

Great Eastern Highway Material Pit Desktop Assessment CPS 7018/1 – Clearing Permit Renewal Supporting Information

1 PROJECT BACKGROUND

Main Roads Western Australia (Main Roads) is engaged in ongoing maintenance and upgrade works of infrastructure within the Shire of Coolgardie and Yilgarn. To undertake these works, material is required and where possible, is locally sourced. A native vegetation clearing permit, CPS 7018/1, was granted to Main Roads on 17 June 2016 for the purpose of extracting road building material (Figure 1). To date, more than half of the CPS 7018/1 Permit Area has been cleared ahead of the end of the authorised clearing period on 17 June 2026. Main Roads will not complete all clearing approved under CPS 7018/1 prior to 17 June 2026, however materials are still required for planned future road upgrades.

This document has been prepared to support Main Roads' application for an extension of timeframe for clearing of native vegetation under clearing permit CPS 7018/1.

2 SCOPE AND OBJECTIVES

Main Roads seeks an extension of timeframe for clearing permit CPS 7018/1. To support the extension request, and in undertaking due diligence checks, Main Roads has undertaken a desktop assessment of conservation significant flora and vegetation to re-assess the potential impacts and demonstrate the acceptability of impacts of clearing the remaining native vegetation previously approved for clearing under CPS 7018/1.

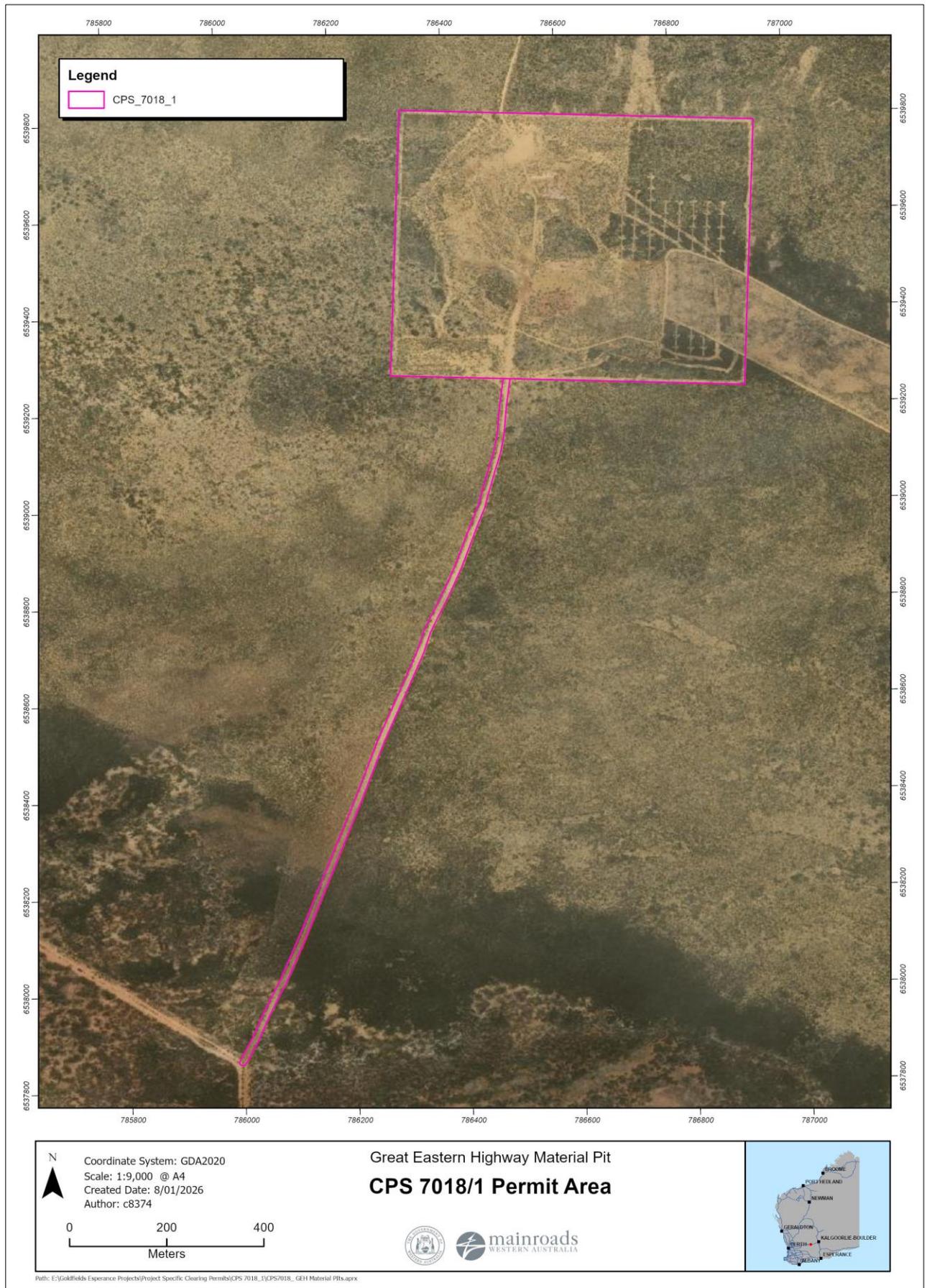


Figure 1: CPS 7018/1 Permit Area

3 DESKTOP ASSESSMENT

The desktop assessment involved accessing available survey data and databases to undertake the following:

- Assessment and comparison of conservation significant flora species current status to the status at the time of grant of permit.
- Re-assessment of direct impacts on conservation significant flora species recorded during biological surveys.
- Re-assessment of likelihood of occurrence of conservation significant flora species recorded outside of the CPS 7018/1 permit area.
- Re-assessment of impacts to conservation significant fauna.

In addition to the above, further review of the biophysical environment has been undertaken and is provided below.

3.1 IBRA REGION

The Interim Biogeographic Regionalisation of Australia (IBRA Version 7) classifies Australia's landscape into 89 geographically distinct bioregions and 419 subregions based on common climate, geology, landform and vegetation. Regionalisation informs monitoring and evaluation of the Australian Government's natural resource management initiatives and regional planning framework for the National Reserve System. CPS 7018/1 is located in the Coolgardie IBRA region (COO) and the Southern Cross subregion (COO02).

The following is a description of the Coolgardie region and Southern Cross subregion from 'A Biodiversity Audit of Western Australia's Biogeographical subregions in 2002' (CALM, 2003):

Granite Strata of Yilgarn Craton with Archaean Greenstone intrusions in parallel belts. Drainage is occluded. Mallees and scrubs on sandplains associated with lateritised uplands, playas and granite outcrops. Diverse woodlands rich in endemic eucalypts, on low greenstone hills, valley alluvials and broad plains of calcareous earths. In the west, the scrubs are rich in endemic Proteaceae, in the east they are rich in endemic acacias. Arid to Semi-arid Warm Mediterranean.

Within this, COO02 has subdued relief, comprising gently undulating uplands dissected by broad valleys with bands of low greenstone hills. It lies on the 'Southern Cross Terrains' of the Yilgarn Craton. The granite strata of Yilgarn Craton are interrupted by parallel intrusions of Archaean Greenstone. Drainage is occluded. Valleys have Quaternary duplex and gradational soils, and include chains of saline playa-lakes

3.2 SURFACE GEOLOGY

The Surface Geology of Australia 1:1M scale dataset (Geoscience Australia, 2012) is a national coverage of outcrop and surficial geology. One surface geology unit has been mapped within the CPS 7018/1 Permit Area (Table).

Table 1: Surface geological units within CPS 7018/1 Permit Area

Map symbol	Name	Description
Czs	sand plain 38499	Sand or gravel plains; may include some residual alluvium; quartz sand sheets commonly with ferruginous pisoliths or pebbles; local clay, calcrete, laterite, silcrete, silt, colluvium

3.3 SOIL-LANDSCAPE

A review of the soil-landscape mapping Western Australia dataset (DPIRD-064) indicates that one soil-landscape unit, the Joseph Land System, has been mapped within CPS 7018/1 Permit Area (Table) and is commonly found across the landscape in this region (Figure 2).

Table 2: Soil-Landscape mapping within CPS 7018/1 Permit Area

Map unit	Description
260Jo	Undulating yellow sandplain, supporting dense mixed shrublands with patchy mallees

The topography database (Landgate, 2025) indicates that there is an approximate 10 m gradient over 624 m declining east to west indicating a lack of hills and ridges in the CPS 7018/1 Permit Area.

3.4 WATER

A search of the surface hydrology database indicates no natural or artificial drainage lines are present within the Clearing Permit Area (Geoscience Australia, 2015). No important wetlands (DBCA, 2018) or Ramsar wetlands (DBCA, 2017) occur within the vicinity of the CPS 7018/1 Permit Area and no salt lakes occur within close proximity. No impact on surface or groundwater is expected from clearing the remaining areas granted under CPS 7018/1.

3.5 CONSERVATION ESTATES

No DBCA legislated lands or waters occur within the CPS 7018/1 Permit Area (DBCA, 2025). Three legislated lands are located within 20 km: Boorabbin National Park (720 m east); Biljahnje Rock Nature Reserve (12.2 km southwest); and Yellowdine Nature Reserve (3.9 km west). Sufficient distance separates CPS 7018/1 Permit Area from DBCA lands to not impact on these areas.

