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

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Glossary of Terms

Acronym	Description
ATP	Authority to Prospect
ECPPFD	Environmental Constraints Protocol for Planning and Field Development
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
ha	Hectares
m	Metres
P-EA	Project's Environmental Authority
PL	Petroleum Lease
sp.	Species (singular)
spp.	Species (plural)
sqm	Square metres
TEC	Threatened Ecological Community

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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 F1-10 of the Project's Environmental Authority (P-EA-100112777).

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 Bellaringa property: 49SP237297 and 52SP237297.

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:

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- 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 (where encountered) as per the ECPPFD.

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2 Methodology

An Ausecology senior ecologist conducted the field surveys on foot from the 23rd to the 26th of July 2024. On the 25th and 26th of July, areas were assessed alongside 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 Bellaringa 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 include but are not limited to Belson's panic (*Homopholis belsonii*), red soil wooly winklewort (*Rutidosis lanata*), winged nightshade (*Solanum graniticum*) and *Solanum stenopterum*.

2.3 Fauna habitat assessment

Senex has committed to not clearing any areas confirmed as habitat for threatened species (ECPPFD), with the exception of Koala dispersal habitat and Echidna habitat. Fauna habitat baseline assessments have been

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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) in order 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 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 (with the exception of Koala dispersal habitat and Echidna habitat), 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.

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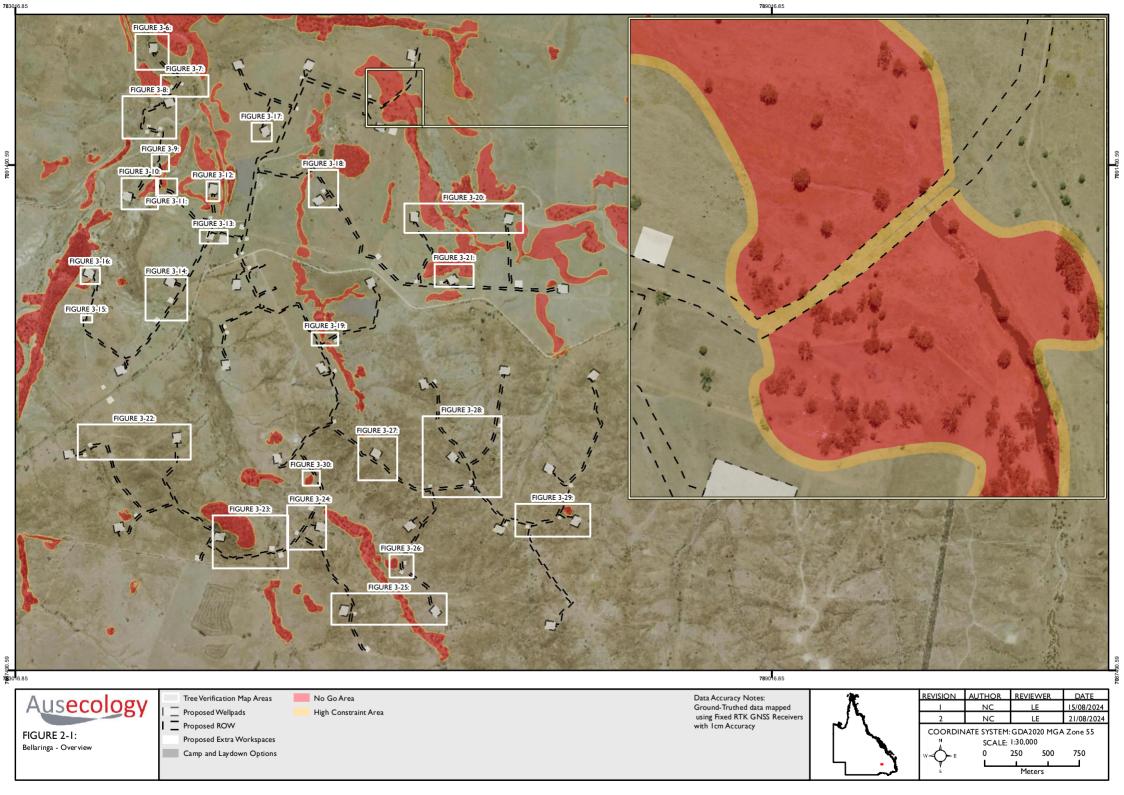


2.5 Koala dispersal habitat

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 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. The diameter at breast height (DBH) and total height of each of the abovementioned trees were measured. 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.





3 Results

The Bellaringa property has been historically cleared for cattle grazing, and is dominated by cleared pasture lands of introduced pasture grasses. Large areas of the cleared areas on the property have dense regrowth of either *Acacia decora* or the invasive sweet acacia (*Vachellia farnsiana*). The property has scattered patches of remnant and regrowth vegetation including Brigalow (*Acacia harpophylla*) woodland (RE 11.9.5), as well as ironbark and callitris pine (*E. melanophloia and Callitris glaucophylla*) woodlands (RE 11.5.5, 11.5.1 and 11.3.19). Many creek lines around the property have disturbed and/or regrowth vegetation in along the drainage features, including riverine river red gum woodlands (RE 11.3.25), ironbark (*Eucalyptus melanophloia*) woodlands (RE 11.3.39), and poplar box (*Eucalyptus populnea*) woodlands (RE 11.3.2). 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 remnant or old regrowth brigalow



Figure 3-2 Fragmented riverine eucalypt forest



Figure 3-3 Extensive cleared areas, often with dense young regrowth Acacia decora



Figure 3-4 Cleared grazing land with sparse paddock trees

3.1 Regional Ecosystems and Threatened Ecological Communities

Where mapped constraints areas occurred within the disturbance footprint or 30m 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 do not contain any listed TECs.



3.2 Targeted threatened flora surveys

No threatened flora species were identified in the footprint or 30m buffer, 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). Apart from koala dispersal trees, several bird nests were identified during the surveys. The habitat features recorded are listed in Appendix B.

No threatened fauna species were observed in suitable potential habitat within 30 m of the proposed disturbance footprint. Some vegetation patches are located within 30m of the disturbance footprint, however, impacts to the patches have been avoided. Invasive searches were not undertaken in these patches since none of the coarse woody debris, trees with loose bark or areas with leaf litter will be impacted by the disturbance footprint.

Opportunistic sightings were recorded across the disturbance footprint and 30m buffer. Fifteen 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. Trees unable to be avoided have had their canopy cover assessed and calculated under disturbance limits. Mapping of each location (Desktop ID) are shown in Figure 3-5 to Figure 3-30.

A limited number of trees will require removal. Most will be retained due to avoidance measures undertaken.

