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ATLAS Stage 3 – ATLAS Pre-clearance Survey Report Demvale Wells and Gathering

Prepared for:
Senex

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Glossary of Terms

Acronym	Description
ATP	Authority to Prospect
ECPPFD	*Environmental Constraints Protocol for Planning and Field Development*
ESA	Environmentally sensitive areas
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999 (Cth)*
ha	Hectares
m	Metres
PL	Petroleum Lease
RE	Regional Ecosystem
sp.	Species (singular)
spp.	Species (plural)
sqm	Square metres
TEC	Threatened Ecological Community

1 Introduction

The pre-clearance survey methodology applied within this package of works is deemed appropriate to confirm the on-the-ground biodiversity values present.

1.1 Project background

The Atlas Stage 3 Gas Project (EPBC Act referral 2022/09410) involves developing, operating, decommissioning and rehabilitating up to 151 coal seam gas wells; gas and water gathering systems for the producing wells; access tracks; brine and produced water storages; borrow pits; and ancillary supporting facilities on Authority to Prospect (ATP) 2059, Petroleum Lease (PL) 445, the northern portion of PL209 and parts of PL1037 in the central part of the Surat Basin, Queensland (Senex, 2024). This report is provided to ensure compliance with the following EPBC approval conditions:

> *4. In accordance with the Constraints Protocol, the approval holder must:*
> *b) adhere to the constraints mapping.*
> *5. To ensure no functional change to Koala dispersal habitat, the approval holder must not remove more than a total of 4 ha of trees, measured in canopy cover within mapped Koala dispersal habitat.*
>
> *PRE-CLEARANCE SURVEYS*
> *6. Prior to commencing clearing, the approval holder must:*
> *a) undertake at least one pre-clearance survey of the proposed area of clearing, and*
> *b) publish on the website the pre-clearance survey findings, including:*
> *i) the location and extent of trees to be cleared, including maps, and*
> *ii) a discussion of how removal of trees will not change the ability of Koalas to disperse across the landscape.*

This report is also provided to help ensure compliance with Conditions F2-13 of Environmental Authority (P-EA-100511614).

This report provides the results of pre-clearance survey on wells and gathering Infrastructure (well pads, gas and water gathering lines and access tracks) (the footprint) and a 30 m buffer within the Demvale property: Lot 1 Plan RP123884.

1.2 Scope

Ausecology Pty Ltd (Ausecology) was engaged by Senex Energy Pty Ltd (Senex) to undertake pre-clearance ecological surveys as part of the approval conditions for the Atlas Stage 3 Gas Project and in accordance with the *Atlas Stage 3 Environmental Constraints Protocol for Planning and Field Development* (ECPPFD) document (Senex, 2024). The ECPPFD provides a framework for identifying, assessing and managing potential impacts to Matters of National Environmental Significance (MNES) and Matter of State Environmental Significance (MNES) associated with development of the Atlas Stage 3 Gas Project. Data collected during the pre-clearance surveys will be used by Senex to ensure:

- infrastructure siting complies with relevant environmental approval conditions and does not exceed the maximum disturbance limits
- infrastructure siting adheres to the constraints mapping
- no functional change to Koala dispersal habitat, the approval holder must not remove more than a total of 4 ha of trees, measured in canopy cover within mapped Koala dispersal habitat.

Results from the pre-clearance survey findings (this report) will be published on the website, including:

- the location and extent of trees to be cleared, including maps, and
- a discussion of how removal of trees will not change the ability of Koalas to disperse across the landscape.

This survey also involved targeted threatened flora surveys, active threatened fauna surveys (where suitable habitat was identified) and fauna habitat identification (where encountered) as per the ECPPFD.

2 Methodology

An Ausecology principal ecologist (Suitably qualified) and ecologist conducted field surveys on foot on the 7th of July 2024 with the Senex construction team to determine any further impacts not already identified to be avoided by re-aligning gas gathering, access tracks and well pads. The area surveyed and mapped in this report include the Demvale property as shown in Figure 2-1.