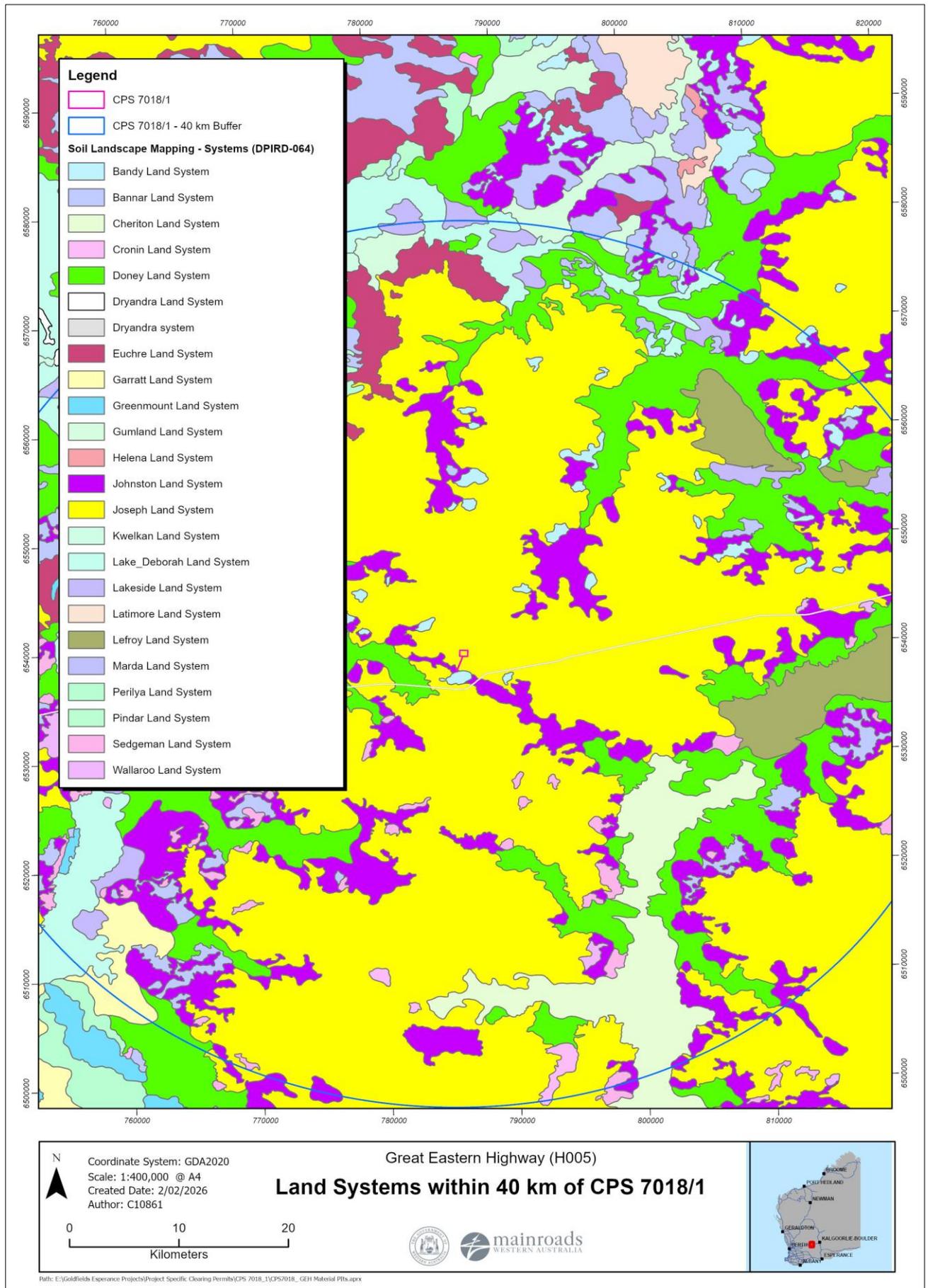


Figure 2: CPS 7018/1 Permit Area

3.6 FAUNA

Condition (9)(a) of CPS 7018/1 specifies the permit holder is to engage a fauna specialist to inspect the Permit Area for the presence of *Leipoa ocellata* (Malleefowl). As noted within the 2016 compliance report, a survey of the CPS 7018/1 Permit Area for Malleefowl mounds was undertaken by GHD from 28 to 30 June 2016, with no evidence of Malleefowl mounds or tracks identified. Prior to the next scheduled clearing campaign, pre-clearing inspections for Malleefowl will be undertaken.

3.7 THREATENED AND PRIORITY ECOLOGICAL COMMUNITIES

DBCA Threatened and Priority Ecological Communities (TEC/PEC) database identified five PECs within 40 km but beyond 20 km of CPS 7018/1 Permit Area. No TECs are known to occur within the Study Area. No PECs are located within the Permit Area or have the potential to be impacted due to the distance of separation from known occurrences.

3.8 PRE-EUROPEAN VEGETATION

Pre-European Vegetation – Western Australia (NVIS Compliant version 20110715) dataset (DPIRD, 2013) contains the published and unpublished vegetation association mapping of J. S. Beard at 1:250K scale. This database was queried in conjunction with DBCA statewide Vegetation Statistics 2018 to determine the extent remaining of pre-European vegetation associations mapped within the CPS 7018/1 Permit Area. Three vegetation associations have been mapped within the Permit Area (Table 3).

EPA Environmental Protection of Native Vegetation in Western Australia: Position Statement No. 2 - Clearing of native vegetation, with particular reference to the agricultural area (EPA, 2000) states:

The “threshold level” below which species loss appears to accelerate exponentially at an ecosystem level is regarded as being at a level of 30% of the pre-clearing extent of the vegetation type; a level of 10% of the original extent is regarded as being a level representing “endangered”.

Vegetation associations mapped within the Clearing Permit Area are well above the “Threshold level” at each scale considered. Clearing of the remaining vegetation from the approved CPS 7018/1 Permit Area will not significantly reduce the amount of vegetation at any scale.

Table 3: Pre-European vegetation association mapped within CPS 7018/1 Permit Area

Vegetation association	Broad floristic formation	NVIS V description	Percentage remaining			Area (ha)
			Statewide	Coolgardie IBRA region	Southern Cross IBRA subregion	
128	Acacia open shrubland	<i>M+ ^Acacia aneura, Acacia victoriae, Acacia pruinocarpa\^shrub\4i</i>	87.56	99.64	99.59	0.07 (0.2%)
214	Eucalyptus woodland	<i>U+ ^Eucalyptus salmonophloia, Eucalyptus salubris\^tree\7i</i>	100	100	100	1.24 (3.4%)
1148	Senna mixed sparse shrubland	<i>M Senna artemisioides subsp. sturtii, Eremophila delisseri, Solanum</i>	99.17	99.15	99.15	34.74 (96.4%)

		<i>lasiophyllum\shrub\</i> 4r				
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3.9 DISTURBANCE

Fire

The DBCA fire history dataset (DBCA, 2025) was queried for any fire event in the Clearing Permit Area in the last 10 years. A prescribed burn was recorded in 2023 covering 2.35 ha of the CPS 7018/1 Permit Area (Figure 4). Fire is considered to temporarily reduce the presence of conservation significant flora species, therefore reducing the potential for impact via clearing. Fire is also likely to temporarily reduce fuel loads and vegetation density, resulting in reduced habitat suitability for fauna species such as Malleefowl that require dense vegetation and leaf litter to construct mounds for nesting.

Clearing and Rehabilitation

Clearing of the access track and within the material pit area was undertaken in 2016 and 2017 to support projects in the vicinity. Areas in which extraction of road building material occurred have been rehabilitated in 2017. The access track remains cleared to maintain ongoing access for future material extraction to support upcoming projects. Main Roads’ approach to the extraction of materials is to undertake progressive clearing and extraction only as needed when road projects are occurring followed by progressive rehabilitation. This reduces impacts on the environment through limiting areas devoid of vegetation at any given time. Table 4 summarises the disturbance within the CPS 7018/1 Permit Area.

In accordance with Condition 10(c) of CPS 7018/1, an environmental specialist was engaged in October 2019 to undertake progress monitoring of rehabilitation within the Permit Area. The assessment concluded that the rehabilitation was progressing towards achieving the completion criteria, weed burden was low and subsequently, weed control was not required.

Table 4 below, provides a breakdown of the status of areas within CPS 7018/1.

Table 4: Disturbance within CPS 7018/1 Permit Area

Aspect	Status	Extent within CPS 7018/1 (ha)
Material Pit area	Cleared and regenerating	20.1 (55.8%)
	Remnant vegetation (intersected with tracks and test-pitting)	14.16 (39.3%)
	Affected by 2023 prescribed burn	2.35 (6.5%)
Access track	Cleared	1.8 (5%)

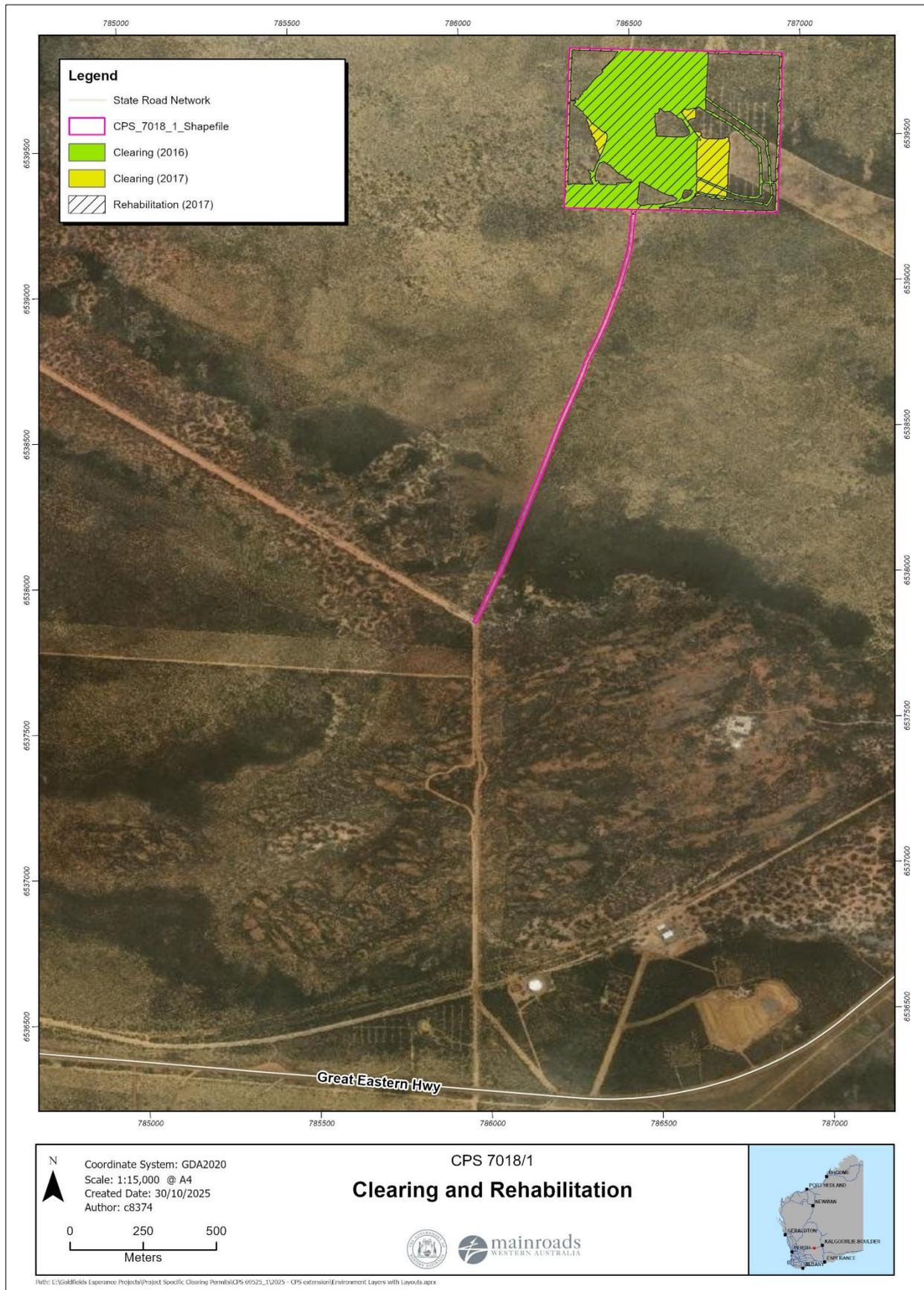


Figure 3: Clearing of Native Vegetation and Rehabilitation within CPS 7018/1 Permit Area