Table 3-1 Dispersal habitat trees

Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE01-03	110.47	Acacia salicina	23 23 23.5	11.2 12 11	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE04-005	75.21	Acacia salicina	25.3 10	8.7 4	Remove	
LEO6	18.81	Acacia salicina	14	7.4	Remove	
LE08	42.64	Eucalyptus melanophloia	28	12.3	Retain	
LE09	8.46	Acacia salicina	7	4.5	Remove	
LE10	9.83	Acacia excelsa	7	7	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE11	28.35	Geijera parviflora	7	5.1	Retain	
LE12	19.02	Geijera parviflora	19	5.1	Remove	
LE13-14	98.56	Geijera parviflora Notelaea microcarpa	40.5 14	9.1 5.5	Remove	
LE15	27.20	Geijera parviflora	9	5.4	Remove	
LE16	107.56	Eucalyptus camaldulensis	33	17.5	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE17	586.88	Acacia harpophylla	22	10.3	Retain	
LE18	31.91	Eucalyptus melanophloia	7	4.5	Remove	
LE19	10.18	Casuarina cristata	9	4.4	Remove	
LE20	6.80	Casuarina cristata	7	4	Remove	
LE21	133.04	Geijera parviflora	50	11	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE22	60.98	Acacia harpophylla	15	6.1	Retain	
LE23	46.58	Acacia harpophylla	11.5	6.5	Retain	
LE24	32.38	Acacia harpophylla	5.9	13	Retain	
LE25	14.96	Eucalyptus populnea	7	4.2	Retain	
LE26-27	43.63	Acacia salicina Eucalyptus camaldulensis	13 15	5.6 5.8	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE28	18.57	Eucalyptus camaldulensis	10	5.3	Retain	
LE29	13.50	Acacia salicina	10	5.7	Retain	
LE30	248.91	Eucalyptus camaldulensis	59	21.5	Retain	
LE31	21.39	Corymbia clarksoniana	25	8.6	Remove	
LE32	127.84	Owenia acidula	47.5	10.7	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE33	60.75	Acacia harpophylla	47	12.7	Retain	
LE34	66.90	Acacia harpophylla	30	8.8	Retain	
LE35	97.42	Acacia harpophylla	22	7.4	Remove	
LE36	43.55	Acacia salicina	31.5	10.7	Retain	
LE37	74.57	Geijera parviflora	42	10.2	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE38	34.14	Owenia acidula	30.5	9.4	Retain	
LE39	90.96	Acacia harpophylla	16.5	7.6	Remove	
LE40	37.49	Acacia harpophylla	14	7.2	Remove	
LE41	10.67	Acacia harpophylla	19	4.6	Remove	
LE42	29.92	Geijera parviflora	23	5.2	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE43	20.14	Geijera parviflora	12	4.9	Retain	
LE44	164.44	Geijera parviflora	50	12.4	Remove	
LE45	24.54	Owenia acidula	25	7.6	Remove	
LE46	39.29	Geijera parviflora	20	5.1	Remove	
LE47	39.38	Eucalyptus camaldulensis	30.5	12	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE48	16.99	Geijera parviflora	16	5.1	Remove	
LE49	121.67	Geijera parviflora	47.5	8	Retain	
LE50	106.95	Geijera parviflora	35	8.1	Remove	
LE51	33.35	Geijera parviflora	38	10.4	Retain	
LE52	53.82	Eucalyptus populnea	25.5	13.4	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE53	62.04	Acacia salicina	40	11.6	Retain	
LE54	116.79	Acacia salicina	50.5	10.6	Retain	
LE55	118.28	Acacia salicina	59	12.5	Retain	
LE56-57	67.01	Eucalyptus populnea	34 47	10.7 14.7	Remove	
LE58	53.56	Eucalyptus populnea	28	15.5	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE59-61	330.33	Eucalyptus camaldulensis Acacia salicina Eucalyptus populnea	59 47 53	19.8 8.8 15.6	Remove	
LE62-63	131.57	Acacia salicina Eucalyptus populnea	60 19	10.6 8.8	Remove	
LE64	6.89	Myoporum acuminatum	11	4	Remove	
LE65	4.38	Eucalyptus tereticornis	6	3.9	Remove	
LE66	7.21	Acacia salicina	9	4.3	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE67	3.51	Eucalyptus camaldulensis	6	4.5	Remove	
LE68	37.29	Pittosporum angustifolium	29	7.2	Remove	
LE69	3.34	Eucalyptus camaldulensis	8	4.6	Remove	
LE70	89.61	Eucalyptus populnea	23	7.5	Retain	
LE71	26.43	Eucalyptus populnea	26.5	11.4	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE72	101.39	Acacia salicina	38	12.3	Retain	
LE73	129.50	Acacia salicina	0	8.7	Retain	
LE74	98.57	Geijera parviflora	53	9.2	Remove	
LE75	10.86	Grevillea striata	17	6.7	Remove	
LE76-78	37.44	Corymbia tessellaris Geijera parviflora Geijera parviflora	28 16 12	12.6 5.2 5.5	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE79	16.18	Acacia salicina	24	7.6	Retain	
LE80	45.15	Eucalyptus populnea	17.5	12.9	Retain	
LE81-82	58.13	Eucalyptus populnea	19 18	13.2 9	Retain	
LE83	7.15	Eucalyptus populnea	11.5	6.5	Remove	
LE84	16.42	Acacia salicina	16	6.2	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE85	44.04	Eucalyptus populnea	25	10.4	Remove	
LE86	31.85	Acacia salicina	25.5	8.5	Retain	
LE87-88	91.25	Casuarina cristata	22.5 29	9 11.1	Remove	
LE89	33.78	Casuarina cristata	49	11.6	Remove	
LE90	29.95	Casuarina cristata	27	7.3	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE91	46.04	Casuarina cristata	36.5	10.3	Remove	
LE92	29.10	Casuarina cristata	26	9.2	Remove	
LE93	10.41	Eucalyptus populnea	15	7.1	Remove	
LE94	65.93	Casuarina cristata	31	8	Retain	
LE95	84.05	Casuarina cristata	30	8.5	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE96	101.61	Eucalyptus melanophloia	1.04	20.4	Retain	
LE97	109.46	Owenia acidula	39	10	Remove	
LE98	47.60	Geijera parviflora	21.5	6.1	Remove	
LE99-100	56.93	Atalaya hemiglauca	29 37	9.9 11	Retain	
LE101	19.18	Atalaya hemiglauca	24	7.7	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE102	26.11	Acacia excelsa	31	7.8	Retain	
LE103	39.11	Acacia salicina	25.5	10	Retain	
LE104-106	99.83	Petalostigma pubescens Geijera parviflora Acacia excelsa	24 27 21	5.7 6 8.89	Retain	
LE107	38.06	Brachychiton populneus	21	8	Retain	
LE110	64.02	Geijera parviflora	28	7.2	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE113	20.00	Acacia excelsa	27	5.5	Retain	
LE114	11.63	Acacia excelsa	14	6.4	Retain	
LE115	16.81	Geijera parviflora	20	7	Retain	
LE116	95.62	Santalum Ianceolatum	20	9	Retain	
LE117	81.10	Eucalyptus camaldulensis	12	6.1	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE118	70.30	Acacia salicina	15	7.6	Retain	
LE119	15.58	Eucalyptus populnea	23	11.3	Retain	
LE120	6.73	Eucalyptus camaldulensis	10	5	Remove	
LE121	42.65	Geijera parviflora	24	5	Retain	
LE122	24.80	Corymbia tessellaris	28	9.5	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE123	214.11	Eucalyptus camaldulensis	57	23	Retain	
LE124	6.18	Acacia salicina	17	4	Remove	
LE125	4.46	Eucalyptus populnea	11	4	Remove	
LE126	76.28	Eucalyptus populnea	33	13.5	Remove	
LE127	9.66	Eucalyptus populnea	12	6.9	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE128	15.10	Acacia excelsa	13	5	Remove	
LE129	35.52	Casuarina cristata	41	6.1	Retain	
LE130	6.22	Acacia salicina	9	4.7	Retain	
LE131	9.72	Eucalyptus populnea	17.5	6.8	Retain	No photo
LE132	37.04	Eucalyptus populnea	26	9.5	Retain	
LE133	22.51	Eucalyptus populnea	21	7.6	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE134	7.66	Eucalyptus populnea	14	6	Retain	
LE135	10.07	Eucalyptus populnea	13.5	6.6	Retain	
LE136	58.54	Eucalyptus populnea	26.5	12	Retain	
LE137	20.22	Eucalyptus populnea	21	11	Retain	
LE138	110.63	Eucalyptus populnea	31	15.2	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE139	70.28	Eucalyptus camaldulensis	40.5	16.3	Retain	
LE140	6.59	Eucalyptus populnea	6	6.5	Retain	
LE141	8.37	Eucalyptus populnea	10	6	Remove	
LE142	15.81	Acacia salicina	19	6.8	Remove	
LE144-145	42.45	Eucalyptus populnea	14 23	8.9 12.2	Remove	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE146	109.02	Geijera parviflora	22	5.2	Retain	
LE147	45.82	Eucalyptus populnea	30	9.9	Remove	
LE148	48.40	Eucalyptus camaldulensis	35	15.5	Retain	
LE149	39.98	Eucalyptus populnea	23	9.9	Remove	
LE150	185.07	Eucalyptus populnea	74	15.6	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE151	43.44	Eucalyptus populnea	32	11.8	Retain	
LE152	251.97	Eucalyptus populnea	50	18	Retain	
LE153	15.74	Eucalyptus populnea	21	7	Retain	
LE154	59.90	Eucalyptus populnea	32	11	Retain	
LE155	7.55	Eucalyptus camaldulensis	9	6	Retain	



Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE156	5.21	Eucalyptus camaldulensis	8	5.3	Retain	
LE157	2.66	Eucalyptus camaldulensis	4	4	Retain	
LE158	3.44	Eucalyptus camaldulensis	5	4.2	Retain	
LE159	7.49	Eucalyptus camaldulensis	5	4.1	Retain	
LE160	3.42	Eucalyptus camaldulensis	4	4	Retain	



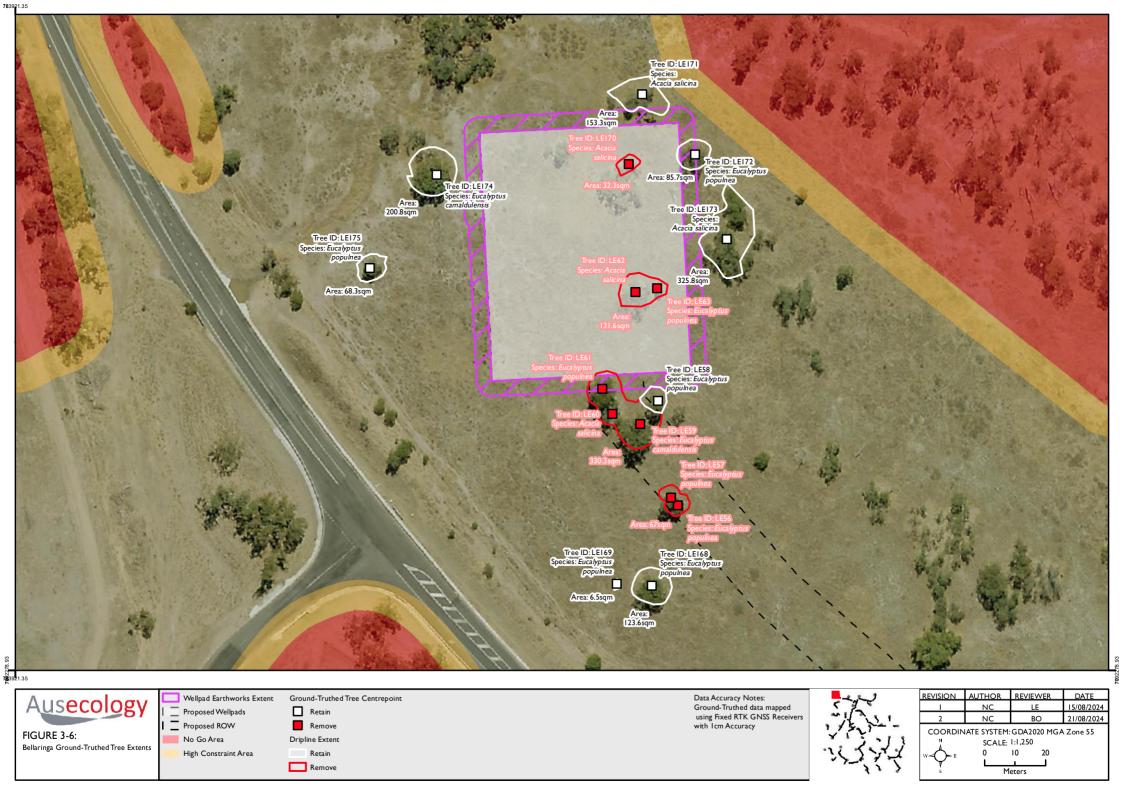
Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE161	6.88	Eucalyptus populnea	7	6.5	Retain	
LE162	9.18	Eucalyptus camaldulensis	11	5.5	Remove	
LE163	11.38	Eucalyptus populnea	9	4.2	Retain	No photo
LE164	12.45	Eucalyptus camaldulensis	10	4.5	Remove	
LE165	9.06	Eucalyptus camaldulensis	13	6.1	Remove	
LE166	10.99	Eucalyptus camaldulensis	9	4.5	Remove	

