUM:	AHD
DWG PATH	
DESIGNED TM 13-07-18	DRAWN DM 13-07-18
VERIFIED	APPROVED

ROADSWEST ENGINEERING GROUP PTY LTD
PROJECT MANAGEMENT & CIVIL ENGINEERING
SUITE 13, 6 LEIGH ST
BURSWOOD WA 6100
TELEPHONE: (08) 9472 4122

TOODYAY - BINDI BINDI ROAD
CALINGIRI-NEW NORCIA RD
& CBH ACCESS RD INTERSECTIONS
PLAN AND PROFILE - MC01
CHA 0 TO CHA 600
LOCAL AUTHORITY SHIRE OF VICTORIA PLAINS (517)

ROADSWEST ENGINEERING GROUP
JOB NUMBER R2019
DRAWING NUMBER R2019-02-PP01-C
AMEND.

APPENDIX B – FLORA, FAUNA AND ECOLOGICAL COMMUNITIES DATABASE SEARCH RESULTS

OCC_UNIQI	COM_ID	COM_NAME	STATE_CATG	COMM_CATG	S_ID_COUN	FIRST_S_ID	BUFFER	BDY_ID
107113	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld01395	200	104112
107114	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld01396	200	104113
107115	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld01397	200	104114
107116	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld01398	200	104115
107231	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld01513	200	104230
107237	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld01519	200	104236
114219	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08501	200	111218
114221	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08503	200	111220
114222	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08504	200	111221
114224	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08506	200	111223
114225	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08507	200	111224
114238	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08520	200	111237
114239	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08521	200	111238
114240	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08522	200	111239
114241	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08523	200	111240
114242	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08524	200	111241
114243	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08525	200	111242
114244	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08526	200	111243
114245	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08527	200	111244
114246	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08528	200	111245
114247	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08529	200	111246
114248	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08530	200	111247
114249	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08531	200	111248
114364	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08646	200	111363
114365	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08647	200	111364
114369	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08651	200	111368
114370	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08652	200	111369
114382	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08664	200	111381
114411	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08693	200	111410
114421	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08703	200	111420
114422	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08704	200	111421
114423	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08705	200	111422
114424	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08706	200	111423
114425	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08707	200	111424
114461	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08743	200	111460
114462	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08744	200	111461
114463	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08745	200	111462
114466	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08748	200	111465
114539	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08821	200	111538
114540	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08822	200	111539
114541	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08823	200	111540
114542	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08824	200	111541
114543	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08825	200	111542
114544	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08826	200	111543
114558	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08840	200	111557

114559	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08841	200	111558
114560	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08842	200	111559
114561	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08843	200	111560
114562	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08844	200	111561
114563	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08845	200	111562
114564	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08846	200	111563
114570	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08852	200	111569
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114577	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08859	200	111576
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114682	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08964	200	111681
114683	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08965	200	111682
114762	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld09044	200	111761
114921	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld09203	200	111920
51651	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld33830	200	49237
51729	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld33908	200	49315
51789	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld33968	200	49375
51794	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld33973	200	49380
51795	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld33974	200	49381
51796	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld33975	200	49382
51797	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld33976	200	49383
51926	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34105	200	49512
51927	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34106	200	49513
51929	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34108	200	49515
52021	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34200	200	49607
52037	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34216	200	49623
52038	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34217	200	49624
52113	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34292	200	49699
52114	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34293	200	49700
52116	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34295	200	49702
52181	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34360	200	49767
52182	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34361	200	49768
52183	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34362	200	49769
52203	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34382	200	49789
52204	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34383	200	49790

52254	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34433	200	49840
52331	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34510	200	49917
52335	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34514	200	49921
52368	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34547	200	49954
52369	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34548	200	49955
52372	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34551	200	49958
52492	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34671	200	50078
52493	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34672	200	50079
52494	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34673	200	50080
52683	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34862	200	50269
52800	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34979	200	50386
52801	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34980	200	50387
52803	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34982	200	50389
52804	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34983	200	50390
52806	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34985	200	50392
52808	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34987	200	50394
52809	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34988	200	50395
52812	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34991	200	50398
52813	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34992	200	50399
52852	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35031	200	50438
52854	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35033	200	50440
53068	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35247	200	50654
53071	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35250	200	50657
53072	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35251	200	50658
53091	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35270	200	50677
53092	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35271	200	50678
53093	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35272	200	50679
53094	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35273	200	50680
53095	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35274	200	50681
53096	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35275	200	50682
53097	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35276	200	50683
53115	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35294	200	50701
53116	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35295	200	50702
53117	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35296	200	50703
53250	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35429	200	50836
53350	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35529	200	50936
53360	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35539	200	50946
53362	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35541	200	50948
53374	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35553	200	50960
53376	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35555	200	50962
53381	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35560	200	50967
53382	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35561	200	50968
53383	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35562	200	50969
53395	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35574	200	50981
53599	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35778	200	51185
53600	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35779	200	51186

53603	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35782	200	51189
53604	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35783	200	51190
53606	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35785	200	51192
53703	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35882	200	51289
53704	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35883	200	51290
53706	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35885	200	51292
53711	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35890	200	51297
53713	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35892	200	51299
53714	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35893	200	51300
53715	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35894	200	51301
53809	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld35988	200	51395
53884	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36063	200	51470
53885	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36064	200	51471
53889	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36068	200	51475
53968	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36147	200	51554
53970	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36149	200	51556
53971	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36150	200	51557
53977	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36156	200	51563
53986	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36165	200	51572
54004	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36183	200	51590
54005	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36184	200	51591
54056	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36235	200	51642
54057	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36236	200	51643
54058	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36237	200	51644
54116	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36295	200	51702
54185	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36364	200	51771
54233	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36412	200	51819
54262	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36441	200	51848
54385	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36564	200	51971
54388	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36567	200	51974
54417	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36596	200	52003
54418	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36597	200	52004
54419	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36598	200	52005
54420	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36599	200	52006
54421	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36600	200	52007
54422	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36601	200	52008
54456	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36635	200	52042
54457	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36636	200	52043
54460	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36639	200	52046
54469	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36648	200	52055
54470	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36649	200	52056
54676	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36855	200	52262
54678	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36857	200	52264
54679	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36858	200	52265
54721	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36900	200	52307
55022	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37201	200	52608

55023	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37202	200	52609
55154	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37333	200	52740
55155	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37334	200	52741
55159	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37338	200	52745
55171	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37350	200	52757
55173	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37352	200	52759
55207	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37386	200	52793
55281	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37460	200	52867
55284	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37463	200	52870
55395	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37574	200	52981
55396	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37575	200	52982
55397	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37576	200	52983
55398	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37577	200	52984
55399	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37578	200	52985
55430	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37609	200	53016
55433	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37612	200	53019
55435	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37614	200	53021
55436	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37615	200	53022
55440	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37619	200	53026
55441	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37620	200	53027
55443	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37622	200	53029
55444	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37623	200	53030
55445	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37624	200	53031
55446	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37625	200	53032
55486	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37665	200	53072
55487	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37666	200	53073
55488	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37667	200	53074
55553	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37732	200	53139
55555	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37734	200	53141
55557	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37736	200	53143
55668	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37847	200	53254
55763	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37942	200	53349
55764	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37943	200	53350
55765	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37944	200	53351
55767	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37946	200	53353
55768	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37947	200	53354
55820	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37999	200	53406
55836	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38015	200	53422
55870	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38049	200	53456
55871	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38050	200	53457
55875	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38054	200	53461
55876	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38055	200	53462
55877	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38056	200	53463
55878	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38057	200	53464
55880	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38059	200	53466
55881	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38060	200	53467