3.10 PREVIOUS SURVEYS

Five previous biological surveys have been commissioned by Main Roads within 40 km of CPS 7018/1 Permit Area (Table 5) (Figure 5). Three surveys are located within 5 km (Figure 6). Botanica (2021) Material Pit Biological Survey records the vegetation condition immediately adjacent to the eastern side of the current Material pit within CPS 7018/1 Permit Area as 'Good' with a small percentage of 'Very Good' condition vegetation. Vegetation within the CPS 7018/1 Permit Area is contiguous with the surrounding vegetation, however the disturbance activities and events have impacted the condition of vegetation within the Permit Area.

Table 5: Previous Surveys

Survey name	GHD (2016) Great Eastern Highway Material Pits, Southern Cross to Kalgoorlie, SLK 387 - 393 Biological Assessment.	GHD (2016) Great Eastern Highway Material Pits, Southern Cross to Kalgoorlie, SLK 432 - 484 Biological Assessment.	Botanica Consulting (2021). Flora, Vegetation and Fauna Assessment of the Great Eastern Hwy Material Pits SLK 428-519.	Botanica Consulting (2023): Great Eastern Highway-Boondi SLK 432.5-512 Biological Survey.	Phoenix (2026). Targeted Flora and Vegetation Survey for the Quardanoolagin (Mt Palmer) Great Eastern Highway Project
Location	Nearest survey boundary 39 km to east of CPS 7018/1 Permit Area	Nearest survey boundary 1.3 km to south of CPS 7018/1 Permit Area	Nearest survey boundary adjoins the current CPS 7018/1 Permit Area	Nearest survey boundary 1.7 km south of CPS 7018/1 Permit Area	Nearest survey boundary 1.25 km south of CPS 7018/1 Permit Area
Conservation significant flora recorded within 40km of CPS 7018/1 Permit Area	None	<i>Acacia cylindrica</i> , <i>Acacia desertorum</i> var. <i>nudipes</i> ; <i>Banksia lullfitzii</i> ; <i>Bossiaea celata</i> ; <i>Cryptandra crispula</i> ;	None recorded in the survey area	<i>Acacia desertorum</i> var. <i>nudipes</i> ; <i>Banksia lullfitzii</i> ; <i>Bossiaea celata</i> ; <i>Daviesia sarissa</i> subsp. <i>Redacta</i> ;	<i>Acacia desertorum</i> var. <i>Nudipes</i> ; <i>Banksia lullfitzii</i> ; <i>Gastrolobium semiteres</i> ; <i>Leucopogon</i> sp. Yellowdine (M. Hislop & F. Hort MH 3194); <i>Rinzia fimbriolata</i>
PECs and TECs	None	None	None	None	None
Vegetation condition (%)	Excellent (100)	Excellent (100)	Good (83.6) to Very Good (10.3)	Excellent (25), Very Good (14.4), Good (40.5)	Good to Very Good

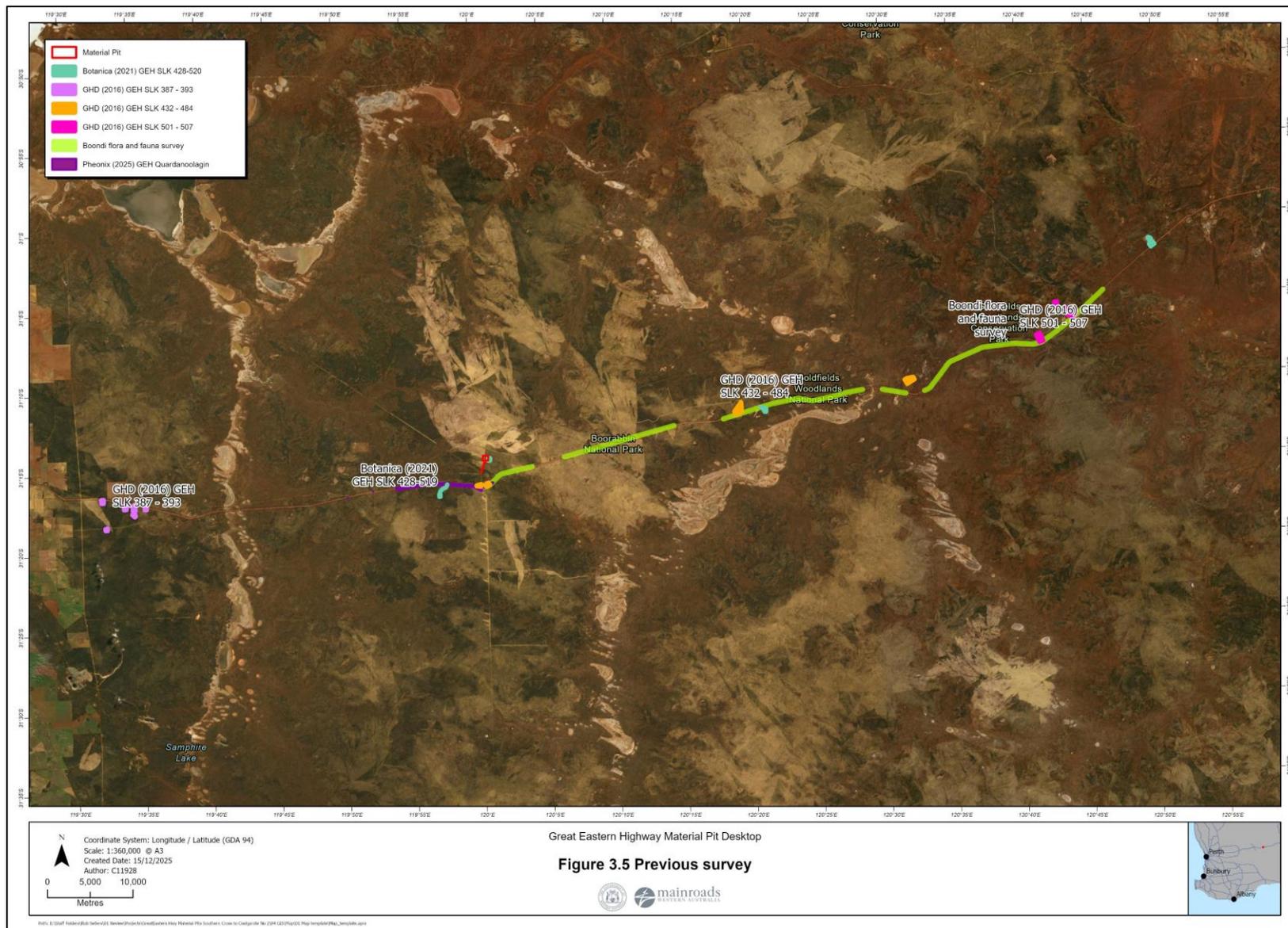


Figure 5: Previous Surveys

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Great Eastern Highway Material Pit Desktop Assessment CPS 7018/1 – Clearing Permit Renewal Supporting Information