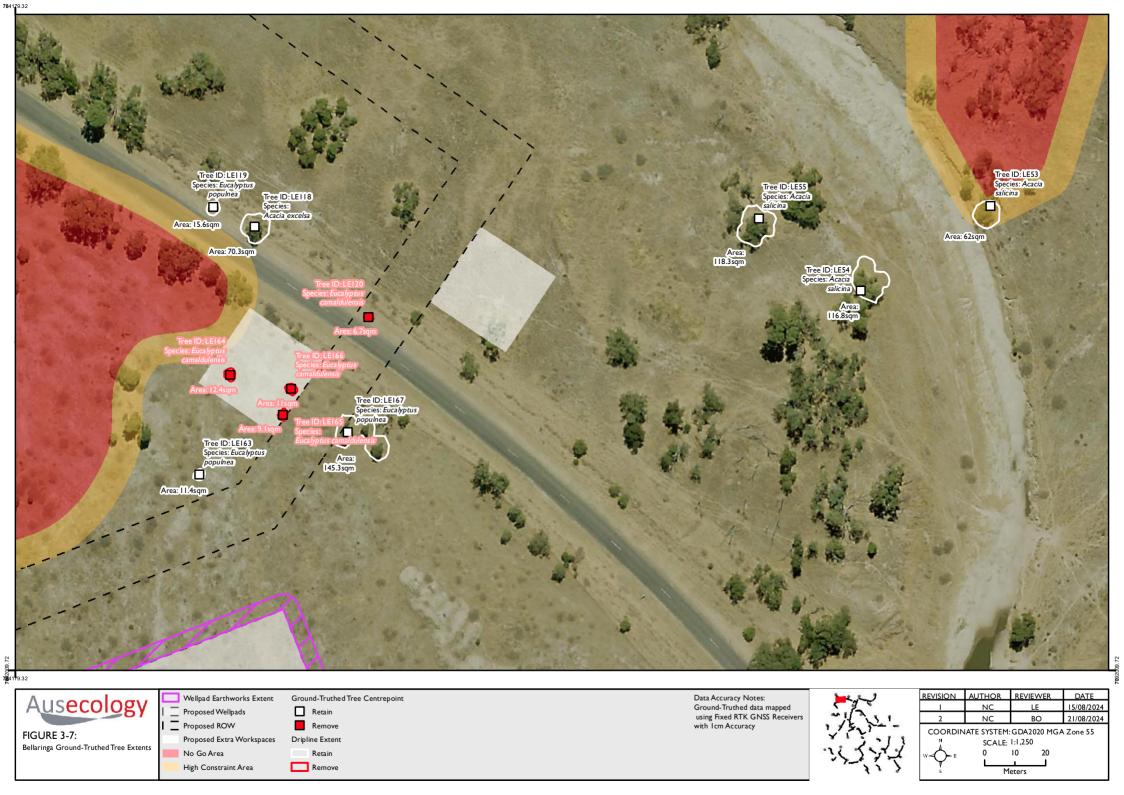


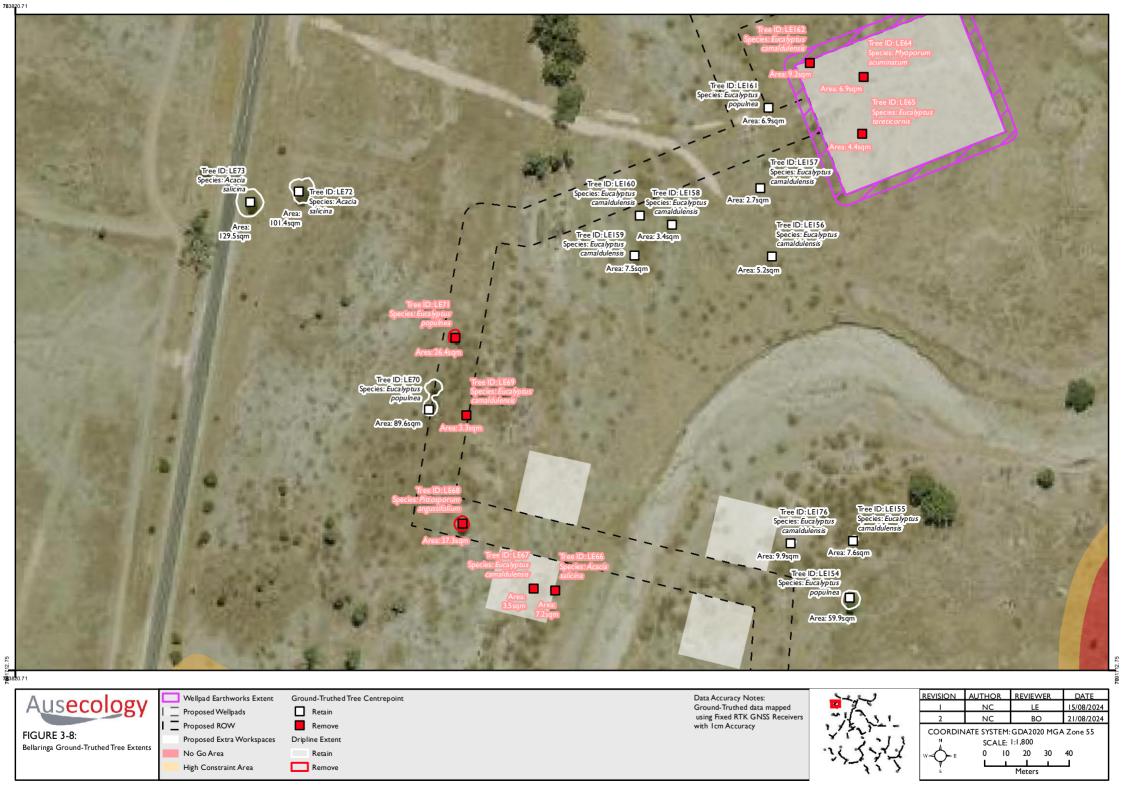
Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE167	145.32	Eucalyptus populnea	29	9.7	Retain	
LE168	123.55	Eucalyptus populnea	45	12.2	Retain	
LE169	6.49	Eucalyptus populnea	8	4	Retain	
LE170	32.35	Acacia salicina	27	6.8	Remove	
LE171	153.27	Acacia salicina	32	7.1	Retain	
LE172	85.70	Eucalyptus populnea	29	10	Retain	No photo