55882	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38061	200	53468
55883	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38062	200	53469
55923	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38102	200	53509
55961	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38140	200	53547
55963	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38142	200	53549
56008	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38187	200	53594
56107	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38286	200	53693
56164	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38343	200	53750
56198	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38377	200	53784
56229	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38408	200	53815
56230	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38409	200	53816
56231	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38410	200	53817
56232	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38411	200	53818
56233	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38412	200	53819
56294	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38473	200	53880
56296	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38475	200	53882
56608	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38787	200	54194
56609	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38788	200	54195
56610	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38789	200	54196
56730	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38909	200	54316
56861	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39040	200	54447
56862	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39041	200	54448
56947	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39126	200	54533
57003	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39182	200	54589
57057	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39236	200	54643
57058	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39237	200	54644
57062	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39241	200	54648
57137	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39316	200	54723
57138	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39317	200	54724
57269	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39448	200	54855
57271	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39450	200	54857
57328	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39507	200	54914
57333	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39512	200	54919
57335	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39514	200	54921
57370	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39549	200	54956
57371	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39550	200	54957
57609	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39788	200	55195
57610	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39789	200	55196
57611	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39790	200	55197
57624	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39803	200	55210
57835	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40014	200	55421
57836	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40015	200	55422
57858	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40037	200	55444
57993	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40172	200	55579
57995	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40174	200	55581
57996	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40175	200	55582

58032	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40211	200	55618
58034	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40213	200	55620
58035	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40214	200	55621
58041	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40220	200	55627
58108	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40287	200	55694
58110	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40289	200	55696
58111	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40290	200	55697
58112	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40291	200	55698
58114	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40293	200	55700
58116	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40295	200	55702
58120	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40299	200	55706
58121	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40300	200	55707
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58256	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40435	200	55842
58257	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40436	200	55843
58326	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40505	200	55912
58327	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40506	200	55913
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58509	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40688	200	56095
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58590	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40769	200	56176
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59228	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld41407	200	56814
59639	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld41818	200	57225
59861	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42040	200	57447
59863	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42042	200	57449
59865	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42044	200	57451
59866	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42045	200	57452
59867	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42046	200	57453
59948	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42127	200	57534
59949	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42128	200	57535
59968	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42147	200	57554
59969	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42148	200	57555
59979	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42158	200	57565
59980	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42159	200	57566

59981	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42160	200	57567
59982	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42161	200	57568
59983	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42162	200	57569
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59985	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42164	200	57571
59986	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42165	200	57572
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60078	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42257	200	57664
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60291	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42470	200	57877
60292	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42471	200	57878
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60923	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43102	200	58509
60924	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43103	200	58510
61313	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43492	200	58899
61588	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43767	200	59174
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61591	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43770	200	59177
61592	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43771	200	59178
61593	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43772	200	59179
61594	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43773	200	59180
61695	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld43874	200	59281
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62024	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld44203	200	59610
62025	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld44204	200	59611
62026	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld44205	200	59612
62027	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld44206	200	59613
62028	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld44207	200	59614
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62418	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld44597	200	60004
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62615	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld44794	200	60201
63257	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld45436	200	60843
63507	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld45686	200	61093
63508	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld45687	200	61094
63985	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld46164	200	61571
63988	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld46167	200	61574
63990	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld46169	200	61576
65337	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld47516	200	62923
107117	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld01399	200	104116

107229	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld01511	200	104228
114223	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08505	200	111222
114235	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08517	200	111234
114236	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08518	200	111235
114237	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08519	200	111236
114251	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08533	200	111250
114252	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08534	200	111251
114383	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08665	200	111382
114420	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08702	200	111419
114574	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08856	200	111573
114662	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld08944	200	111661
114742	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld09024	200	111741
114744	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld09026	200	111743
114760	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld09042	200	111759
114761	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld09043	200	111760
52343	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld34522	200	49929
54183	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36362	200	51769
54186	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36365	200	51772
54232	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld36411	200	51818
55153	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37332	200	52739
55786	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld37965	200	53372
55869	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld38048	200	53455
56949	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld39128	200	54535
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58664	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld40843	200	56250
60297	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42476	200	57883
60469	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld42648	200	58055
62614	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld44793	200	60200
64481	Wheatbelt Woodla	Eucalypt woodlands of the Western Australian Wheatbelt	Priority 3	Critically Endanger	1	WhtWld46660	200	62067
5052	SCP07	Herb rich saline shrublands in clay pans	Vulnerable	Critically Endanger	1	WN021MNR	500	0
2146	Salmon Gum Woo	Salmon Gum Woodlands of the wheatbelt	Priority 3	Critically Endanger	1	WoodW7	500	0

Australian Government
Department of the Environment and Energy

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

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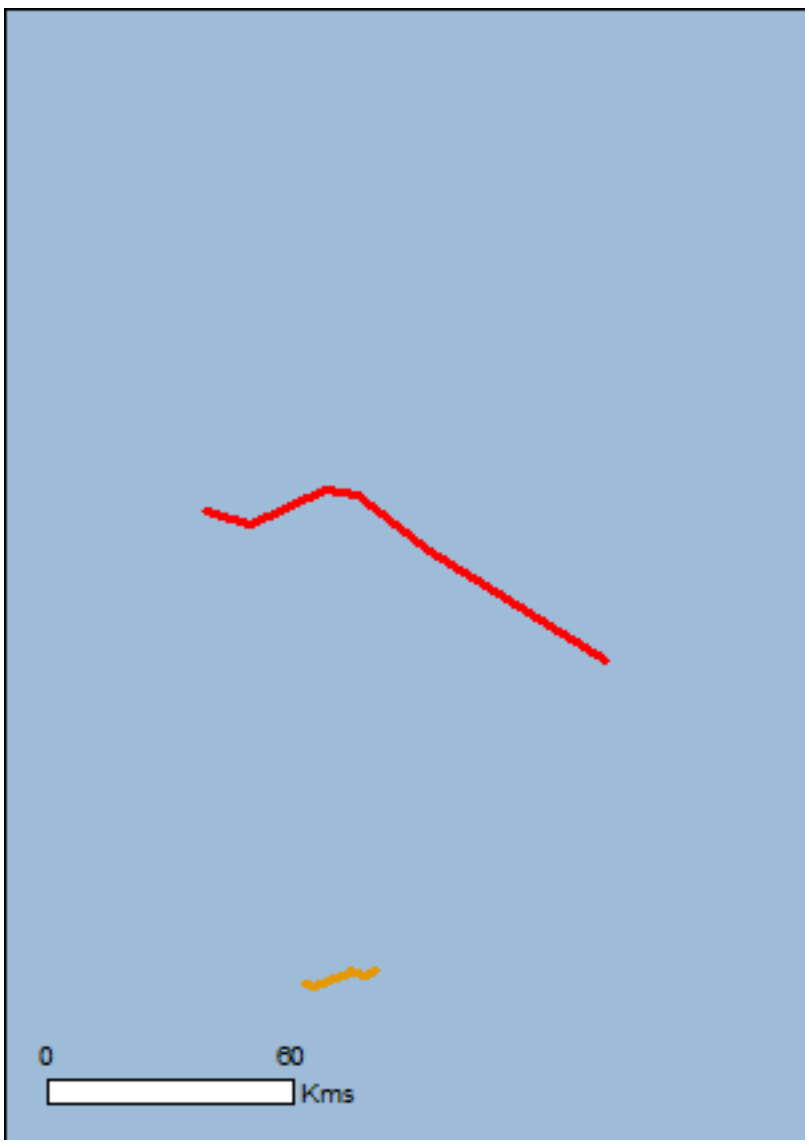