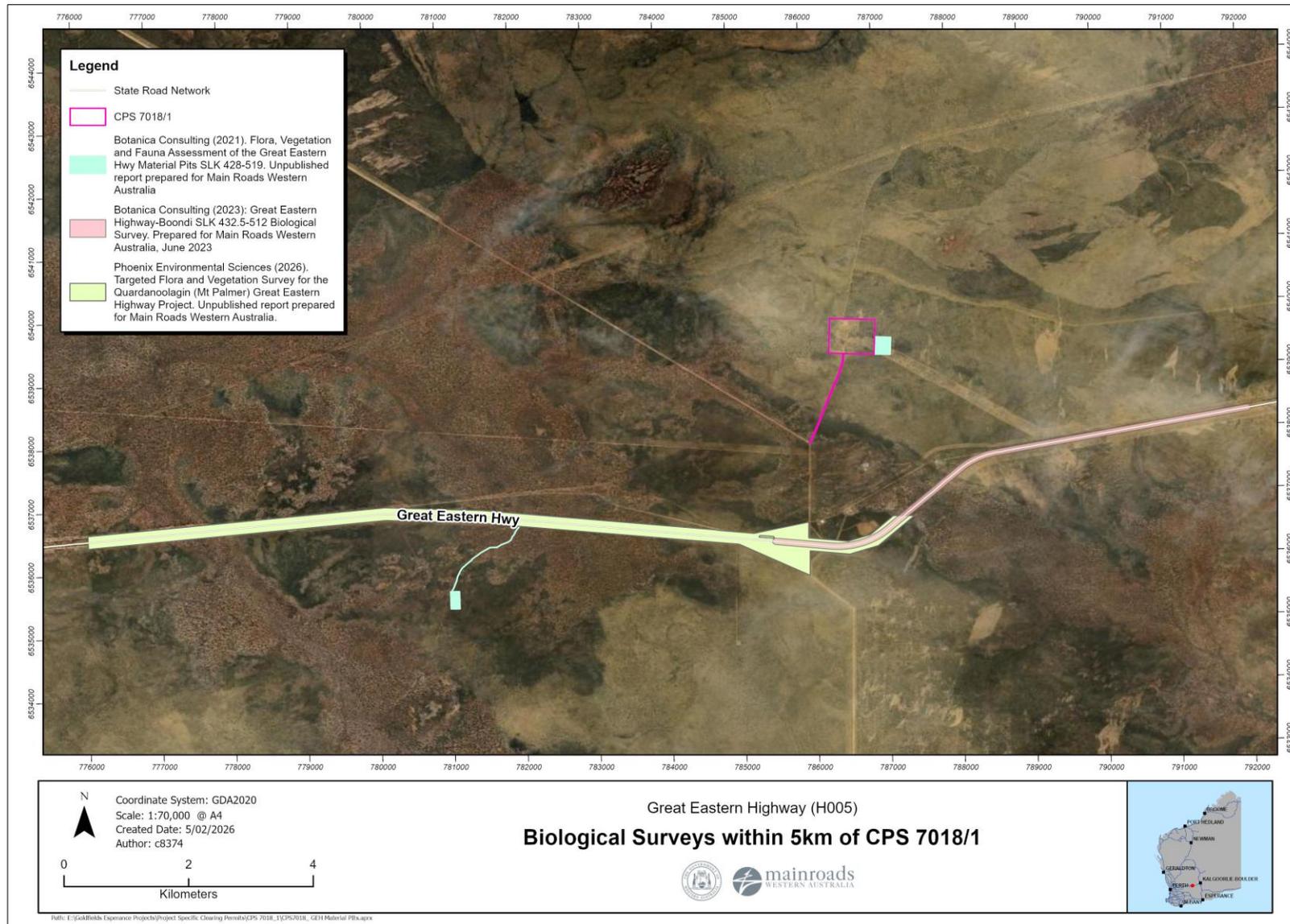


Figure 6: Biological Surveys within 5 km of CPS 7018/1 Permit Area

3.11 SIGNIFICANT FLORA LIKELIHOOD OF OCCURRENCE

Search of DBCA databases (WAHerb and TPFL 40 km buffer) for likelihood of occurrence assessment returned 42 conservation significant flora within the CPS 7018/1 Permit Area. In a survey of Great Eastern Highway commissioned by Main Roads in 2025, Phoenix (2026) recorded an additional P1 species, *Rinzia fimbriolata*, within 1.25 km of the CPS 7018/1 Permit Area. Protected Matters Search Tool (PMST) and Atlas of Living Australia (ALA) database searches (both with a 40 km buffer applied) returned a further 8 and 16 conservation significant flora species respectively. Since these species have not been recorded by DBCA within 40 km of the CPS 7018/1 Permit Area, they are not considered likely to occur and therefore, have not been further assessed. Conservation significant flora recorded in close proximity of the CPS 7018/1 Permit Area have been mapped in Figure 6. The likelihood of occurrence assessment is provided in Appendix 1.

The likelihood of occurrence assessment determined eleven species of conservation significance are considered 'Possible' or 'Likely' to occur:

- *Acacia cylindrica* (P3)
- *Acacia desertorum* var. *nudipes* (P3)
- *Banksia lullfitzii* (P3)
- *Bossiaea celata* (P3)
- *Cryptandra polyclada* subsp. *aequabilis* (P1)
- *Daviesia sarissa* subsp. *redacta* (P2)
- *Gastrolobium semiteres* (P3)
- *Leucopogon* sp. Yellowdine (M. Hislop & F. Hort MH 3194) (P2)
- *Stackhousia muricata* subsp. Perennial (W.R. Barker 3641) (P3)
- *Verticordia mitodes* (P3)
- *Rinzia fimbriolata* (P1)

With the exception of *Leucopogon* sp. Yellowdine, which was reduced from a Priority 1 to Priority 2 listing, none of the species listed above have had a change in conservation status since the grant of CPS 7018/1 in 2016.

3.12 CONSERVATION SIGNIFICANT FLORA RISK ASSESSMENT

Table 6 below provides a risk-based likelihood of significant impact assessment for each of the conservation significant flora species considered 'Possible' or 'Likely' to occur in CPS 7018/1 Permit Area. This assessment is based on known impacts to conservation significant flora to date and known distribution and habitat preferences of each species. Figure 7 shows Threatened and Priority flora records within the Study Area, whilst Figures 8 – 13 show the records within 5 km of the CPS 7018/1 Permit Area.

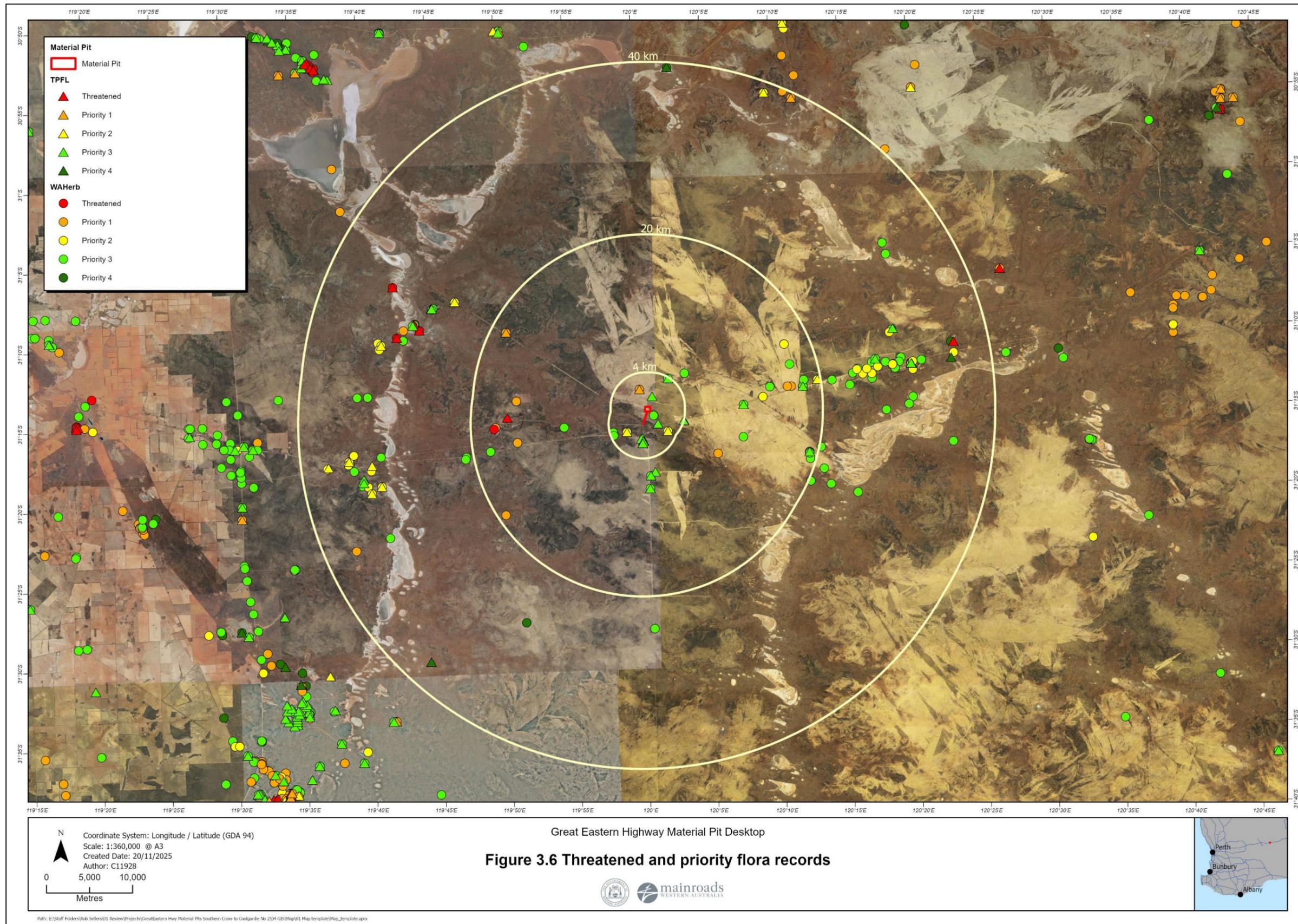


Figure 7: Threatened and Priority Flora Records within 40 km of CPS 7018/1 Permit Area

Table 6: Conservation Significant Flora Risk Assessment

Species & Conservation Status	No. of known records impacted by Project to date	Description, distribution and habitat preferences	Assessment of risk from continued clearing
<i>Acacia cylindrica</i> (P3)	0	Spreading shrub, 1.5-3m high. Fl. yellow, Aug to Oct. Yellow/brown sand, gravelly soils. Undulating plains, flats. There are 32 WA Herbarium and 10 TPFL records of this species. Only 2 records are located within 40 km of the CPS 7018/1 Permit Area.	All records are located greater than 20 km from the CPS 7018/1 Permit Area. No other individuals of this species were identified in biological surveys undertaken directly adjacent or within 5 km of the CPS 7018/1 Permit Area. The risk of significant additional impacts to this species is considered low.
<i>Acacia desertorum</i> var. <i>nudipes</i> (P3)	0	Dense or open shrub or tree (rarely), 0.6-2 m high, phyllodes 16-nerved. Fl. yellow, Aug to Oct. Yellow sand, lateritic gravel. Sandplains, flats. There are 25 WA Herbarium and 10 TPFL records of this species. Approximately half of the records are located greater than 40 km from the CPS 7018/1 Permit Area.	Botanica (2021) and GHD (2016) recorded a combined 1,002 individuals. Phoenix (2026) recorded an additional 4,771 individuals within the Great Eastern Highway road reserve. No records are located within or directly adjacent to the CPS 7018/1 Permit Area. With the significant number of additional records identified through biological surveys undertaken by Main Roads in the vicinity of CPS 7018/1 Permit Area, the risk of significant additional impacts to this species is considered low.
<i>Banksia lullfitzii</i> (P3)	0	Dense, sprawling shrub to approximately 2 m high. The species is characterised by woolly flowers and pendulous cones (Plate 2). The species grows in yellow sand on sand plains in shrub-heath and is currently known from the Avon Wheatbelt, Coolgardie, Esperance Plains and Mallee IBRA bioregions. There are 25 WA Herbarium and 17 TPFL records of this species.	GHD (2016) identified 11 individuals within the Great Eastern Highway road reserve south of the CPS 7018/1 Permit Area. Botanica (2021) recorded one individual (opportunistic sighting outside of the survey area) within the CPS 7018/1 Permit Area. Botanica (2023) recorded two individuals within the Great Eastern Highway road reserve. Phoenix (2026) recorded two individuals of this species. One of the individuals was recorded within a population recorded by GHD (2016) whilst the second individual was recorded in excess of 1 km from previous records which may indicate a new population of the species within the Study Area. Ten of the TPFL/WA Herb records are located greater than 40 km from the CPS 7018/1 Permit Area. Based on the above, suitable habitat for this species appears to be widespread throughout the Study Area and beyond and is not restricted to the CPS 7018/1 Permit Area. The risk of significant additional impacts to this species is considered low.
<i>Bossiaea celata</i> (P3)	0	Compact, intricately-branched shrub, to 0.8 m high. Fl. yellow-red-orange, Sep to Oct. Deep sand. Open mallee.	All records are located greater than 18 km from the CPS 7018/1 Permit Area.