2.1 Regional Ecosystem assessment and Threatened Ecological Communities

2.1.1 Desktop assessments

Baseline assessments of the vegetation communities, including ground-truthed regional ecosystem (GTRE) mapping and threatened ecological community surveys were conducted to an acceptable level of detail and covered the relevant sections of the Field Development Area (ECPPFD). These assessments have been reviewed as part of the desktop assessment prior to the preclearance surveys. Given the level of detail in these reports, no further desktop analysis has been conducted.

2.1.2 Regional Ecosystem assessment

During preclearance surveys, quaternary site assessments to verify regional ecosystems were undertaken where necessary (i.e. where vegetation and ecological communities have been determined to vary from the mapped ground-truthed regional ecosystem at the time of the pre-clearance surveys). These assessments were conducted in accordance with the ECPPFD.

2.1.3 Threatened Ecological Communities

Where necessary Threatened Ecological Community (TEC) assessments were undertaken to confirm the presence and condition of TECs identified as known or potential in the footprint if these were determined to vary from the mapped TEC areas identified in the constraints mapping.

2.2 Targeted threatened flora surveys

These surveys were conducted by a suitably qualified person (SQP). Targeted flora surveys of all known, likely or potential threatened flora species were conducted within the footprint and 30 m buffer, where mapped constraint areas were present and/or suitable habitat was identified by the SQP, in accordance with the ECPPFD.

These surveys were conducted using the random meander method and if a species is encountered, a population survey would be undertaken to determine the extent and density of the population. Threatened flora species

and the locations of all individuals were recorded, and specimens collected of any unknown individual requiring confirmation by the Queensland Herbarium.

Potentially occurring threatened species in the area as per the ECPPFD are Belson's panic (*Homopholis belsonii*), red soil woolly wrinklewort (*Rutidosis lanata*) and winged nightshade (*Solanum stenopterum)*.

2.3 Fauna habitat assessment

Senex has committed to not clearing any areas confirmed as habitat for threatened species (ECPPFD), apart from Koala dispersal habitat and Echidna habitat. Fauna habitat baseline assessments have been conducted to an adequate level of detail to enable known, likely and potentially present species to be identified and a comprehensive Project impact assessment and constraints mapping has been completed (ECPPFD).

The pre-clearance surveys will reassess the habitat present (as mapped in the constraints mapping (ECPPFD)) or otherwise identified by the SQP during the preclearance surveys) to refine mapped habitat areas and survey and record micro-habitat features and breeding sites in the mapped constraint habitat to facilitate avoidance and minimisation of impacts to potentially utilised micro-habitat features and breeding sites. Recorded micro-habitat features, where present, included:

- Hollow-bearing trees;
- Dead standing trees;
- Hollow logs;
- Termite mounds;
- Woody debris;
- Surface rocks;
- Gilgais;
- Soil cracks / cracking clay;
- Rocky outcrops, crevices, overhangs and caves;
- Mistletoes;
- Nests;
- Animal burrows;
- Watercourses, wetlands and dams (including proximity); and
- Any other significant habitat features, or values present, such as dense leaf litter, heavily decorticating bark, dense grass/shrub shelter, seeding grass cover, fruiting plants, nectar and pollen producing plants and koala food trees.

2.4 Threatened Fauna Surveys

As areas confirmed as habitat for threatened species have been effectively avoided by the footprint (apart from Koala dispersal habitat and Echidna habitat) and therefore the area required to be surveyed is minimal.

Active fauna surveys of all known, likely or potential threatened fauna species are to be undertaken where suitable potential habitat is mapped or found to be present within the proposed disturbance footprint (refer to the constraints mapping, and the habitat features listed in Appendix A of the ECPPFD). Active fauna searches as per Table 1, Appendix A of the ECPPFD include scanning trees, the ground and habitat features; overturning

rocks, logs and other woody debris; searching under peeling bark; raking leaf litter and soil at the base of trees; and flushing birds from dense shrubs and groundcover.

Invasive active searches were not undertaken in the 30m buffer of the disturbance footprint within mapped constraint areas, given no impact is expected and active searches outside of the footprint would be detrimental to the fauna species habitat. Instead of invasive searches in the 30m buffer, surveys included incidental observations and scat and sign searches.

2.5 Koala dispersal habitat

An initial desktop survey was undertaken to analyse all previous ecology data collected in the field, analyse the ECPPFD and associated constraints mapping and to identify areas of mapped koala dispersal habitat that would require further ground verification.