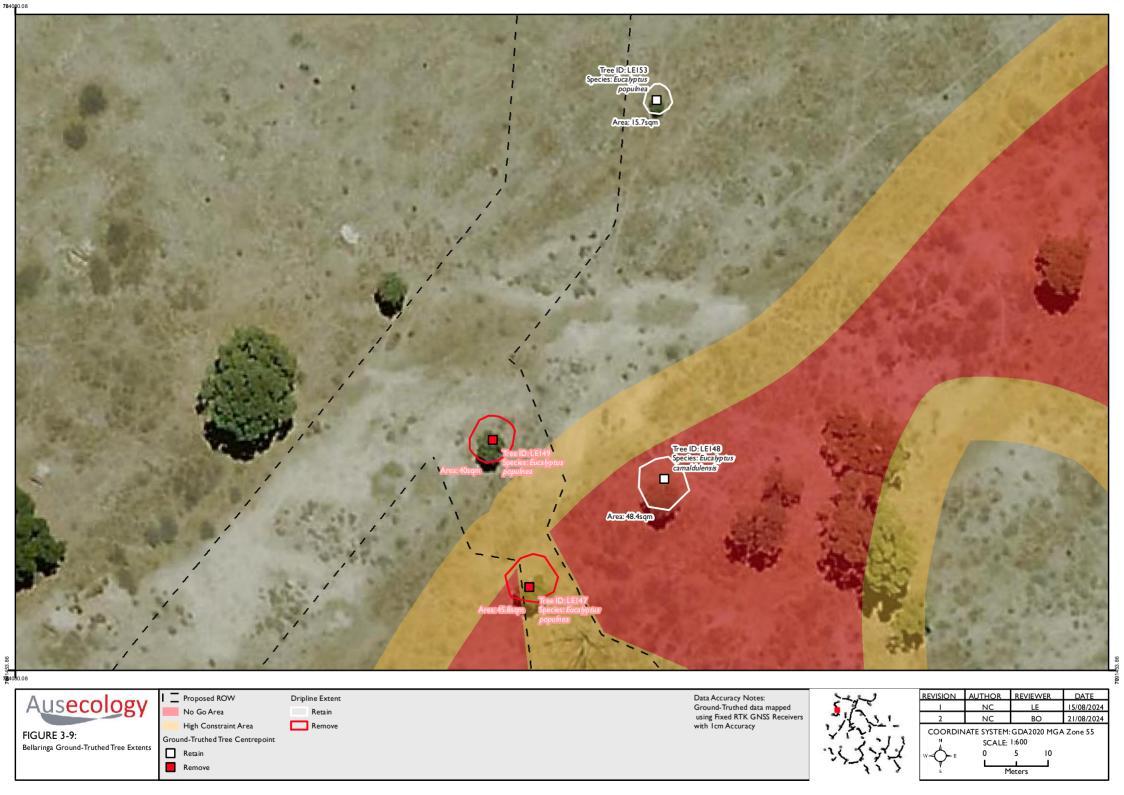


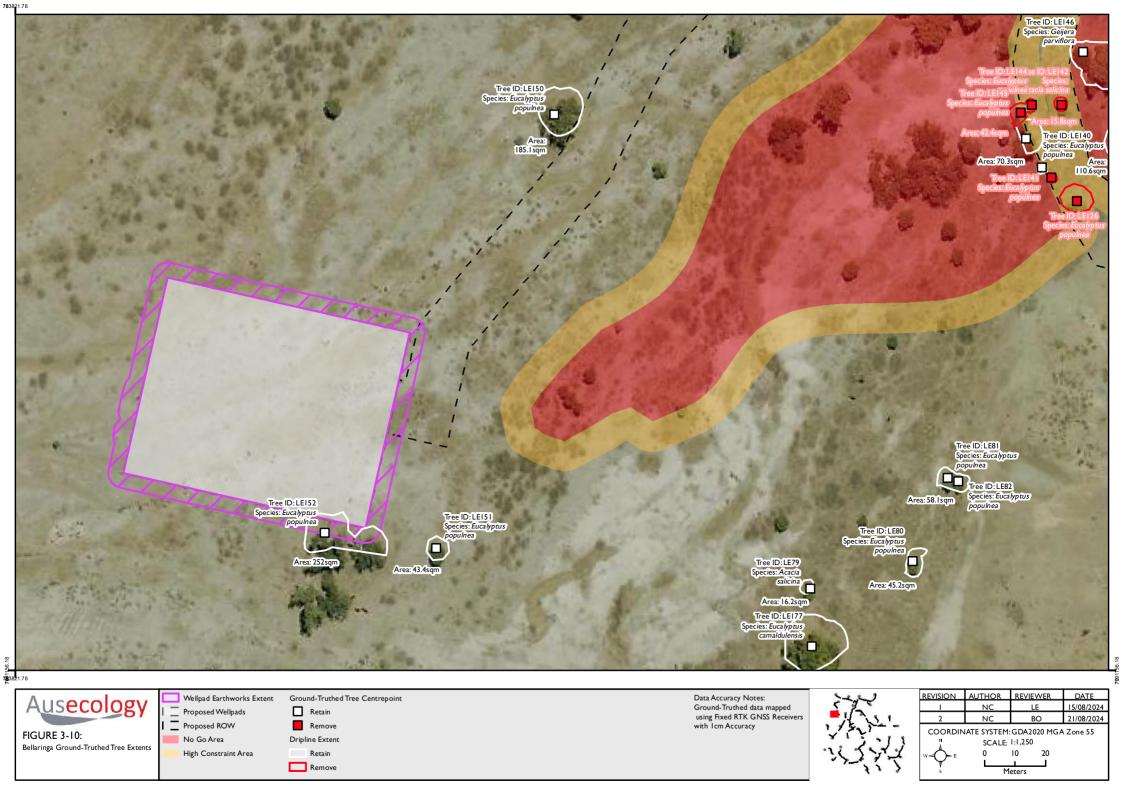
Location (Desktop ID)	Area (sqm)	Species	DBH (cm)	Height (m)	Action	Photo
LE173	325.83	Acacia salicina	32	12.3	Retain	
LE174	200.75	Eucalyptus camaldulensis	48	17.1	Retain	
LE175	68.34	Eucalyptus populnea	25	10	Retain	
LE176	9.90	Eucalyptus camaldulensis	8	4.5	Retain	No photo
LE177	300.67	Eucalyptus camaldulensis	37	22	Retain	No photo
RETAIN		Total (sqm)	6446.4			
		Total (ha)	0.64			
REMOVE		Total (sqm)	2955.2			
		Total (ha)	0.30			