Species & Conservation Status	No. of known records impacted by Project to date	Description, distribution and habitat preferences	Assessment of risk from continued clearing
		There are 17 WA Herbarium and 3 TPFL records of this species.	<p>Botanica (2023) identified one location within the Great Eastern Highway road reserve, 30 km east of the CPS 7018/1 Permit Area.</p> <p>No other individuals of this species were identified in biological surveys undertaken directly adjacent or within 5 km of the CPS 7018/1 Permit Area.</p> <p>No individuals of this species were identified within any of the additional biological surveys undertaken with the 40 km Study Area.</p> <p>Based on the above, the risk of significant additional impacts to this species is considered low.</p>
<i>Cryptandra polyclada</i> subsp. <i>aequabilis</i> (P1)	0	<p>Low-growing, dense, native Western Australian shrub known for its small white flowers, found near Boorabbin National Park in sandy soils within the Coolgardie bioregion, characterized by short leaves and dense star-shaped hairs on its floral tube, with flowering typically in October.</p> <p>There are 6 WA Herbarium and 1 TPFL records of this species.</p>	<p>No individuals of this species have been identified within biological surveys commissioned by Main Roads.</p> <p>Three of the known records are located within conservation area, the Boorabbin National Park.</p> <p>Based on the above, the risk of significant additional impacts to this species is considered low.</p>
<i>Daviesia sarissa</i> subsp. <i>redacta</i> (P2)	0	There are 8 WA Herbarium and 3 TPFL records of this species. All records are within 40 km of the CPS 7018/1 Permit Area.	<p>Botanica (2023) identified an additional 9 records of the species within the Great Eastern Highway road reserve. No individuals were identified in biological surveys directly adjacent or within 4 km of the CPS 7018/1 Permit Area.</p> <p>Three of the known records are located within conservation area, the Boorabbin National Park.</p> <p>Given the age of the existing records closest to the CPS 7018/1 Permit Area (dated between 1979 and 1982) and the additional surveys commissioned by Main Roads did not identify any species within 5 km, the risk of significant additional impacts to this species is considered low.</p>
<i>Gastrolobium semiteres</i> (P3)	0	<p>Open, multi-stemmed shrub, to 1.5 m high. Fl. orange/yellow & purple/red, Aug to Oct. Grows on broad sand dunes or deep yellow sand over granite in open mallee and <i>Acacia</i> heath. Distribution Botanical Province Eremaean, IBRA Bioregion Coolgardie.</p> <p>There are 14 WA Herbarium and 5 TPFL records of this species, with all records within 40 km of the CPS 7018/1 Permit Area.</p>	<p>Botanica (2021) identified 189 records within the Great Eastern Highway Road Reserve.</p> <p>Phoenix (2026) identified an additional 1,298 records within the Great Eastern Highway Road Reserve. No additional records of this species were identified in biological surveys commissioned by Main Roads.</p> <p>Phoenix (2026) considered it possible that <i>Gastrolobium semiteres</i> could be associated with roadworks and human related activities, given that recovery plans for 2 Threatened species, <i>Gastrolobium glaucum</i> (Conservation 2009a) and <i>G. luteifolium</i> (Conservation 2009b), have identified these species as disturbance opportunists.</p> <p>Main Roads considers the risk of significant additional impacts to this species from the continued clearing of the vegetation within the CPS 7018/1 Permit Area as being low.</p>

Species & Conservation Status	No. of known records impacted by Project to date	Description, distribution and habitat preferences	Assessment of risk from continued clearing
<i>Leucopogon</i> sp. Yellowdine (M. Hislop & F. Hort MH 3194) (P2)	0	<p>Flat. Moist yellow sand. Burnt >5 years.</p> <p>There are 11 WA Herbarium and 4 TPFL records of this species. Three of the records are located within 40km of the CPS 7018/1 Permit Area.</p>	<p>Conservation status has been downgraded since the grant of CPS 7018/1, from Priority 1 to Priority 2.</p> <p>Botanica (2021) identified 25 records within the Great Eastern Highway road reserve, although all records are greater than 40 km west of the CPS 7018/1 Permit Area.</p> <p>Phoenix (2026) recorded this species during a targeted flora survey, however as it was identified post-field visit, the extent and size of the population is unknown. Phoenix (2026) concluded that the vegetation association in which the record was associated (VA04) is widespread and well represented locally and within the broader areas, indicating suitable habitat for this species in the wider area.</p> <p>Whilst it is considered that the species is possibly present, the species has a range greater than 40 km from the CPS 7018/1 Permit Area. The risk of significant additional impacts to this species from the continued clearing of remaining vegetation within CPS 7018/1 is considered low.</p>
<i>Rinzia fimbriolata</i> (P1)	0	<p>Sandy soil or clay soil with quartz pieces in mallee shrubland or woodland.</p> <p>There are 4 WA Herbarium records of this species all of which are located outside of the 40 km Study Area.</p>	<p>All known locations within the WA Herbarium dataset are located greater than 40 km from the CPS 7018/1 Permit Area.</p> <p>Phoenix (2026) opportunistically recorded one individual of this species during a targeted flora search of other species within a project area located 3 km to the south of the CPS 7018/1 Permit Area.</p> <p>Whilst suitable habitat may be present within the CPS 7018/1 Permit Area and one individual was recorded by Phoenix (2026), Main Roads considers that with the extensive disturbance which has already taken place within the CPS 7018/1 Permit Area, the risk of significant additional impact to this species from the continued clearing is considered low.</p>
<i>Stackhousia muricata</i> subsp. Perennial (W.R. Barker 3641) (P3)	0	<p>Perennial herb growing in sands or loams often with rocks or gravel. Flowering July to November.</p> <p>The species is widespread through the Wheatbelt and Goldfields regions.</p> <p>There are 50 WA Herbarium records of this species, 5 of which occur within 40 km of the Clearing Permit area. No records within 15 km.</p>	<p>There are 5 records of this species within 40 km of the CPS 7018/1 Permit Area, all of which are located great than 15 km from the Permit Area.</p> <p>No additional records of the species have been identified during biological survey commissioned by Main Roads.</p> <p>Based on the wide distribution of this species throughout the Wheatbelt and Goldfields Region, the risk of significant additional impacts to this species from the continued clearing of the vegetation within the Permit Area is considered low.</p>
<i>Verticordia mitodes</i> (P3)	0	<p>Spreading shrub, 0.15-0.7 m high. Fl. pink-purple, Oct to Dec or Jan. Yellow sand. Undulating plains. Distribution is within the Avon Wheatbelt and Coolgardie IBRA regions.</p>	<p>Two known locations (dated 2002 and 1997) are within 5 km of the CPS 7018/1 Permit Area and all other known records are located greater than 40 km.</p> <p>Biological Surveys commissioned by Main Roads has not identified any additional records of this species.</p>

Species & Conservation Status	No. of known records impacted by Project to date	Description, distribution and habitat preferences	Assessment of risk from continued clearing
		There are 23 WA Herbarium and 7 TPFL records of this species. Two records are located within the 40 km Study Area with the remainder of records located to the west within the Wheatbelt region.	Based on the wide distribution of this species throughout the Wheatbelt and Goldfields Region and that no additional individuals have been identified within biological surveys, the risk of significant additional impacts to this species from the continued clearing of the vegetation within the CPS 7018/1 Permit Area is considered low.