Coordinates

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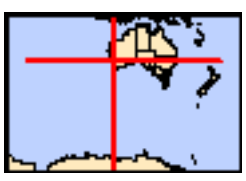

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	50
Listed Migratory Species:	8

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	14
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	4
Regional Forest Agreements:	1
Invasive Species:	21
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Eucalypt Woodlands of the Western Australian Wheatbelt	Critically Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus latirostris Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
Nannatherina balstoni Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
Myrmecobius fasciatus Numbat [294]	Endangered	Species or species habitat known to occur within area
Phascogale calura Red-tailed Phascogale, Red-tailed Wambenger,	Vulnerable	Species or species

Name	Status	Type of Presence
Kenngoor [316]		habitat likely to occur within area
Other		
Idiosoma nigrum		
Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat known to occur within area
Plants		
Acacia ataxiphylla subsp. magna		
Large-fruited Tammin Wattle [64823]	Endangered	Species or species habitat may occur within area
Acacia cochlocarpa subsp. cochlocarpa		
Spiral-fruited Wattle [23877]	Endangered	Species or species habitat may occur within area
Acacia cochlocarpa subsp. velutinosa		
Velvety Spiral Pod Wattle [65112]	Critically Endangered	Species or species habitat may occur within area
Acacia splendens		
Splendid Wattle, Dandaragan Wattle [81510]	Endangered	Species or species habitat may occur within area
Acacia vassalii		
Vassal's Wattle [6144]	Endangered	Species or species habitat known to occur within area
Andersonia gracilis		
Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
Asterolasia nivea		
Bindoon Starbush [8225]	Vulnerable	Species or species habitat likely to occur within area
Banksia fuscobractea		
Dark-bract Banksia [83059]	Critically Endangered	Species or species habitat may occur within area
Banksia mimica		
Summer Honeypot [82765]	Endangered	Species or species habitat likely to occur within area
Banksia serratuloides subsp. serratuloides		
Southern Serrate Dryandra [82768]	Vulnerable	Species or species habitat known to occur within area
Caladenia huegelii		
King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat may occur within area
Chorizema humile		
Prostrate Flame Pea [32573]	Endangered	Species or species habitat may occur within area
Conospermum densiflorum subsp. unicephalatum		
One-headed Smokebush [64871]	Endangered	Species or species habitat likely to occur within area
Darwinia acerosa		
Fine-leaved Darwinia [9004]	Endangered	Species or species habitat likely to occur within area
Darwinia carnea		
Mogumber Bell, Narrogin Bell [9736]	Endangered	Species or species habitat likely to occur within area
Dasymalla axillaris		
Native Foxglove [38829]	Critically Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Daviesia euphorbioides Wongan Cactus [3477]	Endangered	Species or species habitat known to occur within area
Diplolaena andrewsii [6601]	Endangered	Species or species habitat may occur within area
Eremophila glabra subsp. chlorella [84927]	Endangered	Species or species habitat known to occur within area
Eremophila scaberula Rough Emu Bush [16729]	Endangered	Species or species habitat likely to occur within area
Eucalyptus absita Badgingarra Box [24260]	Endangered	Species or species habitat may occur within area
Eucalyptus leprophloia Scaly Butt Mallee, Scaly-butt Mallee [56712]	Endangered	Species or species habitat may occur within area
Eucalyptus pruiniramis Midlands Gum, Jingymia Gum [56403]	Endangered	Species or species habitat likely to occur within area
Eucalyptus recta Silver Mallet [56430]	Endangered	Species or species habitat likely to occur within area
Eucalyptus x balanites Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat may occur within area
Gastrolobium hamulosum Hook-point Poison [9212]	Endangered	Species or species habitat likely to occur within area
Grevillea christineae Christine's Grevillea [64520]	Endangered	Species or species habitat likely to occur within area
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat may occur within area
Grevillea dryandroides subsp. hirsuta Hairy Phalanx Grevillea [64577]	Endangered	Species or species habitat may occur within area
Grevillea pythara Pythara Grevillea [64525]	Endangered	Species or species habitat may occur within area
Hemiandra gardneri Red Snakebush [7945]	Endangered	Species or species habitat may occur within area
Lysiosepalum abollatum Woolly Lysiosepalum [83216]	Critically Endangered	Species or species habitat may occur within area
Melaleuca sciotostyla Wongan Melaleuca [24324]	Endangered	Species or species habitat may occur within area
Roycea pycnophylloides Saltmat [21161]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Symonanthus bancroftii Bancrofts Symonanthus [12837]	Endangered	Species or species habitat may occur within area
Thelymitra dedmaniarum Cinnamon Sun Orchid [65105]	Endangered	Species or species habitat may occur within area
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat may occur within area
Thomasia sp. Green Hill (S.Paust 1322) Green Hill Thomasia [64542]	Endangered	Species or species habitat likely to occur within area
Verticordia staminosa subsp. staminosa Wongan Featherflower [55825]	Endangered	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
Mogumber	WA
Mogumber West	WA
NTWA Bushland covenant (0050)	WA
Wyening	WA

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
South West WA RFA	Western Australia

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Carrichtera annua Ward's Weed [9511]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-31.300155 116.826991,-31.089879 116.441096,-30.985155 116.281794,-30.974558 116.210383,-31.040473 116.048335,-31.018114 115.948085

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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NatureMap
Mapping Western Australia's biodiversity

NatureMap Species Report

Created By Guest user on 11/07/2018

Current Names Only Yes
Core Datasets Only Yes
Method 'By Line'
Vertices 31° 13' 51" S,116° 37' 52" E 31° 05' 08" S,116° 26' 32" E 31° 00' 02" S,116° 13' 08" E 31° 02' 56" S,116° 12' 00" E 31° 03' 22" S,116° 07' 37" E