Areas identified were highlighted on GIS mapping for further identification and field verification. Additional points were collected in the field where applicable. All tree ID numbers have been provided in individual maps of the area surveyed (Figure 3-3 to Figure 3-6) and Table 3-1 identifying each species in the results.

Canopy cover was measured by walking the dripline of trees located in koala dispersal areas using a sub-10cm accuracy handheld Trimble GPS unit. Tree canopy diameter was also recorded using measuring tape for canopy cover verification. The diameter at breast height (DBH) of each of the abovementioned trees was measured and height data was collected. Where denser regrowth was present and canopy cover of individual trees could not be distinguished, the canopy cover of the clump of trees was walked at the outer dripline and average height assessed. Thorny tree species which are not able to be climbed by Koala (i.e. desert lime (*Citrus glauca*) were still recorded in the field but excluded from the final Koala tree canopy cover calculations.

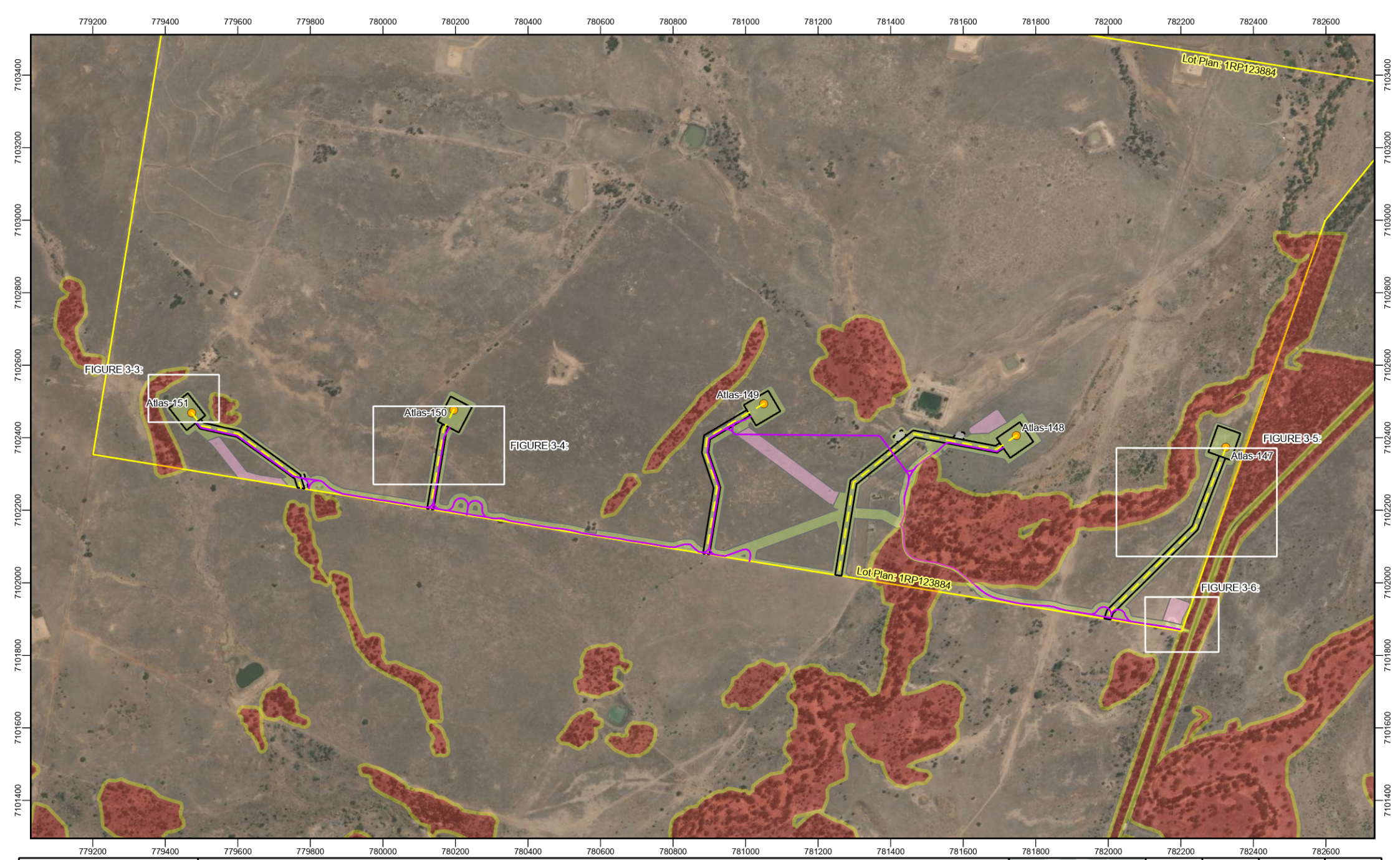

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Figure 2-1:

Demvale Overview

- Proposed Wells
- Proposed Footprint
- ROW Extension Areas
- Proposed Wellpads
- Proposed Pipeline
- Tracks
- Cadastre
- Proposed Tree Clearance Assessment
- Surveyed area
- Surveyed area but not used
- High Constraint Area
- No Go Area
- Map Extents

REVISION	AUTHOR	REVIEWER	DATE
6	JS	LG	31/07/2025
7	BD	LG	04/08/2025

GDA2020 MGA Zone 55
Scale: 1:13,000

N

0 250 500
Metres

3 Results

The Demvale property has been historically cleared for cattle grazing and is dominated by cleared pasture lands with some native but mainly introduced pasture grasses, with scattered small patches of remnant and regrowth woodlands. Individual and small patches of paddock trees of various ages and species were also scattered across cleared pastures (Figure 3-1 and Figure 3-2).

Figure 3-1 Patches of woodland beyond the impact footprint

Figure 3-2 Scattered paddock trees

3.1 Regional Ecosystems and Threatened Ecological Communities

Where mapped constraints areas occurred within the disturbance footprint or 30 m buffer these were assessed in the field to ensure they aligned with the mapping. No mapped constraints in the survey area were found to require changes. The survey also confirmed that the proposed disturbance areas and associated 30 m buffer do not contain any listed TECs.

3.2 Targeted threatened flora surveys

No Belson's panic (*Homopholis belsonii*), red soil woolly wrinklewort (*Rutidosis lanata*) and winged nightshade (*Solanum stenopterum)* were identified within the areas mapped as constraints for these species.

3.3 Opportunistic fauna surveys and habitat assessment

Active searches were not required within the disturbance footprint as no searchable fauna habitat was present (either mapped as constraints or identified during the survey). No habitat features other than the koala dispersal trees were recorded during the surveys.

No threatened fauna species were observed in suitable potential habitat within 30 m of a proposed disturbance footprint. One patch of brigalow is located within 30m of the disturbance footprint, however, impacts to the patch have been avoided. Invasive searches were not undertaken in this patch since none of the coarse woody debris, trees with loose bark or areas with leaf litter will be impacted by the disturbance footprint. If invasive active searches had been undertaken on habitat features in this patch, fauna would be disturbed, and some habitat may be unnecessarily destroyed.

Opportunistic sightings were recorded across the disturbance footprint and 30m buffer. Eleven species of fauna were recorded during the surveys (Appendix A).

3.4 Ground-truthed koala dispersal trees

Table 3-1 provides the results including canopy cover, height and DBH of the trees assessed in the field in koala dispersal areas. All trees were assessed and where determined they could be avoided (through underground boring or realignment) they have been marked up as "retain" and will be avoided during construction. Any trees unable to be avoided had their canopy cover assessed and calculated under disturbance limits and marked up as "remove". Mapping of each location (Desktop ID) are shown in Figure 3-3 to Figure 3-6.

Table 3-1 Dispersal habitat trees

Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
RR33	31.3	*Acacia harpophylla* (x8)	8	2	Remove	
RR35	60.6	*Acacia harpophylla*	45	11.6	Remove	
RR38	40.5	*Owenia acidula* (x2)	27	7.8	Retain	
RR39	11.3	*Eucalyptus populnea*	10	4.8	Retain	

Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
RR40	10.2	*Eucalyptus populnea*	11	4	Retain	
RR41	5.1	*Eucalyptus populnea*	7.5	4.2	Retain	
Dem001	6.23	*Eucalyptus populnea*	12	5.7	Remove	
Dem002	50.5	*Eucalyptus populnea*	24	14.9	Remove	