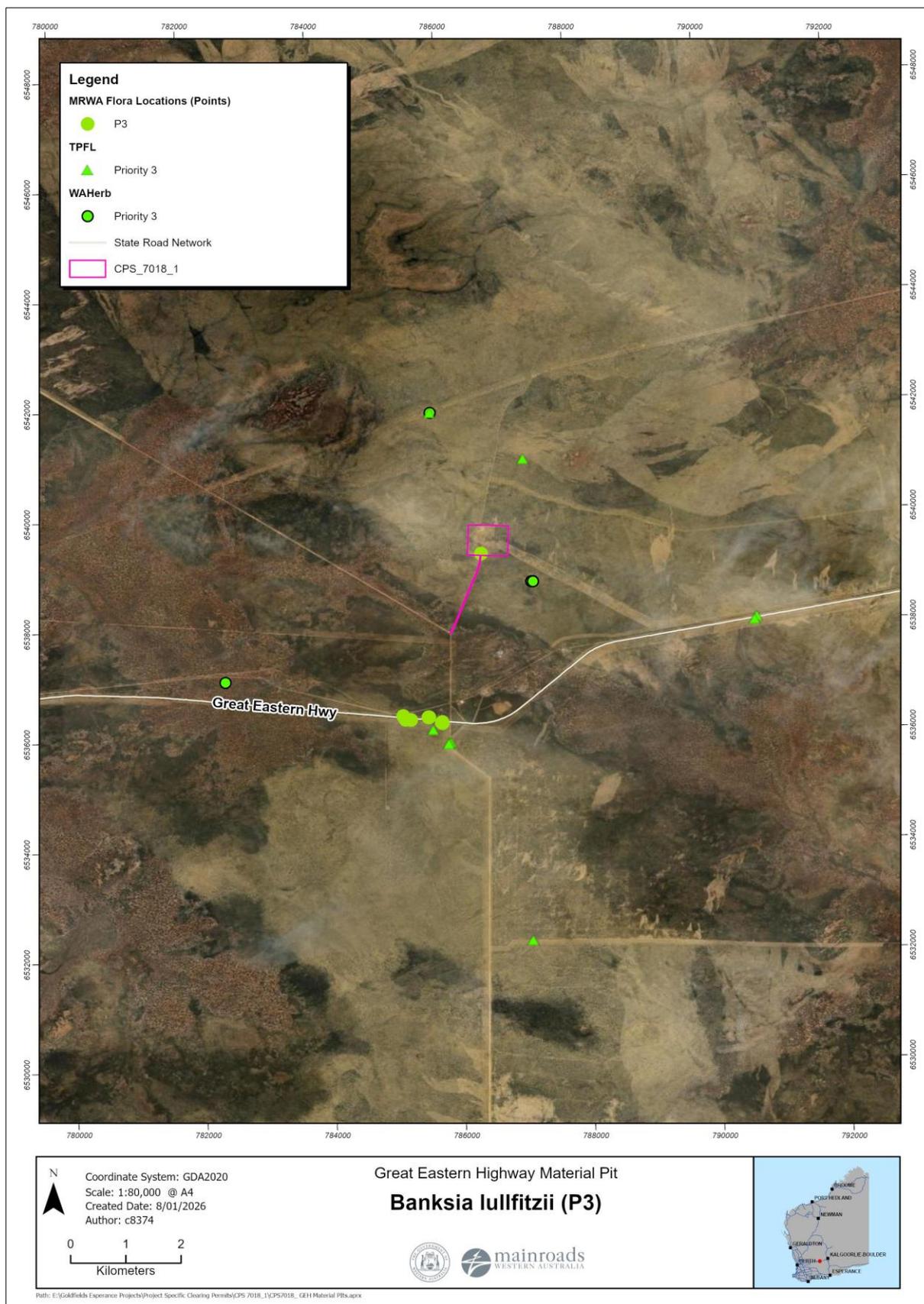


Figure 8: *Banksia lullfitzii* (P3) records in proximity to CPS 7018/1 Permit Area



Figure 9: *Acacia desertorum* var. *nudipes* (P3) records in proximity to CPS 7018/1 Permit Area



Figure 10: *Cryptandra polyclada subsp. aequabilis* (P1) records in proximity to CPS 7018/1 Permit Area

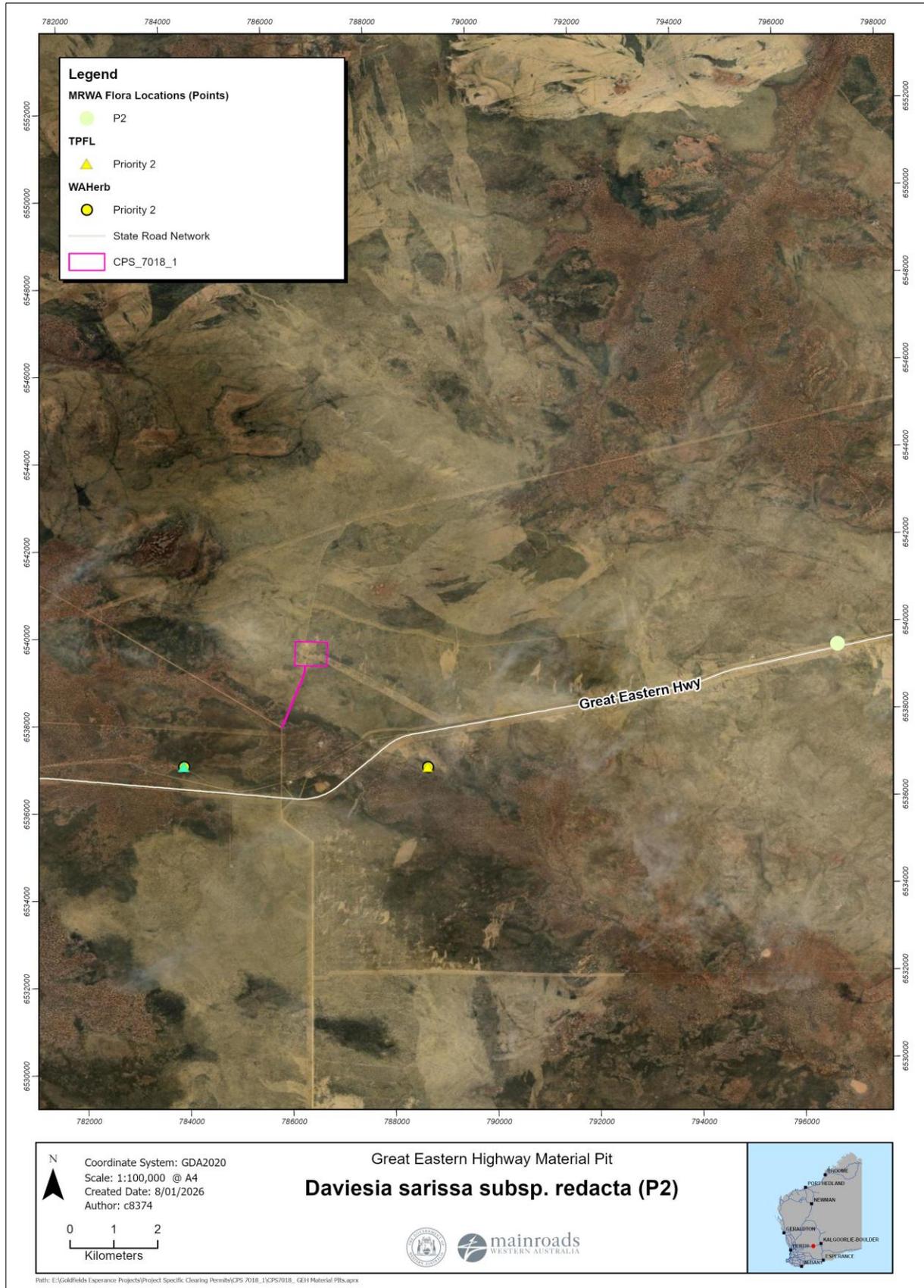


Figure 11: *Daviesia sarissa subsp. redacta* (P2) records in proximity to CPS 7018/1 Permit Area

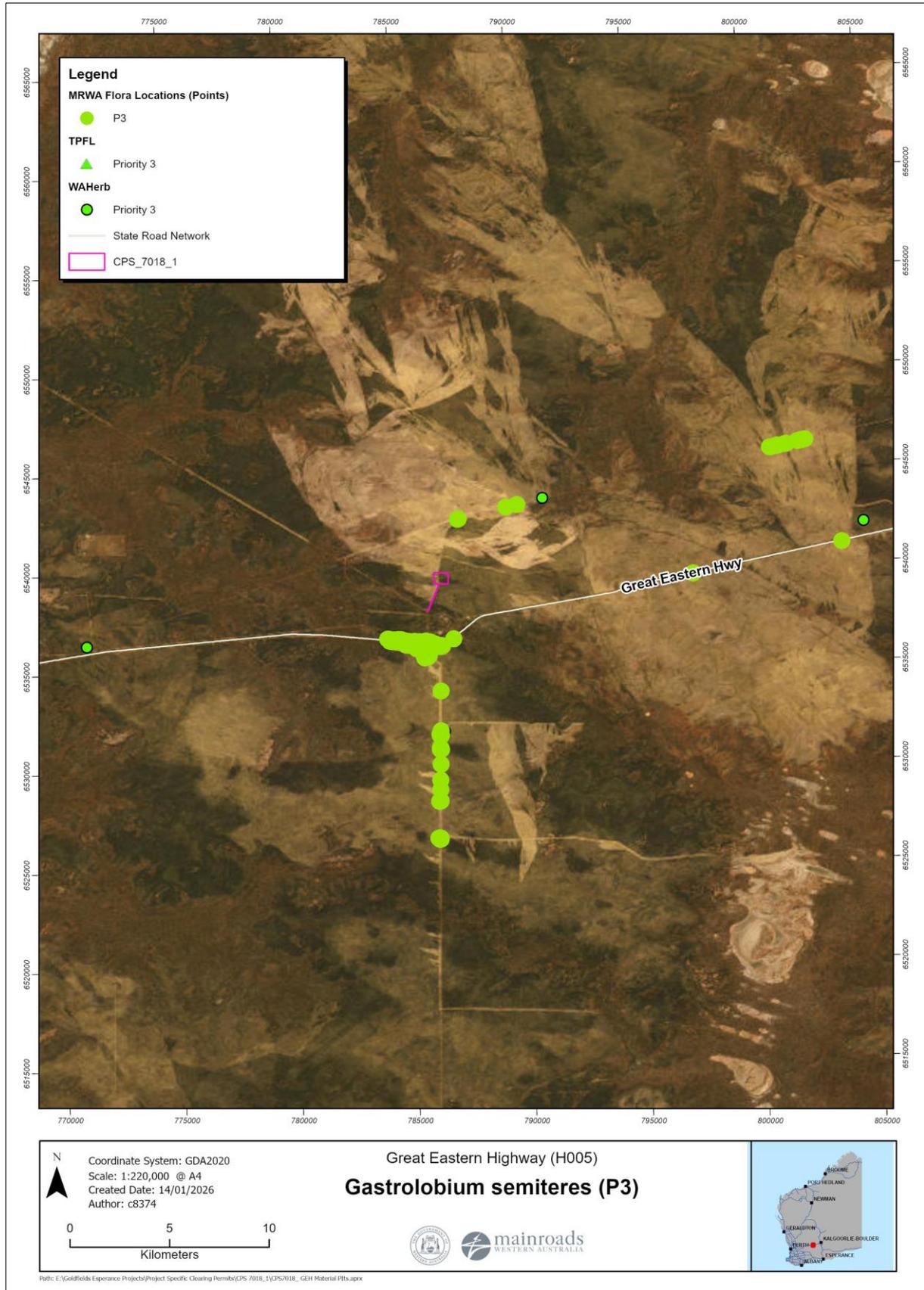


Figure 12: *Gastrolobium semiteres* (P3) records in proximity to CPS 7018/1 Permit Area