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
1.	3206	*Acacia aestivalis*			
2.	3210	*Acacia anarthros*		P3	
3.	3323	*Acacia ericifolia*			
4.	11448	*Acacia leptospermoides subsp. leptospermoides*			
5.	3542	*Acacia sessilispica*			
6.	3587	*Acacia ulicina*			
7.	3594	*Acacia vassalii (Vassal's Wattle)*		T	
8.	24559	*Acanthagenys rufogularis (Spiny-cheeked Honeyeater)*			
9.	24261	*Acanthiza chrysorrhoa (Yellow-rumped Thornbill)*			
10.	1779	*Adenanthos drummondii*			
11.		*Agaricus sp.*			
12.	13267	*Amyema linophylla subsp. linophylla*			
13.	24561	*Anthochaera carunculata (Red Wattlebird)*			
14.	7412	*Anthotium rubriflorum (Red Anthotium)*			
15.	25566	*Artamus cinereus (Black-faced Woodswallow)*			
16.	32523	*Banksia fraseri var. fraseri*			
17.	32202	*Banksia nivea (Honeypot Dryandra, Pudjarn)*			
18.	32159	*Banksia polycephala (Many-headed Dryandra)*			
19.	32082	*Banksia serratuloides subsp. serratuloides*		T	
20.	32045	*Banksia squarrosa subsp. squarrosa*			
21.		*Barnardius zonarius*			
22.	3719	*Bossiaea spinescens*			
23.		*Bostockia porosa*			
24.	25714	*Cacatua pastinator (Western Long-billed Corella)*			
25.	25716	*Cacatua sanguinea (Little Corella)*			
26.	36600	*Callitris pyramidalis (Swamp Cypress)*			
27.	5421	*Calothamnus pachystachyus*		P4	
28.	35756	*Calothamnus quadrifidus subsp. angustifolius*			
29.	24734	*Calyptorhynchus latirostris (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)*		T	
30.	5481	*Calytrix sylvana*			
31.	1742	*Casuarina obesa (Swamp Sheoak, Kuli)*			
32.	8788	*Chamaescilla versicolor*			
33.	3169	*Cheiranthera preissiana*			
34.	25675	*Colluricincla harmonica (Grey Shrike-thrush)*			
35.	25568	*Coracina novaehollandiae (Black-faced Cuckoo-shrike)*			
36.	25592	*Corvus coronoides (Australian Raven)*			
37.	24420	*Cracticus nigrogularis (Pied Butcherbird)*			
38.	25595	*Cracticus tibicen (Australian Magpie)*			
39.	25596	*Cracticus torquatus (Grey Butcherbird)*			
40.	9076	*Cryptandra myriantha*			
41.	13826	*Cyanicula ixioides subsp. ixioides*		P4	
42.	30901	*Dacelo novaeguineae (Laughing Kookaburra)*	Y		
43.	5507	*Darwinia carnea (Mogumber Bell)*		T	
44.	3793	*Daviesia angulata*			
45.	12326	*Daviesia hakeoides subsp. subnuda*			
46.	3834	*Daviesia polyphylla*			
47.	24999	*Delma grayii*			
48.	2498	*Didymanthus roei*			
49.	40867	*Dielsiodoxa leucantha subsp. leucantha*		P3	
50.	3101	*Drosera heterophylla (Swamp Rainbow)*			
51.	13215	*Drosera menziesii subsp. basifolia*			
52.		*Edelia vittata*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
53.		*Egretta novaehollandiae*			
54.		*Elanus axillaris*			
55.		*Eolophus roseicapillus*			
56.	5540	*Eremaea fimbriata*			
57.	5628	*Eucalyptus drummondii (Drummond's Gum)*			
58.	5648	*Eucalyptus flocktoniae (Merrit, Merid)*			
59.	13530	*Eucalyptus macrocarpa subsp. macrocarpa (Mottlecah)*			
60.	12866	*Eucalyptus pluricaulis subsp. pluricaulis*			
61.	34028	*Galaxias occidentalis (Western Minnow)*			
62.	3904	*Gastrolobium hamulosum (Hookpoint Poison)*		T	
63.	3922	*Gastrolobium rotundifolium (Gilbernine Poison)*		P3	
64.	3927	*Gastrolobium stowardii*			
65.	25530	*Gerygone fusca (Western Gerygone)*			
66.		*Glossogobius giuris*			
67.	24443	*Grallina cyanoleuca (Magpie-lark)*			
68.	1965	*Grevillea biternata*			
69.	5012	*Guichenotia macrantha (Large-flowered Guichenotia)*			
70.	2179	*Hakea marginata*			
71.	2212	*Hakea sulcata (Furrowed Hakea)*			
72.	47965	*Hieraaetus morphnoides (Little Eagle)*			
73.	24491	*Hirundo neoxena (Welcome Swallow)*			
74.	3966	*Hovea pungens (Devil's Pins, Puyenak)*			
75.	5817	*Hypocalymma angustifolium (White Myrtle, Kudjid)*			
76.	48551	*Inocybe subtilior*			
77.		*Isopeda magna*			
78.	3992	*Isotropis cuneifolia (Granny Bonnets)*			
79.	4015	*Jacksonia hakeoides*			
80.	7574	*Lechenaultia floribunda (Free-flowering Leschenaultia)*			
81.	939	*Lepidosperma pruinosum*			
82.	6421	*Leucopogon oliganthus*			
83.	6430	*Leucopogon planifolius*			
84.	25661	*Lichmera indistincta (Brown Honeyeater)*			
85.	24583	*Manorina flavigula (Yellow-throated Miner)*			
86.	5925	*Melaleuca lateriflora (Gorada)*			
87.	17981	*Melaleuca orbicularis*			
88.	5949	*Melaleuca platycalyx*			
89.	6897	*Microcorys longifolia*			
90.	25680	*Pachycephala rufiventris (Rufous Whistler)*			
91.	25682	*Pardalotus striatus (Striated Pardalote)*			
92.	533	*Paspalum vaginatum (Salt Water Couch)*			
93.	2272	*Persoonia rufiflora*			
94.	48061	*Petrochelidon nigricans (Tree Martin)*			
95.	2305	*Petrophile plumosa*		P3	
96.	2308	*Petrophile seminuda*			
97.	24409	*Phaps chalcoptera (Common Bronzewing)*			
98.	48096	*Rhipidura albiscapa (Grey Fantail)*			
99.	25614	*Rhipidura leucophrys (Willie Wagtail)*			
100.	1556	*Romulea rosea (Guildford Grass)*	Y		
101.	46819	*Seringia integrifolia (Common firebush)*			
102.	30948	*Smicrornis brevirostris (Weebill)*			
103.	19249	*Stylidium cilium*			
104.	19260	*Stylidium sacculatum*		P3	
105.	16761	*Synaphea interioris*			
106.	16773	*Synaphea rangiferops*		P2	
107.	24331	*Tadorna tadornoides (Australian Shelduck, Mountain Duck)*			
108.	4248	*Templetonia aculeata*			
109.	4528	*Tetratheca confertifolia*			
110.		*Thereuopoda lesueurii*			
111.	5084	*Thomasia grandiflora (Large Flowered Thomasia)*			
112.	1351	*Thysanotus sparteus*			
113.	1354	*Thysanotus tenellus*			
114.	6268	*Trachymene cyanopetala*			
115.	1483	*Tribonanthes longipetala*			
116.	15144	*Trymalium ledifolium var. lineare*			
117.		*Urodacus novaehollandiae*			
118.	24386	*Vanellus tricolor (Banded Lapwing)*			
119.	12395	*Verticordia bifimbriata*			
120.	1395	*Wurmbea drummondii (York Gum Nancy)*			

Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area

Conservation Codes
T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

[1] For NatureMap's purposes, species flagged as endemic are those whose records are wholely contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

APPENDIX C – LIST OF CONSERVATION SIGNIFICANT FLORA SPECIES (STATE AND FEDERAL) POTENTIALLY OCCURRING IN THE PROPOSED CLEARING AREA

List of Conservation Significant Flora Species (State and Federal) Potentially Occurring in the Proposed Clearing Area