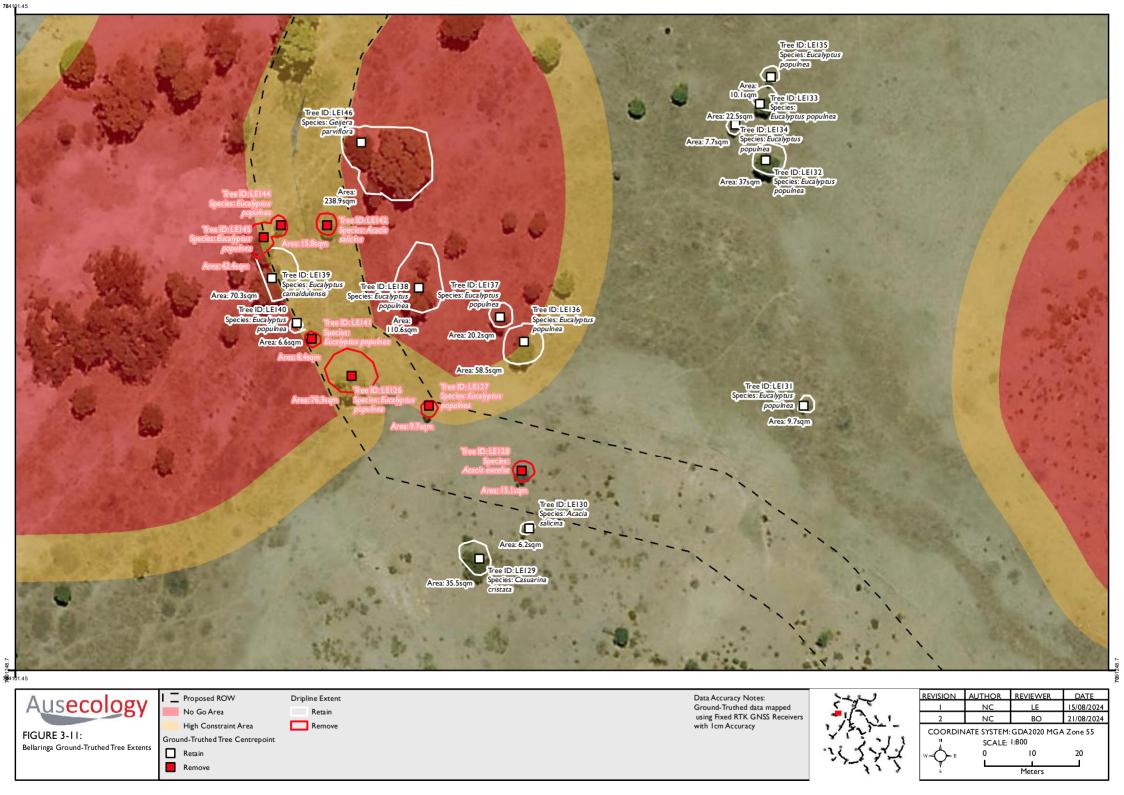












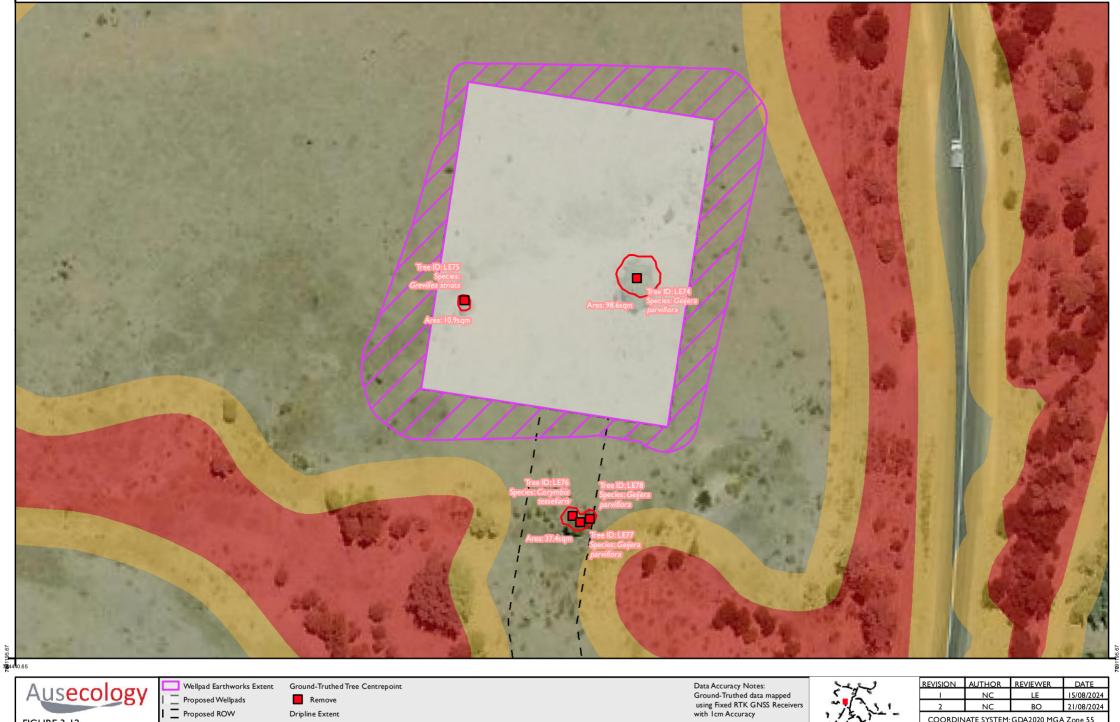


FIGURE 3-12: Bellaringa Ground-Truthed Tree Extents

No Go Area High Constraint Area Remove



COORDINATE SYSTEM: GDA2020 MGA Zone 55

SCALE: 1:1,000

10 20





FIGURE 3-13: Bellaringa Ground-Truthed Tree Extents

Proposed ROW

Proposed Extra Workspaces

Ground-Truthed Tree Centrepoint Remove

Data Accuracy Notes: Ground-Truthed data mapped using Fixed RTK GNSS Receivers with 1cm Accuracy



REVISION	AUTHOR	REVIEWER	DATE	
ı	NC	LE	15/08/2024	
2 NC BO 21/08/2024				

COORDINATE SYSTEM: GDA2020 MGA Zone 55

SCALE: 1:1,000

10 20





FIGURE 3-14: Bellaringa Ground-Truthed Tree Extents Ground-Truthed Tree Centrepoint

Proposed Extra Workspaces

Retain

Remove



COORDINATE SYSTEM: GDA2020 MGA Zone 55

SCALE: 1:2,000

0 10 20 30 40 50 60

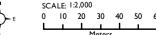




FIGURE 3-15: Dripline Extent Bellaringa Ground-Truthed Tree Extents

Retain

Retain

Data Accuracy Notes: Ground-Truthed data mapped using Fixed RTK GNSS Receivers with Icm Accuracy



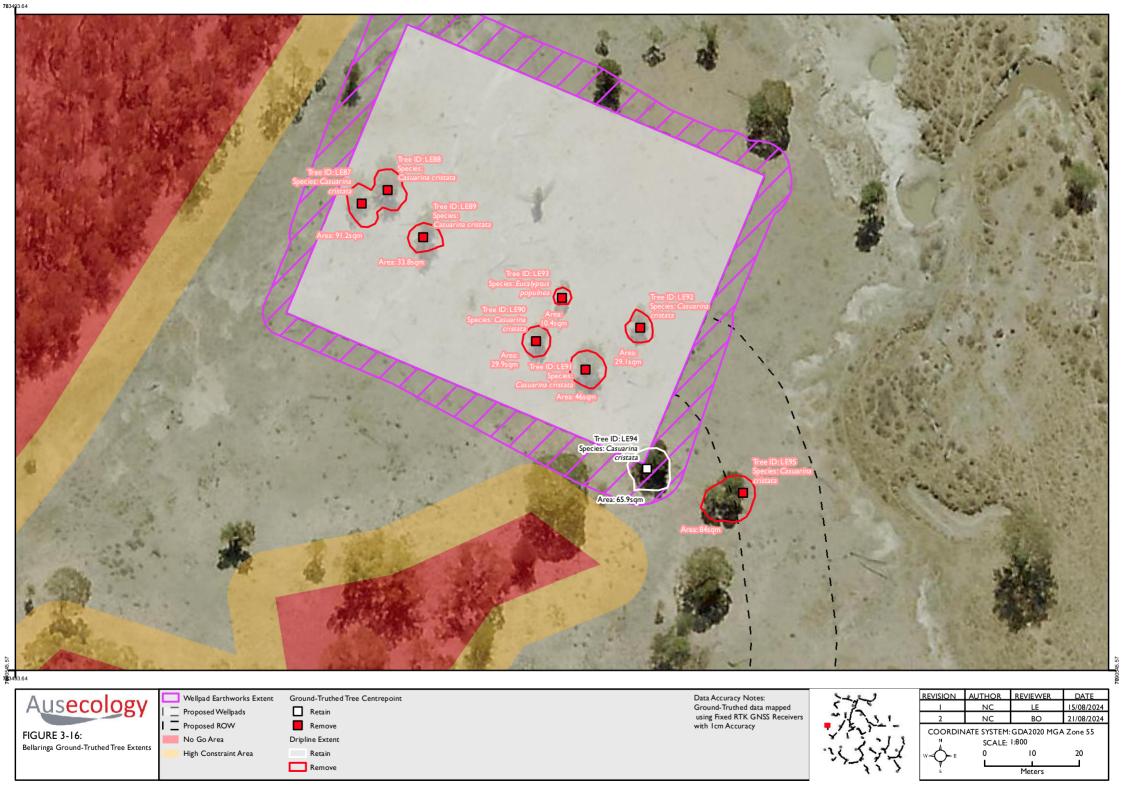
REVISION	AUTHOR	REVIEWER	DATE	
I	NC	LE	15/08/2024	
2	NC	ВО	21/08/2024	