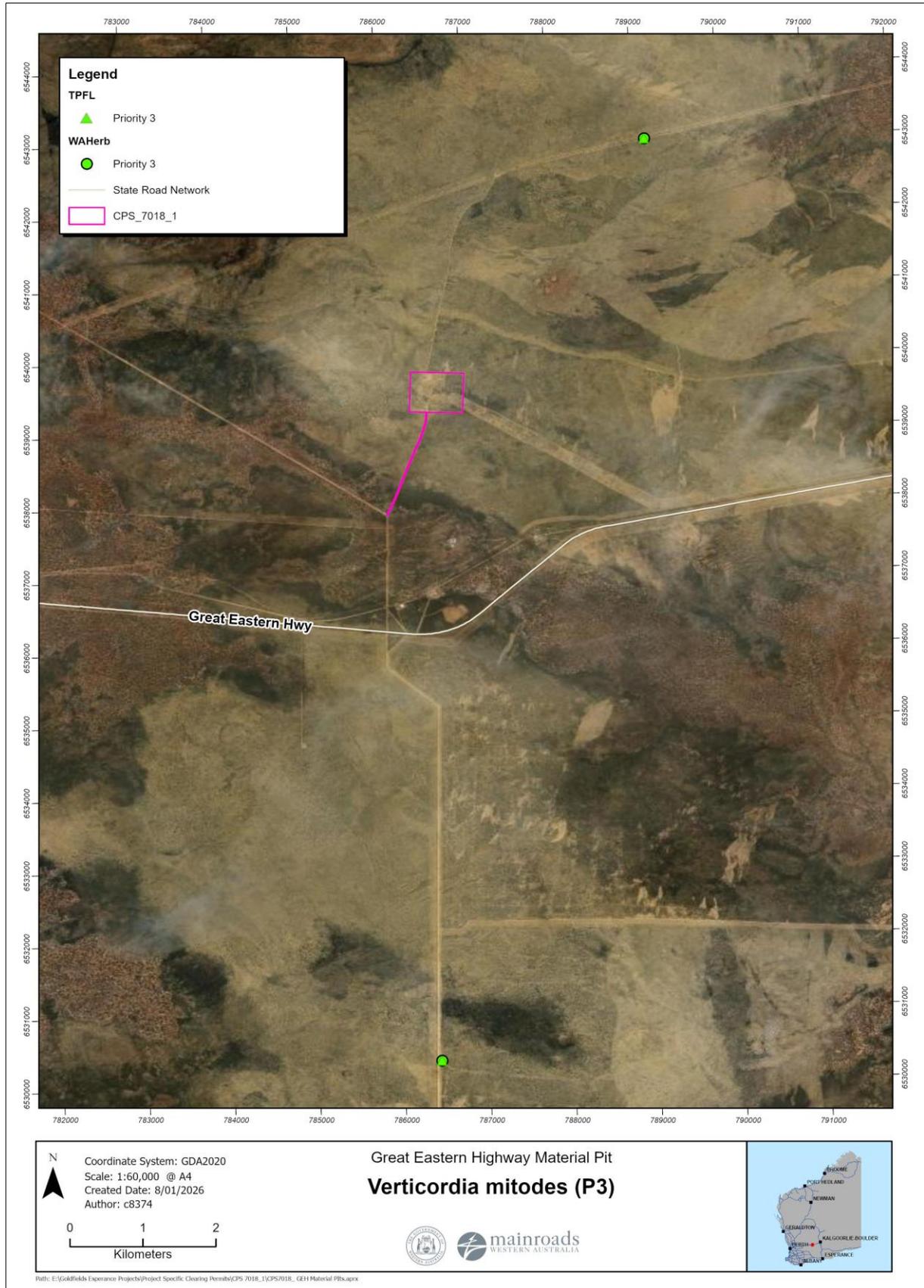


Figure 13: *Verticordia mitodes* (P3) records in proximity to CPS 7018/1 Permit Area

4 CONCLUSION

Obtaining an extension of timeframe for clearing of native vegetation under clearing permit CPS 7018/1 will enable Main Roads to continue delivering key road safety projects for the region, improving road user safety and reducing the potential occurrence of serious or fatal road incidents. This will allow Main Roads to continue operating in an environmentally responsible manner through continued progressive clearing only of areas that are needed, minimising the areas of land devoid of vegetation.

The permit area has been subject to previous disturbance with only 39 % of the area remaining as remnant vegetation, although this area is intersected with tracks and test pitting. An extension of CPS 7018/1 avoids the need for Main Roads to clear undisturbed native vegetation, reducing the environmental footprint required for sourcing road building materials.

As outlined above, only one individual of a conservation significant species (*Banksia lullfitzii* - Priority 3) has been identified within the CPS 7018/1 Permit Area since the initial grant of the permit, with the risk of significant impact to this species and others considered low. This is consistent with the decision report for CPS 7018/1 which identified the potential occurrence of seven of the eleven species assessed in this report. The decision report noted that *while the application area may contain these species, the extent of native vegetation adjacent to the application area in similar condition and of similar structure to the vegetation proposed to be cleared, the application area is not likely to comprise of significant habitat for these species if they do occur.*

Main Roads considers the risk of significant impact to conservation significant populations to be low as a result of the extension of timeframe to the clearing permit based on:

- the homogenous habitat across the landscape in which the material pit is located;
- disturbance from previous clearing and fire reducing the habitat condition;
- outcomes of the permit achieved as demonstrated through successful rehabilitation in accordance with the permit conditions; and
- sufficient information available from various surveys undertaken to inform this desktop assessment.

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APPENDIX 1: LIKELIHOOD OF OCCURRENCE – CONSERVATION SIGNIFICANT FLORA

Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
WAHerb	<i>Acacia cylindrica</i>	Fabaceae	P3	Yellow/brown sand, gravelly soils. Undulating plains, flats.	August to October	Shrub	Habitat possibly present, 2 WA Herb records within 20 - 40 km, most recent record in 2013.	Possible
TPFL, WAHerb	<i>Acacia desertorum</i> var. <i>nudipes</i>	Fabaceae	P3	Yellow sand, lateritic gravel. Sandplains, flats.	August to October	Shrub	Habitat likely to be present, 13 TPFL and WA Herb records within 40 km. The closest record is located 1.3km south (Phoenix Environmental Sciences), most recently recorded in 2025.	Likely
WAHerb	<i>Acacia inophloia</i>	Fabaceae	P3	Yellow sand, gravelly granitic soils.	August to October	Shrub	Habitat possibly present, 2 records within 20 - 40 km, most recent record in 2023; not recorded in any previous surveys listed in Table 5.	Unlikely
TPFL	<i>Acacia merrickiae</i>	Fabaceae	P4	Sandy loam, clay, yellow sand.	April to June	Shrub	Habitat possibly present, 1 record within 20 - 40 km, most recent record in 2006; not recorded in any previous surveys listed in Table 5.	Unlikely
WAHerb	<i>Balaustion grandibracteatum</i>	Myrtaceae	P3	Unknown	Unknown	Shrub	Habitat possibly present, 3 records within	Highly unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
	subsp. <i>grandibracteatum</i>						20 - 40 km, most recent record in 1945; not recorded in any previous surveys listed in Table 5.	
TPFL, WAHerb	<i>Banksia lullfitzii</i>	Proteaceae	P3	Yellow sand. Sandplains.	March to May	Shrub	Habitat likely to be present, 28 records within 40 km. One record occurs within the Permit Area (Botanica, 2021), while the next closest record to the Permit Area occurs 1.27 km northeast.	Occurs
TPFL, WAHerb	<i>Bossiaea celata</i>	Fabaceae	P3	Deep sand. Open mallee.	September to October	Shrub	Habitat possibly present, 16 TPFL/WAHerb records (3 duplicates) within 40 km. The closest record 17.8 km, most recent record in 2018.	Possible
WAHerb	<i>Chrysocephalum apiculatum</i> subsp. <i>norsemanense</i>	Asteraceae	P3	Yellow or red sand, yellow sandy clay, and calcareous soil.	September to November	Perennial herb	Habitat possibly present, 1 record within 4 - 20 km in 1989; not recorded in any previous surveys listed in Table 5.	Unlikely
GHD (2016)	<i>Cryptandra crispula</i>	Rhamnaceae	P3	Brown sandy clay, yellow loamy sand, red soil, pebbles.		Shrub	Habitat unlikely to be present.	Highly unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
				Dune ridges, hills, near salt lakes.			1 record (GHD 2016) located 30 km east of the Permit area. No other records within 40 km.	
TPFL, WAHerb	<i>Cryptandra polyclada</i> subsp. <i>aequabilis</i>	Rhamnaceae	P1	Sand.	October	Shrub	Habitat possibly present, 7 records (one duplicate) within 40 km, closest record within < 4 km, most recent record in 2014; not recorded in any previous surveys listed in Table 5.	Possible
TPFL, WAHerb	<i>Cyathostemon verrucosus</i>	Myrtaceae	P3	Unknown	Late September to early December	Shrub	Habitat possibly present, 5 records (one duplicate) within 40 km, closest record within < 4 km, most recent record in 1997; not recorded in any previous surveys listed in Table 5.	Unlikely
TPFL, WAHerb	<i>Daviesia sarissa</i> subsp. <i>redacta</i>	Fabaceae	P2	Yellow sand. Plains.	September	Shrub	Habitat likely to be present, 11 records within 40 km (3 duplicates), two records within < 4 km, most recent record in 2018	Likely
WAHerb	<i>Eucalyptus calycogona</i> subsp. <i>miraculum</i>	Myrtaceae	P1	Pale orange to red clay-loams to thin	September to October	Mallee	Habitat possibly present, 2 records within 4 – 20 km, most recent	Unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
				stony loams with ironstone gravel.			record in 2003; not recorded in any previous surveys listed in Table 5.	
WAHerb	<i>Eucalyptus exigua</i>	Myrtaceae	P3	Sandy loam, white sand. Sandplains.	March	Mallee	Habitat possibly present, 1 record within 20 – 40 km, recorded in 2000; not recorded in any previous surveys listed in Table 5.	Highly unlikely
WAHerb	<i>Eucalyptus urna</i> subsp. <i>xesta</i>	Myrtaceae	P3	Level to undulating terrain or around salt lakes, in red clay-loam or gravelly clay overlying limestone	Unknown	Mallet	Habitat unlikely to be present, 5 records within 40 km, closest record within < 4 km, most recent record in 2023; not recorded in any previous surveys listed in Table 5.	Highly unlikely
WAHerb	<i>Eutaxia rubricarina</i>	Fabaceae	P3	Gravelly sand, grey to pinkish-white sandy clay, red loam. Flats, slopes, valley floors, road verges.	August to October	Shrub	Habitat possibly present, 2 records within 20 - 40 km, most recent record in 2007; not recorded in any previous surveys listed in Table 5.	Highly unlikely
TPFL, WAHerb	<i>Frankenia parvula</i>	Frankeniaceae	T	Edges of salt lakes	October to March	Shrub	Habitat unlikely to be present, 11 records within 20 - 40 km (4 duplicates), most recent record in 2006, not	Highly unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
							recorded in any previous surveys listed in Table 5.	
TPFL, WAHerb	<i>Gastrolobium graniticum</i>	Fabaceae	T	Sand, sandy loam, granite. Margins of rock outcrops, along drainage lines.	August to September	Shrub	Habitat unlikely to be present, 3 records within 40 km, closest record 15 km, most recent record in 2022, not recorded in any previous surveys listed in Table 5.	Highly Unlikely
TPFL, WAHerb Phoenix Environmental Sciences (2026)	<i>Gastrolobium semiteres</i>	Fabaceae	P3	Deep yellow sand, yellow to brown sandy clay, gravel, granite. Broad sand dunes, around rocks, undulating plains.	August to October	Shrub	Habitat possibly present, 19 TPFL/WA Herb records within 40 km. The closest record occurs 1.5 km south of Permit Area, most recent record in 2025 (Phoenix Environmental Sciences).	Likely
TPFL, WAHerb	<i>Goodenia jaurdiensis</i>	Goodeniaceae	P2	Red clayey loam with laterite or banded ironstone gravel or quartz pebbles. Low-lying	September to October	Perennial herb	Habitat unlikely present, 3 records within 20 – 40 km (one duplicate), most recent record in 1981, not recorded in any previous surveys listed in Table 5.	Highly unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
				plains and lower slopes.				
WAHerb	<i>Grammosolen odgersii</i> subsp. <i>odgersii</i>	Solanaceae	P2	Red or yellow sand.	July to October	Shrub	Habitat possibly present, 5 records within 20 – 40 km, most recent record in 1979; not recorded in any previous surveys listed in Table 5.	Unlikely
WAHerb	<i>Grevillea lissopleura</i>	Proteaceae	P1	Stony loam on banded ironstone. On ridges.	August	Shrub	Habitat unlikely to be present, 1 record within 20 - 40 km, most recent record in 1991, not recorded in any previous surveys listed in Table 5.	Highly unlikely
WAHerb	<i>Grevillea prostrata</i>	Proteaceae	P4	White, grey or yellow sand, gravel. Sandplains.	August to January	Shrub	Habitat possibly present, 1 record within 20 – 40 km, most recent record in 1982; not recorded in any previous surveys listed in Table 5.	Unlikely
TPFL, WAHerb	<i>Haegiela tatei</i>	Asteraceae	P4	Clay, sandy loam, gypsum. Saline habitats.	August to November	Annual herb	Habitat unlikely to be present, 2 records within 20 - 40 km (one duplicate), most recent record in 2000, not recorded in any	Highly unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
							previous surveys listed in Table 5.	
WAHerb	<i>Hakea pendens</i>	Proteaceae	P3	Stony loam. Ironstone ridges.	September	Shrub	Habitat unlikely to be present, 1 records within 20 - 40 km, most recent record in 2010, not recorded in any previous surveys listed in Table 5.	Highly unlikely
TPFL, WAHerb	<i>Lepidosperma lyonsii</i>	Cyperaceae	P1	Pale orange skeletal sandy loam with banded ironstone gravel & rock, well-drained shallow stony loamy with quartz. Gentle hill slopes, upper slopes of large hill.	September to October	Sedge	Habitat unlikely to be present, 3 records within 20 - 40 km (one duplicate), most recent record in 1981, not recorded in any previous surveys listed in Table 5.	Highly unlikely
TPFL, WAHerb	<i>Lepidosperma</i> sp. Pigeon Rocks (H. Pringle 30237)	Cyperaceae	P3	Rocky substrates	Unknown	Sedge	Habitat unlikely to be present, 3 records within 20 - 40 km, most recent record in 2019, not recorded in any previous surveys listed in Table 5.	Highly unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
WAHerb, Phoenix Environmental Sciences (2026)	<i>Leucopogon</i> sp. Yellowdine (M. Hislop & F. Hort MH 3194)	Ericaceae	P2	Flat. Moist yellow sand. Burnt >5 years	Unknown	Shrub	Habitat possibly present, 4 records within 40 km, closest record 1.25 km in 2025 (Phoenix Environmental Sciences).	Possible
TPFL, WAHerb	<i>Lissanthe scabra</i>	Ericaceae	P2	Dry, white to orange-brown clay, sandy gravel loams, granite. Breakaways, uplands.	August	Shrub	Habitat possibly present, 4 records (2 duplicate) within 20 – 40 km, most recent record in 2010, not recorded in any previous surveys listed in Table 5.	Unlikely
WAHerb	<i>Mirbelia taxifolia</i>	Fabaceae	P1	Red or yellow sand.	September	Shrub	Habitat possibly present, 8 records within 40 km, closest record within 4 - 20 km, most recent record in 1934, not recorded in any previous surveys listed in Table 5.	Unlikely
TPFL, WAHerb	<i>Myriophyllum petraeum</i>	Haloragaceae	P4	Strictly confined to ephemeral rock pools on granite outcrops.	August to December	Aquatic herb	Habitat unlikely to be present, 2 records within 20 - 40 km, most recent record in 2011, not recorded in any previous surveys listed in Table 5.	Highly unlikely
WAHerb	<i>Phebalium brachycalyx</i>	Rutaceae	P3	Sand, gravelly soils.	August to September	Shrub	Habitat possibly present, 1 record within 4 - 20 km, recorded in	Highly unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
				Lateritic uplands, hills.			1966, not recorded in any previous surveys listed in Table 5.	
WAHerb	<i>Philotheca falcata</i>	Rutaceae	T	Unknown	October	Shrub	Habitat possibly present, 5 records within 20 - 40 km, most recent record in 1931, not recorded in any previous surveys listed in Table 5.	Highly unlikely
WAHerb	<i>Phlegmatospermum eremaeum</i>	Brassicaceae	P3	Stony loam.	August to October	Annual herb	Habitat possibly present, 1 record within 20 - 40 km, recorded in 1900, not recorded in any previous surveys listed in Table 5.	Highly unlikely
Phoenix Environmental Sciences (2026)	<i>Rinzia fimbriolata</i>	Myrtaceae	P1	Sandy soil or clay soil with quartz pieces in mallee shrubland or woodland	Unknown	Shrub	Habitat likely to be present, 1 record opportunistically found by Phoenix Environmental Sciences (2026) within 1.25 km.	Likely
WAHerb	<i>Rinzia triplex</i>	Myrtaceae	P3	Yellow to orange sandy loam with laterite gravel. Gently undulating sandplains,	June	Shrub	Habitat possibly present, 1 record within 20 - 40 km, recorded in 2019, not recorded in any previous surveys listed in Table 5.	Unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
				low ridges, road verges.				
WAHerb	<i>Stackhousia muricata</i> subsp. Perennial (W.R. Barker 3641)	Celastraceae	P3	In sands or loams often with rocks or gravel.	July to November	Perennial herb	Habitat likely to be present, 5 records within 40 km, some records within 4 - 20 km, most recent record in 1997.	Possible
TPFL, WAHerb	<i>Stylidium choreanthum</i>	Stylidiaceae	P3	White/yellow or red sand. Plains.	September to November	Perennial herb	Habitat possibly present, 6 records (1 duplicate) within 20 - 40 km, most recent record in 1996, not recorded in any previous surveys listed in Table 5.	Unlikely
TPFL, WAHerb	<i>Stylidium pulviniforme</i>	Stylidiaceae	P3	White sand. Winter-wet areas.	September to November	Perennial herb	Habitat unlikely to be present, 6 records (1 duplicate) within 20 - 40 km, most recent record in 2021, not recorded in any previous surveys listed in Table 5.	Highly unlikely
TPFL, WAHerb	<i>Thryptomene interzonensis</i>	Myrtaceae	P1	Yellow clayey sandplain, the edge of a salt pan over exposed	November to January	Shrub	Habitat unlikely to be present, 2 records (duplicate) within 4 - 20 km, most recent record in 1997, not recorded in	Highly unlikely

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Desktop source	Taxon	Family	WA status	Preferred habitat	Flowering period	Growth form	Assessment	Likelihood of occurrence
				granite, and sandplain.			any previous surveys listed in Table 5.	
WAHerb	<i>Thysanotus</i> sp. Yellowdine (A.S. George 6040)	Asparagaceae	P2	Yellow sand over gravel.	Unknown	Annual herb	Habitat possibly present, 3 records within 20 - 40 km, most recent record in 2014; not recorded in any previous surveys listed in Table 5.	Unlikely
TPFL, WAHerb	<i>Verticordia dasystylis</i> subsp. <i>dasystylis</i>	Myrtaceae	P2	Granitic sand or clay loam. Granite rocks.	September to November	Shrub	Habitat possibly present, 24 records (5 duplicate) within 20 - 40 km, most recent record in 2010, not recorded in any previous surveys listed in Table 5.	Highly unlikely
WAHerb	<i>Verticordia elizabethiae</i>	Myrtaceae	P1	Flats surrounding salt lakes, with halophytic heath	October to December	Shrub	Habitat unlikely to be present, 1 record within 20 - 40 km, recorded in 1997, not recorded in any previous surveys listed in Table 5.	Highly unlikely
TPFL, WAHerb	<i>Verticordia mitodes</i>	Myrtaceae	P3	Yellow sand. Undulating plains.	October to January	Shrub	Habitat possibly present, 4 records within 40 km (2 duplicates), closest record within < 4 km, most recent record in 2002, not recorded in any previous surveys listed in Table 5.	Possible