Taxon	Status (WA)	Status (EPBC Act)	Description and Likelihood of Occurrence (DBCA, 2018)
Acacia ataxiphylla subsp. magna	EN	EN	Spreading to ascending shrub, 0.3-0.6 m high. Fl. yellow, Jun to Jul. Sandy soils. Lateritic ironstone rises, flats.
Acacia cochlocarpa subsp. cochlocarpa	CR	EN	Glabrous, sprawling shrub, 0.3-0.7(-1.5) m high. Fl. yellow. Clayey, sandy, often gravelly soils.
Acacia cochlocarpa subsp. velutinosa	CR	EN	Velutinous, sprawling shrub, 0.3-0.7(-1.5) m high. Fl. yellow. Sandy clay or laterite.
Acacia splendens	-	EN	A tall, spindly shrub to 4 m, or rarely a tree to 8 m. These plants often spread by root suckers. The showy golden densely flowered heads are oblong to globular, up to 12 mm in diameter and are held towards the ends of branchlets.
Acacia vassalii	CR	EN	Semi-prostrate, spreading, rounded shrub, 0.15-0.3 m high. Fl. yellow, Jun to Jul. Grey/brown or yellow sand, sandy loam.
Andersonia gracilis	VU	EN	A slender shrub up to 50 cm tall with few, spreading branches. Pink to pale mauve flowers are clustered in ovoid or oblong groups of 4 to 14 on terminal heads.
Asterolasia nivea	-	V	A small, densely branched sub-shrub to 0.5 m high. White flowers are held in umbrella-like clusters of 3–6 flowers.
Banksia fuscobractea	CR	CR	An erect, prickly, non-lignotuberous shrub growing to one metre high with wedge-shaped, prickly leaves. The flower head is four to five centimetres in diameter with pale yellow and mauve flowers.
Banksia mimica	VU	EN	A prostrate shrub with underground stems and leaves up to 41 cm long. This species produces yellow flowers that have a tuft of long, white hairs at the apex and are grouped into erect heads borne at ground level.
Banksia serratuloides subsp. *serratuloides*	VU	VU	Low, bushy, lignotuberous shrub, 0.3-1 m high. Fl. yellow, Jul to Sep. Loam or clay loam over laterite, sandy gravel.
Caledenia huegelii	CR	EN	Up to 60 cm tall with a single erect, pale green, hairy leaf and one or two predominantly pale greenish-cream flowers 7–10 cm across, with variable suffusions, lines and spots of red-maroon.
Chorizema humile	CR	EN	Sprawling, prostrate or decumbent shrub. Fl. yellow & red/brown, Jul to Sep. Sandy clay or loam. Plains.
Conospermum densiflorum subsp. unicephalatum	EN	EN	Erect, much-branched shrub, 0.3-0.6 m high, inflorescence a spike. Fl. cream/white & blue, Sep to Nov. Clay soils. Low-lying areas.
Darwinia carnea	CR	EN	Small shrub up to 20 to 30 cm tall. Leaves are narrow, keeled, 6 to 10 mm long and are arranged in opposite pairs along the stem. Flower head is surrounded by broad, yellowish-green to pinkish-red bracts, up to 3 cm long.
Dasymalla axillaris	CR	CR	Shrubs. Stems, cross section more or less circular. Flowering time July, September, October, November or December.
Daviesia euphorbioides	CR	EN	Shrub, 0.4-0.8 m high. Fl. yellow & red, Jul to Sep. Clayey sand, sandy gravel. Flats, sandplains.

Taxon	Status (WA)	Status (EPBC Act)	Description and Likelihood of Occurrence (DBCA, 2018)
Diplolaena andrewsii	EN	EN	An erect shrub, growing 0.5–1 m high. Flowering occurs in July to October. The flower heads are small, 10-20 mm across.
Eremophila glabra subsp. *chlorella*	EN	EN	Prostrate & spreading or sprawling shrub, 0.2-1 m high. Fl. green-yellow, Jul to Nov. Sandy clay. Winter-wet depressions.
Eremophila scaberula	CR	EN	A low-growing shrub with solitary flowers on thick axillary pedicels. Both branches and foliage are rough and a little sticky to the touch. The pale to dark purple flower tube is approximately 10 - 12 mm long.
Eucalyptus absita	CR	EN	A mallee to 4 m tall, which may be either smooth-stemmed or rough-barked at the base, with fibrous grey-brown to yellowish, box-type bark for up to 2 m. Above this the bark is smoother, with coloration ranging from grey over copper or greenish above, sometimes with entirely smooth green upper stems.
Eucalyptus leprophloia	EN	EN	An erect mallee to 5 m tall, with scaly, curly bark to 1 m and smooth grey over pale-copper bark above. Flowers are creamy-white, forming cup-shaped fruits to 7 mm long and 6 mm wide.
Eucalyptus pruiniramis	EN	EN	A tree growing to 7 m, often several-stemmed. The tree form has a stocking of rough, grey bark on the lower trunk and the mallee form has smooth bark throughout the length of the stem. Inflorescences are simple and have 7–11 flowers. Flowering occurs in January.
Eucalyptus recta	VU	EN	Tree, to 15 m high, bark smooth. Sandy laterite.
Eucalyptus x balanites	CR	EN	An erect, robust tree mallee, 5-8 metres tall and to 15 metres wide. It is a sprawling tree with rough flaky grey bark up to the branchlets. Flowers can be seen from October to February.
Gastrolobium hamulosum	CR	EN	Low shrub, 0.2-0.45 m high. Fl. yellow & orange & red & purple, Aug to Oct. Sandy, often gravelly soils or clay. Flats, slopes, ridges.
Grevillea christineae	EN	EN	An erect, rounded shrub up to 1 m tall, with wiry, zig-zagging branches. Flowers are creamy-white, about 3 mm long, hairy on the outside and held in short clusters. Flowering occurs in July to early September.
Grevillea curviloba subsp. incurva	EN	EN	A vigorous, sprawling shrub to 2.5 m high and wide, with greyish-green leaves. Individual creamy white flowers are 7–10 mm long and 0.5 mm across. Flowering occurs September–October.
Grevillea dryandroides subsp. hirsuta	VU	EN	Prostrate, vigorously suckering shrub, 0.05-0.3 m high. Fl. red/pink-red, May or Sep to Nov. White or yellow sand, laterite.
Grevillea pythara	CR	EN	Suckering shrub, 0.06-0.3 m high. Fl. orange & red & blue, May to Oct (possibly all year). Sand or sandy loam with gravel.
Hemiandra gardneri	CR	EN	Prostrate, pungent shrub, 0.1-0.2 m high, to 1 m wide. Fl. red/pink-red, Aug to Oct. Grey or yellow sand, clayey sand. Sandplains.
Lysiosepalum abollatum	CR	CR	Dense, erect shrub, to 1.5 m high. Fl. pink-blue-purple, Aug to Sep. Red clay.
Melaleuca sciotostyla	EN	EN	Spreading shrub, 0.6-1.5 m high. Fl. Aug. Orange clayey sand with lateritic pebbles. Scree slopes.