Remove	**Total sqm**	**148.13 m^2**
	Total ha	**0.015 ha**
Retain	**Total sqm**	**67.1 m^2**
	Total ha	**0.0067 ha**

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Figure 3-3:

Demvale Detailed
Koala Tree Survey

- Proposed Wells
- Tracks
- Proposed Pipeline
- Proposed Footprint
- Proposed Wellpads
- High Constraint Area
- No Go Area
- Cadastre

Proposed Tree Clearance Assessment
- Surveyed area

Koala Tree
- Remove

Dripline Extent
- Remove

REVISION	AUTHOR	REVIEWER	DATE
6	JS	LG	31/07/2025
7	BD	LG	04/08/2025

GDA2020
Scale: 1:1,000

N

0 15 30
Metres

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Figure 3-4:

Demvale Detailed
Koala Tree Survey

- Proposed Wells
- Tracks
- Proposed Pipeline
- Proposed Footprint
- Proposed Wellpads
- High Constraint Area
- No Go Area
- Cadastre

Proposed Tree Clearance Assessment
- Surveyed area

Koala Tree
- Remove

Dripline Extent
- Remove

REVISION	AUTHOR	REVIEWER	DATE
6	JS	LG	31/07/2025
7	BD	LG	04/08/2025

GDA2020
Scale: 1:2,000

N

0 15 30
Metres

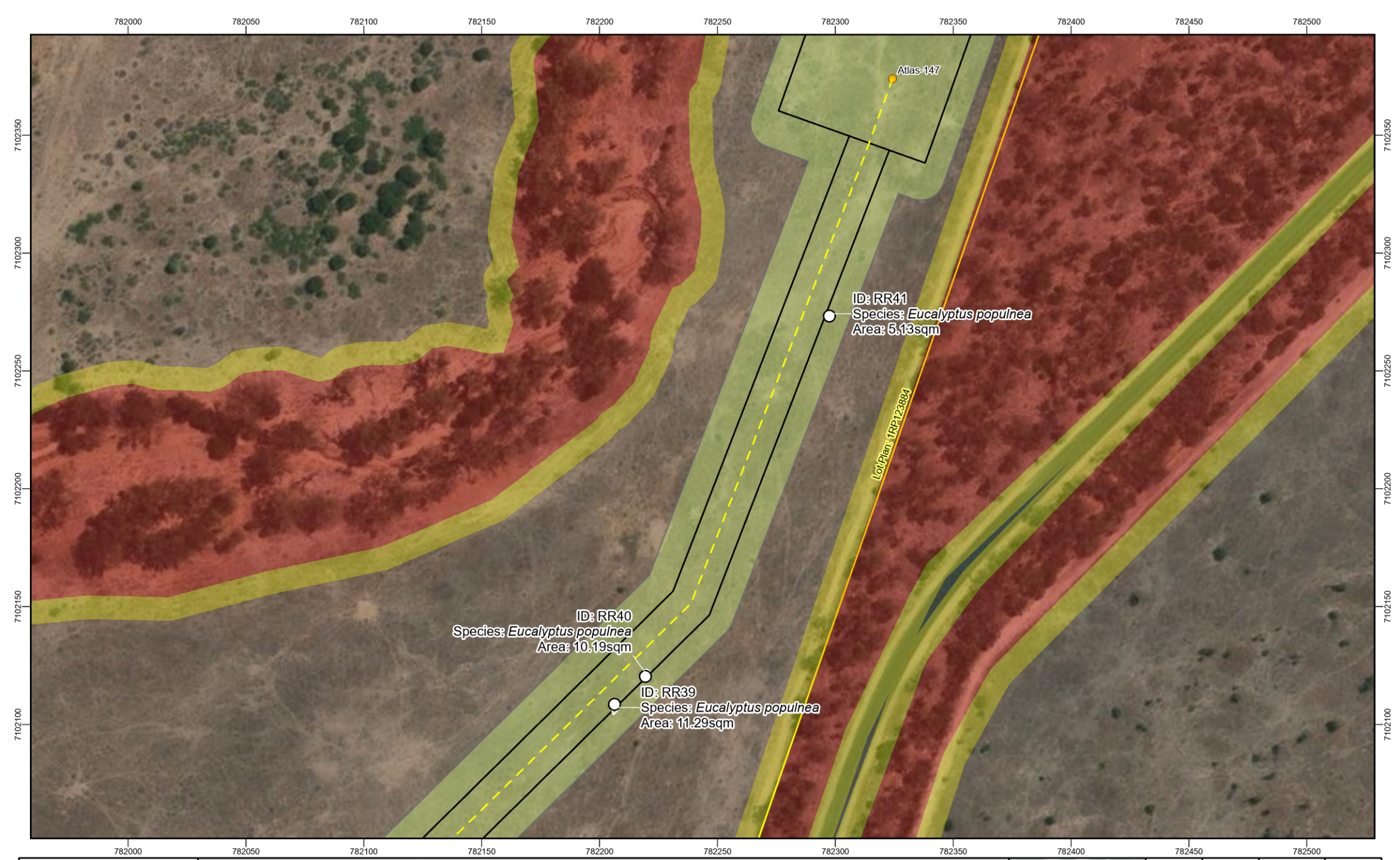

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Figure 3-5:

Demvale Detailed
Koala Tree Survey

- Proposed Wells
- Proposed Pipeline
- Proposed Footprint
- Proposed Wellpads
- High Constraint Area
- No Go Area
- Cadastre
- Proposed Tree Clearance Assessment
- Surveyed area
- Koala Tree
- Retain
- Dripline Extent
- Retain

REVISION	AUTHOR	REVIEWER	DATE
6	JS	LG	31/07/2025
7	BD	LG	04/08/2025

GDA2020
Scale: 1:2,000

N

0 15 30
Metres

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Figure 3-6:

Demvale Detailed
Koala Tree Survey

- Tracks
- Proposed Footprint
- High Constraint Area
- No Go Area
- Cadastre

Proposed Tree Clearance Assessment

- Surveyed area
- Surveyed area but not used

Koala Tree

- Remove

Dripline Extent

- Remove

REVISION	AUTHOR	REVIEWER	DATE
7	BD	LG	04/08/2025
8	NC	LG	15/10/2025

GDA2020
Scale: 1:1,000

N

0 15 30
Metres

4 Discussion