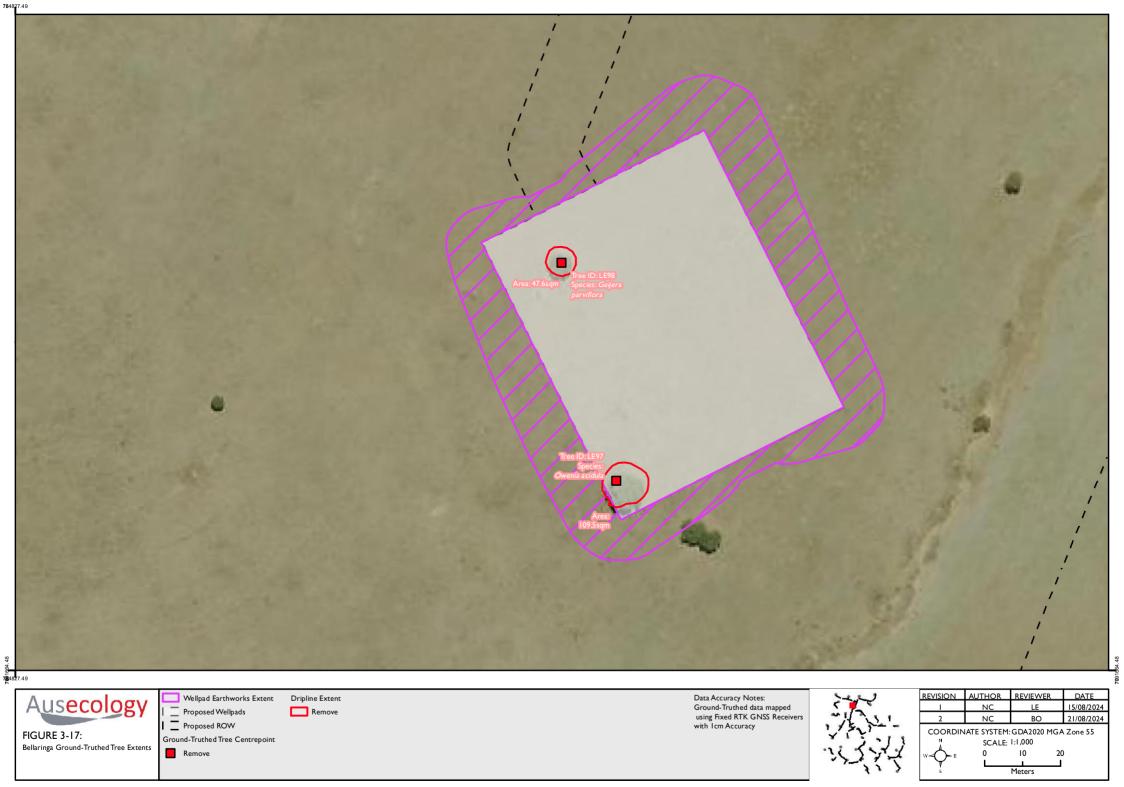
COORDINATE SYSTEM: GDA2020 MGA Zone 55

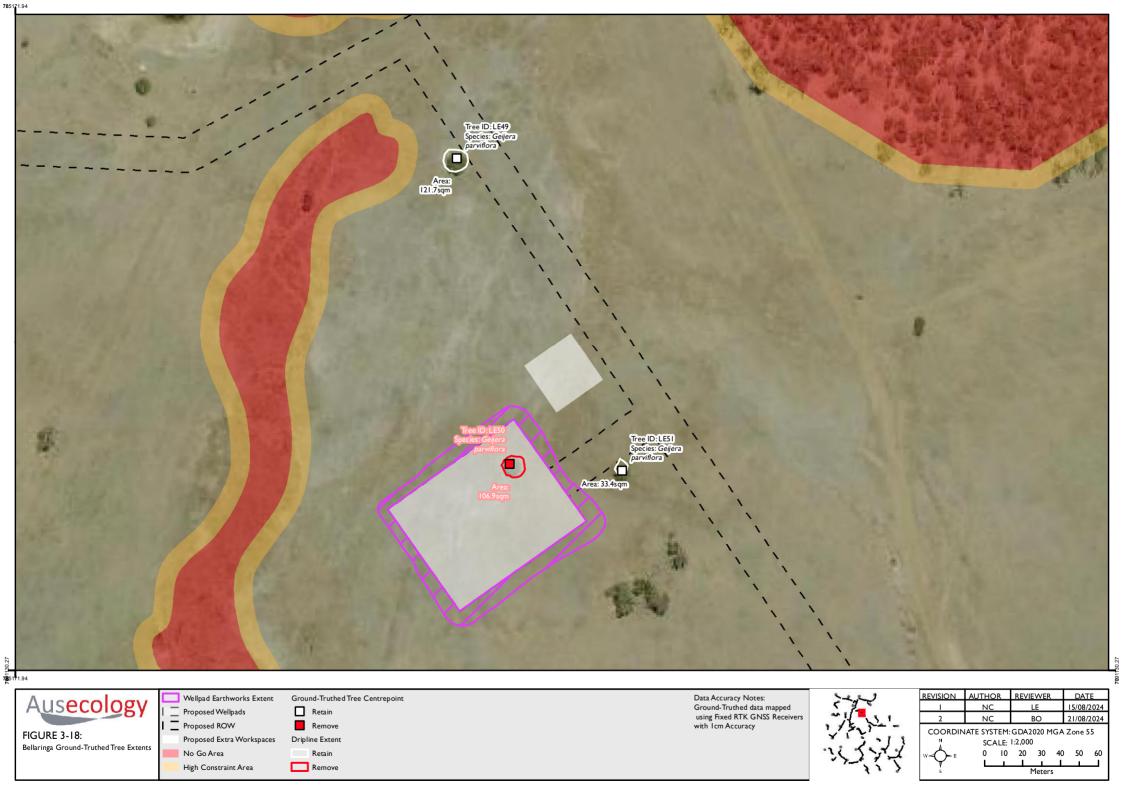
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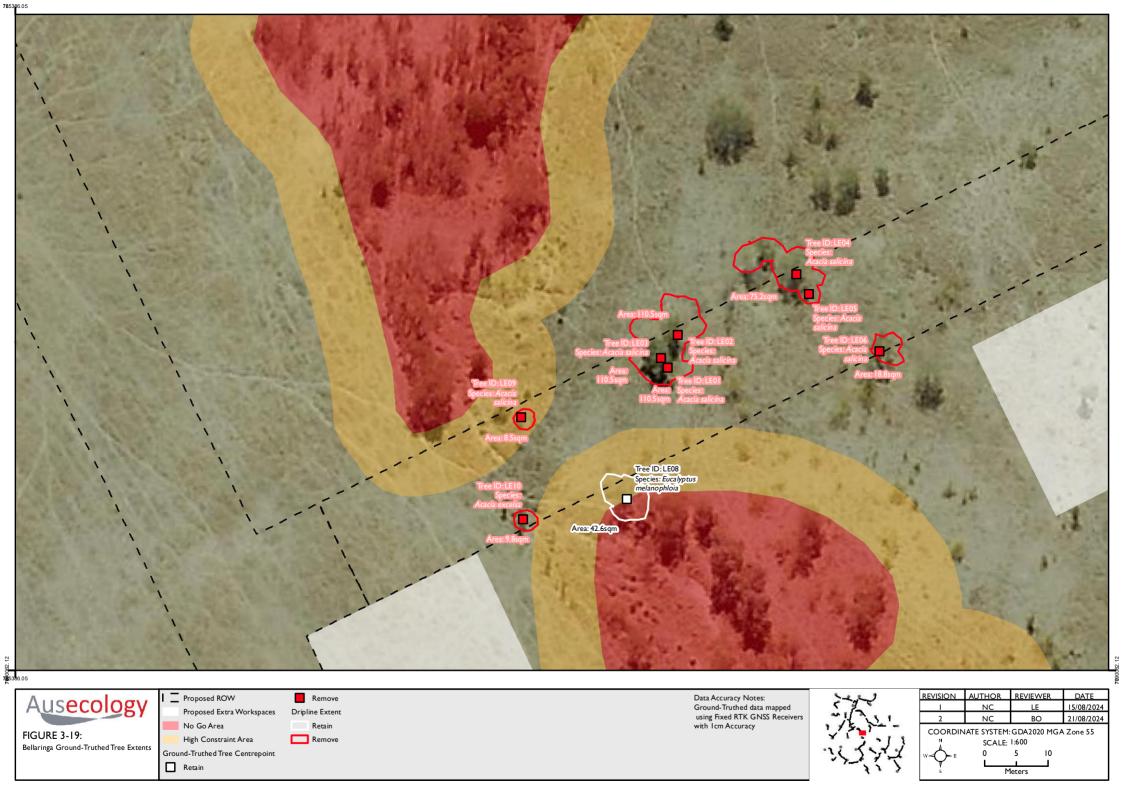
0 10 20