Taxon	Status (WA)	Status (EPBC Act)	Description and Likelihood of Occurrence (DBCA, 2018)
Roycea pyncnophylloides	VU	EN	Mat-like subshrub with numerous, hairy, more or less parallel branchlets. Inconspicuous green flowers. Male and female flowers are on separate plants and appear between October and April.
Symonanthus bancroftii	CR	EN	Many-stemmed herbaceous undershrub to 25 cm. Flowers are white in colour, small, hairy and streaked with violet inside.
Thelymitra dedmaniarum	CR	EN	Growing to 40 cm high, sweetly scented golden-bronze flowers to 5 cm across. The flowers have a distinctive, strong cinnamon odour.
Thelymitra stellata	EN	EN	A terrestrial orchid growing to 25 cm high on a robust stem. It has up to six symmetrical flowers, 2.5–3 cm in diameter. The flowers are usually golden brown but may be yellow with orange stripes on the sepals and petals.
Thomasia sp. Green Hill	CR	EN	Multi-stemmed shrub. Fl. blue-purple, Oct. Rocky rise.
Verticordia staminosa subsp. staminosa	CR	EN	Spreading shrub, 0.15-0.6 m high. Fl. green-yellow/yellow-brown, Jul to Oct. Soil pockets. Granite outcrops.
Priority Species			
Acacia anarthros	P3	-	Erect or prostrate, spinose shrub, 0.1-0.5 m high. Fl. yellow, Jun to Sep. Lateritic gravelly soils. Slopes.
Banksia dallanneyi subsp. pollosta	P3	-	Prostrate, lignotuberous shrub. Fl. yellow-brown, Aug to Sep. Grey/yellow sand. Flats, lateritic rises.
Banksia pteridifolia subsp. vernalis	P3	-	Prostrate, lignotuberous shrub, to 0.4 m high. Fl. cream-white/yellow, Sep to Oct. White/grey sand over laterite.
Calothamnus pachystachyus	P4	-	Erect, much-branched, often straggly shrub, (0.3-) 0.6-1.7 m high. Fl. red-brown-black, Aug to Oct. Lateritic soils, often gravelly. Ridges, road verges.
Cyanicula ixioides subsp. ixioides	P4	-	Tuberous, perennial, herb, 0.05-0.15 m high. Fl. yellow, Aug to Oct. Laterite, gravel.
Gastrolobium rotundifolium	P3	-	Erect, bushy shrub, to 0.8 m high. Fl. orange & yellow &r red, Aug to Sep. Heavy clay or loam soils, granite, sandstone, quartzite. Low rises, breakaways.
Isopogon drummondii	P3	-	Shrubs, 0.5-1 m high; branchlets hairy, with curled hairs. Leaves alternate. Inflorescences not viscid, cream or yellow. Cone with deciduous scales, 25-28 mm long. Flowers in February, March, April, May or June.
Petrophile plumosa	P3	-	Shrubs, 0.5-1.5 m high. Leaves alternate, 15-30 mm mm long, 1.5-2 mm mm wide, glabrous. Cone with persistent scales, 23-25 mm long. Flowers in July, August, September, October or November.
Stylidium sacculatum	P3	-	Creeping perennial, herb, 0.05-0.15 m high. Fl. white-pink, Oct to Nov. Clayey sand or sand. Lower slopes and flats. Open Wandoo or Marri woodland, Allocasuarina shrubland.
Synaphea rangiferops	P2	-	Shrubs; branchlets hairy. Leaves alternate, 90-220 mm mm long, glabrous. Follicles 4.5-5 mm long. Flowers in July, August or September.

Key to Codes:

Statutory
CR – Critically Endangered flora
EN – Endangered flora
VU – Vulnerable flora
EX – Presumed Extinct flora

Non-Statutory – Priority Species
P1 – Poorly known species known from one or a few locations (generally five or less) which are potentially at risk
P2 – Poorly known species known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation
P3 – Poorly known species known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat
P4 – Rare, Near Threatened and other species in need of monitoring

APPENDIX D – CONSERVATION SIGNIFICANT FLORA RECORDED WITHIN OR NEAR PROPOSED CLEARING AREA

APPENDIX C: FLORISTIC TAXA RECORDED IN MOGUMBER ROAD WEST TO GOOMALLING SUR

FAMILY	TAXA
* denotes introduced taxa	
AIZOACEAE	* *Mesembryanthemum nodiflorum*
AMARANTHACEAE	*Ptilotus manglesii* *Ptilotus polystachyus*
ANARTHRIACEAE	*Lyginia imberbis*
APIACEAE	*Hydrocotyle sp.*
ASPARAGACEAE	*Acanthocarpus canaliculatus* * *Agave americana* *Laxmannia squarrosa*
ASTERACEAE	* *Cotula coronopifolia* *Podolepsi lessonii* * *Sonchus* sp. * *Ursinia anthemoides* *Waitzia nitida*
BORAGINACEAE	* *Echium plantagineum*
CASUARINACEAE	*Allocasuarina ?campestris* *Allocasuarina campestris* *Allocasuarina drummondiana* *Allocasuarina humilis* *Allocasuarina* sp. *Casuarina ?obesa* *Casuarina obesa*
CHENOPODIACEAE	*Atriplex ?semibaccata* *Enchylaena lanata* *Enchylaena tomentosa* *Maireana brevifolia* *Tecticornia ?indica* *Tecticornia ?indica* subsp. *bidens* *Tecticornia ?pergranulata* *Tecticornia* sp.
CYPERACEAE	*Caustis dioica* *Lepidosperma costale* *Lepidosperma leptostachyum* *Lepidosperma tenue* *Mesomelaena tetragona* *Tricostularia neesii*
DILLENIACEAE	*Hibbertia hypericoides* subsp. *hypericoides* *Hibbertia striata*
ELAEOCARPACEAE	*Tetratheca pauciflora*
ERICACEAE	*Astroloma serratifolium*
EUPHORBIACEAE	*Stachystemon brachyphyllus*
FABACEAE	*Acacia acuminata* *Acacia aestivalis* *Acacia congesta* subsp. *congesta* *Acacia costata* *Acacia crassistipula* *Acacia dilatata* *Acacia ericifolia* *Acacia ericksoniae* *Acacia incrassata*
FABACEAE	* *Acacia iteaphylla* *Acacia lasiocarpa* var. *bracteolata* *Acacia lasiocarpa* var. *sedifolia*

APPENDIX C: FLORISTIC TAXA RECORDED IN MOGUMBER ROAD WEST TO GOOMALLING SUR

FAMILY	TAXA
* denotes introduced taxa	
	Acacia ?microbotrya
	Acacia microbotrya
	Acacia pulchella var. *glaberrima*
	Acacia saligna subsp. *lindleyi* ms
	Acacia shuttleworthii
	Acacia stenoptera
	Bossiaea eriocarpa
	Bossiaea spinescens
	Daviesia hakeoides subsp. *subnuda*
	Daviesia ?preissii
	Daviesia preissii
	Daviesia sp.
	Gastrolobium ?calycinum
	Gastrolobium calycinum
	Gastrolobium polystachyum
	Gastrolobium spinosum
	Gompholobium aristatum
	Gompholobium tomentosum
	Labichea lanceolata subsp. *lanceolata*
	* *Trifolium angustifolium* var. *angustifolium*
GOODENIACEAE	*Dampiera alata*
	Dampiera lavandulacea
	Dampiera lindleyi
	Dampiera oligophylla
	Goodenia trichophylla
	Lechenaultia floribunda
	Lechenaultia sp.
	Verreauxia reinwardtii
HAEMODORACEAE	*Conostylis aculeata* subsp. *bromelioides*
	Conostylis prolifera
	Conostylis setigera subsp. *setigera*
	Phlebocarya filifolia
HALORAGACEAE	*Glischrocaryon aureum*
HEMEROCALLIDACEAE	*Dianella revoluta*
	Johnsonia pubescens subsp. *pubescens*
	Tricoryne elatior
IRIDACEAE	*Orthrosanthus laxus* var. *gramineus*
	Patersonia occidentalis
	* *Watsonia* sp.
JUNCACEAE	*Juncus* sp.
LAMIACEAE	*Hemigenia incana*
	Hemiophora bartlingii
LOGANIACEAE	*Orianthera flaviflora*
LORANTHACEAE	*Nuytsia floribunda*
MALVACEAE	*Seringia integrifolia*
MYRTACEAE	*Beaufortia bracteosa*
	Calothamnus quadrifidus subsp. *angustifolius*
	Calytrix angulata
MYRTACEAE	*Eremaea pauciflora* var. *calyptra*
	Eremaea pauciflora var. *pauciflora*
	Ericomyrtus serpyllifolia
	Ericomyrtus tenuior
	Eucalyptus camaldulensis var. *obtusa*
	Eucalyptus gomphocephala (planted)