The surveys on the Demvale property found that the projects' impacts to koala habitat or dispersal habitat would be minimal with a total of 0.015 ha to be cleared. The majority of the impact footprint is located within predominantly cleared agricultural areas and has actively avoided major remaining fragments of habitat and potential dispersal trees following the constraint mapping. Trees retained within close proximity to those that are unable to be avoided total 0.0067 ha (67.1 m^2), and the removal of 0.015 ha (148.13 m^2) is unlikely to have a significant effect on the ecological function of dispersal habitat on the property for koalas. Adjacent areas of dispersal habitat avoided are shown in Figure 4-1.

Threatened flora searches found no threatened species within or in proximity to the impact footprint. No threatened flora were encountered during the survey and no TECs are present within the disturbance footprint or within 30 m of the disturbance footprint. No remnant or HVR regulated vegetation, potential threatened fauna habitat or environmentally sensitive areas (ESAs) are present within the disturbance footprint. The area is known echidna and koala dispersal area and other least concern species were observed in the area during the surveys. It is recommended that a qualified fauna spotter catcher undertake a preclearance survey across the disturbance footprint to identify habitat features prior to clearing. The spotter catcher should be present during clearing works to check habitat features and relocate fauna, and where possible habitat features to minimise impacts to fauna.

Figure 4-1 Examples of adjacent vegetation avoided by disturbance footprint

Appendix A – Fauna records

Results of the fauna observed during the surveys are included in the table below.

Scientific name	**Common name**	**Non-native (*)**
Anthus novaeseelandiae	Australasian Pipit	
Cacatua galerita	Sulphur-crested Cockatoo	
Coracina novaehollandiae	Black-faced Cuckoo-shrike	
Corvus orru	Torresian Crow	
Dacelo novaeguineae	Laughing Kookaburra	
Falco cenchroides	Nankeen Kestrel	
Malurus melanocephalus	Red-backed Fairy-wren	
Platycercus adscitus	Pale-headed Rosella	
Rhipidura leucophrys	Willie Wagtail	
Macropus giganteus	Eastern Grey Kangaroo	
Macropus rufogriseus	Red-necked Wallaby	