APPENDIX C: FLORISTIC TAXA RECORDED IN MOGUMBER ROAD WEST TO GOOMALLING SUR

FAMILY	TAXA	
* denotes introduced taxa		
	Eucalyptus loxophleba subsp. *loxophleba*	
	Eucalyptus macrocarpa subsp. *macrocarpa*	
	Eucalyptus ?peninsularis (planted)	
	Eucalyptus ?petiolaris (planted)	
	Eucalyptus sargentii subsp. *onesis*	**Priority 3**
	Eucalyptus todtiana	
	Eucalyptus ?tephroclada	
	Eucalyptus ?wandoo	
	Eucalyptus wandoo subsp. *wandoo*	
	Hypocalymma angustifolium	
	Leptospermum erubescens	
	Melaleuca acutifolia	
	Melaleuca ciliosa	
	Melaleuca cordata	
	Melaleuca leptospermoides	
	Melaleuca marginata	
	Melaleuca radula	
	Melaleuca seriata	
	Melaleuca teretifolia	
	Melaleuca trichophylla	
	Melaleuca uncinata	
	Melaleuca viminea subsp. *viminea*	
	Scholtzia sp. Wongonderra (M.E. & M.R. Trudgen MET 12000)	
	Verticordia densiflora	
	Verticordia densiflora var. *cespitosa*	
	Verticordia sp.	
ONAGRACEAE	* *Oenothera stricta*	
ORCHIDACEAE	*Microtis media* subsp. *media*	
OXALIDACEAE	* *Oxalis glabra*	
POACEAE	*Aristida contorta*	
	Austrostipa ?flavescens	
	Austrostipa elegantissima	
	Austrostipa sp.	
	* *Avena barbata*	
	* *Briza maxima*	
	* *Ehrharta calycina*	
	* *Eragrostis curvula*	
	* *Hordeum glaucum*	
	* *Lolium rigidum*	
	* *?Melinis repens*	
POLYGALACEAE	*Comesperma acerosum*	
POLYGONACEAE	*Muehlenbeckia adpressa*	
PROTEACEAE	*Adenanthos ?drummondii*	
	Adenanthos cygnorum	
	Banksia armata	
	Banksia attentuata	
	Banksia carlinoides	
	Banksia fraseri var. *fraseri*	
	Banksia hewardiana	
PROTEACEAE	*Banksia ?leptophylla*	
	Banksia menziesii	
	Banksia polycephala	
	Banksia prionotes	
	Conospermum filifolium subsp. *filifolium*	
	Conospermum stoechadis subsp. *stoechadis*	
	Grevillea biternata	
	Hakea costata	
	Hakea incrassata	

APPENDIX C: FLORISTIC TAXA RECORDED IN MOGUMBER ROAD WEST TO GOOMALLING SUR

FAMILY	TAXA	
* denotes introduced taxa		
	Hakea marginata	
	Hakea preissii	
	Hakea prostrata	
	Hakea psilorrhyncha	
	Hakea ?ruscifolia	
	Hakea smilacifolia	
	Hakea varia	
	Isopogon drummondii	**Priority 3**
	Isotropis cuneifolia subsp. *cuneifolia*	
	Jacksonia floribunda	
	Jacksonia furcellata	
	Jacksonia nematoclada	
	Jacksonia nutans	
	Lambertia multiflora subsp. *darlingensis*	
	Petrophile linearis	
	Stirlingia latifolia	
	Synaphea spinulosa subsp. *spinulosa*	
RESTIONACEAE	*Alexgeorgea nitens*	
	Chordifex microcodon	
	Leptocarpus canus	
RHAMNACEAE	*Cryptandra arbutiflora* var. *arbutiflora*	
	Cryptandra pungens	
	Stenanthemum tridentatum	
	Trymalium ledifolium subsp. *lineare*	
RUBIACEAE	*Opercularia vaginata*	
SANTALACEAE	*Santalum* sp.	
SAPINDACEAE	*Dodonaea pinifolia*	
SOLANACEAE	* *Solanum nigrum*	
STYLIDIACEAE	*Stylidium leptophyllum*	
	Stylidium ?repens	
XANTHORRHOEACEAE	*Xanthorrhoea preissii*	

APPENDIX E – FLORISTIC TAXA RECORDED IN MOGUMBER ROAD WEST TO GOOMALLING SURVEY AREA

Conservation Significant Flora Species recorded during the flora survey

Species	Conservation Status	No. of plants	Location (decimal degrees)
Isopogon drummondii	Priority 3	5	-31.022869, 115.958303
Eucalyptus sargentii subsp. *onesis*	Priority 3	1	-31.084140, 116.441057

APPENDIX F – LIST OF CONSERVATION SIGNIFICANT FAUNA SPECIES (STATE AND FEDERAL) POTENTIALLY OCCURRING IN THE PROPOSED CLEARING AREA

List of Conservation Significant Fauna Species (State and Federal) Potentially Occurring in the Proposed Clearing Area

Species	Common Name	Status (WA)	Status (EPBC Act)	Description and Habitat
Birds				
Actitis hypoleucos	Common Sandpiper	MI	MI	Utilises a wide range of coastal wetlands and inland wetlands, fresh to saline. It is mostly recorded around muddy margins or rocky shores, rarely on mudflats. Occurs in estuaries and deltas of streams, around lakes, pools, reservoirs, dams and claypans, and occasionally piers and jetties. Forages in shallow water and on bare soft mud at the edges of wetlands, often where obstacles such as rocks or roots protrude from the substrate. Birds sometimes forage in grassy areas adjoining wetlands (DEE, 2017). Although wetlands and streams occur in the vicinity of the subject site, impacts to suitable habitat are likely to be insignificant in the context of available habitat in the surrounding area.
Apus pacificus	Fork-tailed Swift	MI	MI	Nest in rock caves or cliffs, but do not breed in Australia. Almost exclusively aerial over almost all habitat types. Could potentially occur in transitory capacity on most sites. Occur mostly over inland plains but sometimes above coastal cliffs (DEE, 2017). Due to lack of habitat, unlikely to occur within or utilise subject area.
Ardea alba	Great Egret	-	MA	Wide range of wetland habitats (fresh/saline, inland/coastal, open/vegetated, permanent/ephemeral). In south-western Australia breeding colonies nest predominantly in Melaleuca swamps in Nov/Dec. Forage by wading in shallow to relatively deep water or walking over dry ground (DEE, 2017). Although wetlands and streams occur in the vicinity of the subject site, impacts to suitable habitat are likely to be insignificant in the context of available habitat in the surrounding area.
Calidris acuminata	Sharp-tailed sandpiper	MI	MI	Inhabits fresh or saltwater wetlands - tidal mudflats, saltmarshes, mangrove swamps, inland wetlands and flood plains in Australia over summer months. Breeds in Siberia. Forages on grasslands and mudflats (DEE, 2017). Although wetlands and streams occur in the vicinity of the subject site, impacts to suitable habitat are likely to be insignificant in the context of available habitat in the surrounding area.
Calidris ferruginea	Curlew Sandpiper	CR	CR & MI	Widespread across the coast but is also common at inland sites. Breeds in Siberia and migrates south during Australia summer. Inhabits intertidal mudflats in sheltered coastal areas, such as estuaries, inlets, bays, as well as swamps and lakes. Forages on bare areas of mud or sand (DEE, 2017). Although wetlands and streams occur in the vicinity of the subject site, impacts to suitable habitat are likely to be insignificant in the context of available habitat in the surrounding area.
Calidris melanotos	Pectoral Sandpiper	MI	MI	Rarely recorded in WA. Peel Inlet in SW WA. Pilbara, Kimberley and Gasgoyne. Uncommon summer migrant to Australia. Peel Inlet is considered significant habitat. In Australia, it inhabits shallow vegetated freshwater wetlands, swamps and occasionally tidal areas and saltmarshes (DEE, 2017). Although wetlands and streams occur in the vicinity of the subject site, impacts to suitable habitat are likely to be insignificant in the context of available habitat in the surrounding area.

Species	Common Name	Status (WA)	Status (EPBC Act)	Description and Habitat
Calyptorhynchus latirostris	Carnaby's Black Cockatoo	EN	EN	Occurs in subpopulations across south-west WA. Residential in high-rainfall areas. Inhabits remnant native eucalypt woodlands, primarily in the semi-arid region and southern jarrah-marri forests. Is a seasonal visitor to pine plantations where it feeds on pine seeds. It nests in tall eucalypts with hollows for breeding. Feeds on seeds, nectar and fruit of *Banksia*, *Dryandra*, *Pinus*, *Eucalyptus* and *Corymbia calophylla*, as well as a number of other proteaceous species (DEE, 2017; DSEWPaC, 2012). Known to occur in the surrounding area and may utilise the subject area.
Haliaeetus leucogaster	White-bellied Sea Eagle	-	MA	Marine migratory species that occurs near the coast. Due to lack of habitat, unlikely to occur within subject area.
Leipoa ocellata	Malleefowl	VU	VU	Occurs in the semi-arid and arid regions of southern Australia. Inhabits shrublands and low woodlands that are dominated by mallee vegetation and/or low-growing multi-stemmed eucalypt species. Occasionally inhabit *Acacia* shrublands (DEE, 2017). Due to degraded nature of area and lack of understorey, unlikely to occur within the subject area. No nest mounds observed during field survey.
Merops ornatus	Rainbow Bee-eater	-	MA	Tends to occupy open forests and woodlands, cleared or semi-cleared areas and farmland, in usually timbered landscapes, often in close proximity to water. Nest is an enlarged chamber at the end of a long burrow that is excavated from flat or loping ground, cliff faces or mounds of gravel. They generally remain unlined. It perches in the open, foraging by scanning for flying insects (DEE, 2017). May occur within the subject area; previously recorded nearby.
Motacilla cinerea	Grey Wagtail	MI	MI	Scarce but regular visitor to northern Australia. Found across a variety of wetlands, especially water courses. All confirmed Australian records are associated with water; especially creeks, rivers and waterfalls (DEE, 2017). Although wetlands and streams occur in the vicinity of the subject site, impacts to suitable habitat are likely to be insignificant in the context of available habitat in the surrounding area.
Numenius madagascar-iensis	Eastern Curlew	CR	CR & MI	Found on intertidal mudflats and sandflats, often with beds of seagrass, on sheltered coasts, especially estuaries, mangrove swamps, bays, harbours and lagoons. Due to lack of habitat, unlikely to occur within subject area.
Pandion haliaetus	Osprey	MI	MI	The breeding range extends around the northern coast of Australia from Albany to Lake Macquarie in NSW with a second isolated breeding population on the coast of South Australia. Non-breeding range extends east to Esperance. Occurs in coastal habitats and terrestrial wetlands, occasionally travelling inland along major rivers. Mainly feed on fish and rarely take molluscs, crustaceans, insects, reptiles, birds and mammals (DEE, 2017). Unlikely to occur in the subject area as coastal habitat not present.
Pezoporus occidentalis	Night Parrot	CR	EN	Subtropical grassland and shrubland. Due to lack of habitat, unlikely to occur within subject area.

Species	Common Name	Status (WA)	Status (EPBC Act)	Description and Habitat
Rostratula australis	Australian Painted Snipe	EN	EN	Dispersive/part-migratory, dependent on local conditions. Patchy distribution in the south-west of WA. Occupies shallow wetlands (generally freshwater or brackish) and flooded plains, usually requiring areas of bare, wet mud and dense undergrowth and canopy cover. Also known to inhabit flooded grasslands, paddocks or crops as a secondary habitat. Forages in dense cover or on mudflats and grasslands (DEE, 2017). Due to lack of vegetated habitat, unlikely to occur within subject area.
Rostratula benghalensis (sensu lato)	Painted Snipe	-	EN	The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. Although wetlands and streams occur in the vicinity of the subject site, impacts to suitable habitat are likely to be insignificant in the context of available habitat in the surrounding area.
Thinornis rubricollis	Hooded Plover	P4	MA	Mainly occurs on wide beaches backed by dunes with large amounts of seaweed and jetsam, creek mouths and inlet entrances. Due to lack of habitat, unlikely to occur within subject area.
Fish				
Nannatherina balstoni	Balston's Pygmy Perch	VU	VU	Occurs in acidic, tannin-stained freshwater pools, streams and lakes in peat flats within 30 km of the coast of south-west Western Australia. Unlikely to occur within subject area as the site is greater than 30km from the coast.
Mammals				
Dasyurus geoffroii	Chuditch	VU	VU	Only known to occur in WA and is generally restricted to the south-west with some populations in the Wheatbelt and scattered in the Goldfields. Inhabits eucalypt forests (particularly jarrah), dry woodland and mallee shrubland. Utilises fallen hollow logs and burrows for dens in wooded habitats (DEE, 2017). Due to the small size and isolation of roadside vegetation, it is unlikely to occur within subject area as habitat areas are not large enough to support a population or individual.
Myrmecobius fasciatis	Numbat	EN	EN	Inhabits eucalypt forests. Due to the small size and isolation of roadside vegetation, it unlikely to occur within subject area as habitat areas are not large enough to support a population or individual.
Phascogale calura	Red-tailed Phascogale	CD	EN	Restricted to areas of remnant vegetation throughout the Wheatbelt to the south-west, and from Perth to Fitzgerald River National Park on the southern coast. Isolated reserves as small as 67 ha are considered to be capable of supporting this species. Preferred habitat includes *Allocasuarina* woodlands containing hollow-bearing *Eucalyptus* species and *Gastrolobium sp*. A continuous canopy is necessary for cover; also use the skirts of grass trees for cover. Descends to the ground to forage opportunistically, generally feeding on insects and spiders (DEE, 2017). Due to lack of suitable habitat of sufficient size to support this species, highly unlikely to occur within subject area.

Species	Common Name	Status (WA)	Status (EPBC Act)	Description and Habitat
Invertebrates				
Idiosoma nigrum	Shield-backed Trapdoor Spider	EN	VU	Endemic to semi-arid south-west Western Australia. In the Wheatbelt it typically inhabits clay soils and populations are associated with eucalypt woodland and acacia shrubland. Light leaf litter and twigs provides material for the burrows, reduced soil moisture loss and increased prey availability. Feeds opportunistically on ants, but also includes beetles, cockroaches, millipedes and moths (DEE, 2017). May occur within subject area.

Key to Codes:

Statutory
CR – Critically Endangered fauna
EN – Endangered fauna
VU – Vulnerable fauna
EX – Presumed Extinct fauna
MI – Migratory birds under international agreement
CD – Conservation Dependent fauna
OS – Other Specially Protected fauna
MA – Marine

Non-Statutory – Priority Species
P1 – Poorly known species known from one or a few locations (generally five or less) which are potentially at risk
P2 – Poorly known species known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation
P3 – Poorly known species known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat
P4 – Rare, Near Threatened and other species in need of monitoring