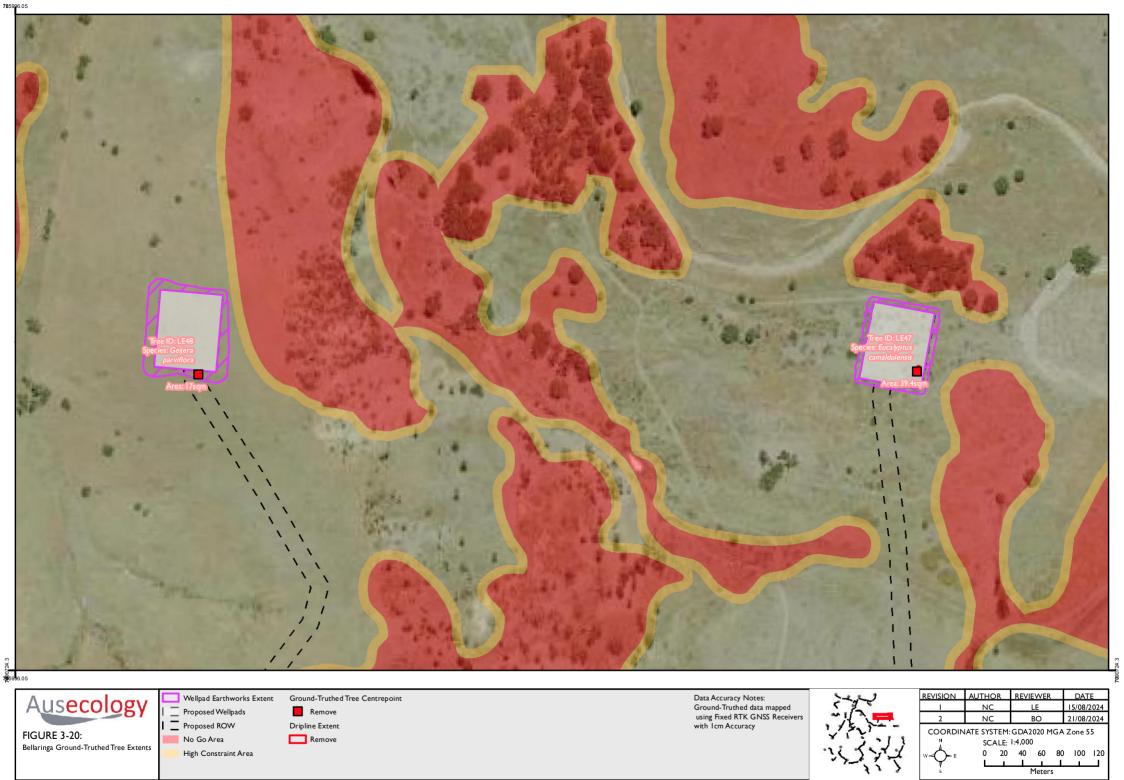


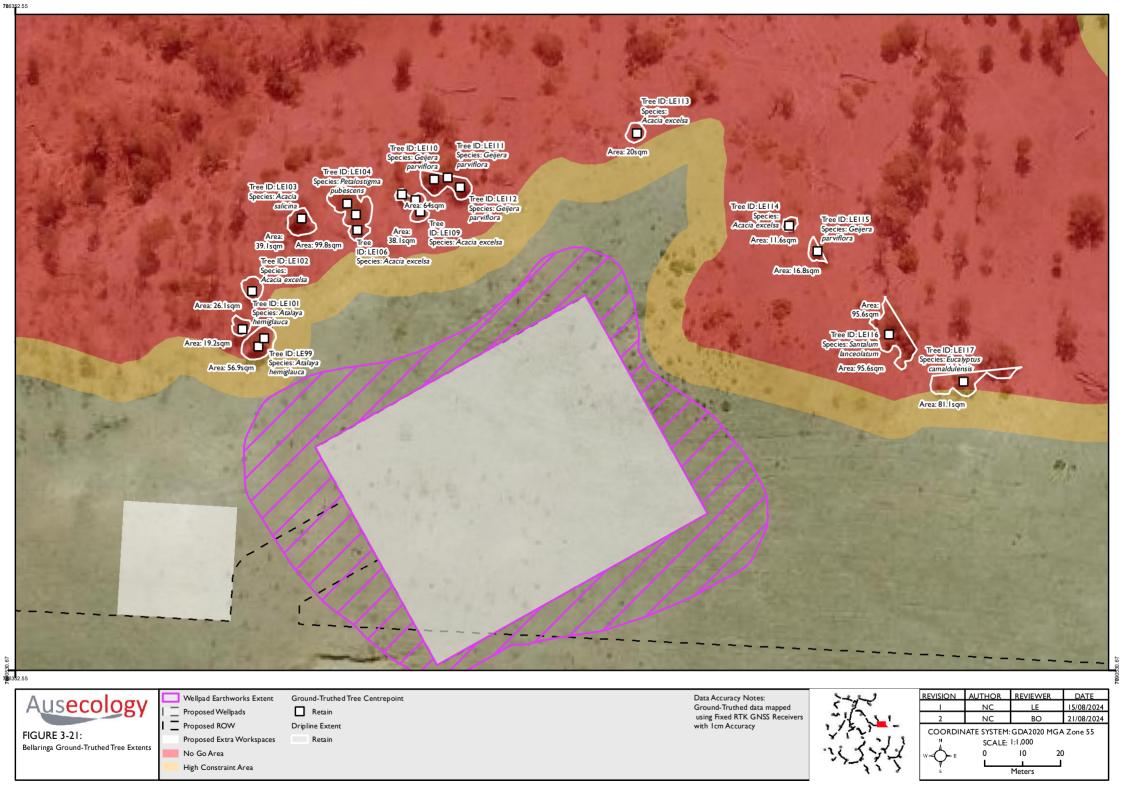


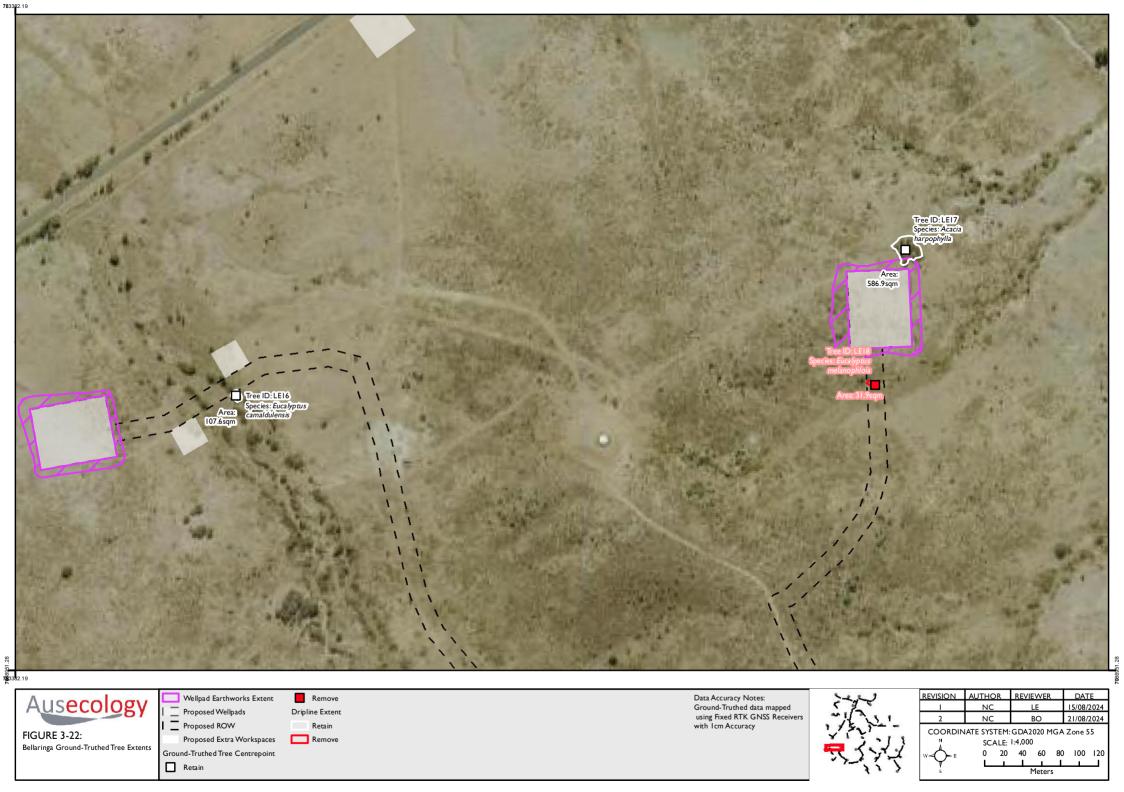


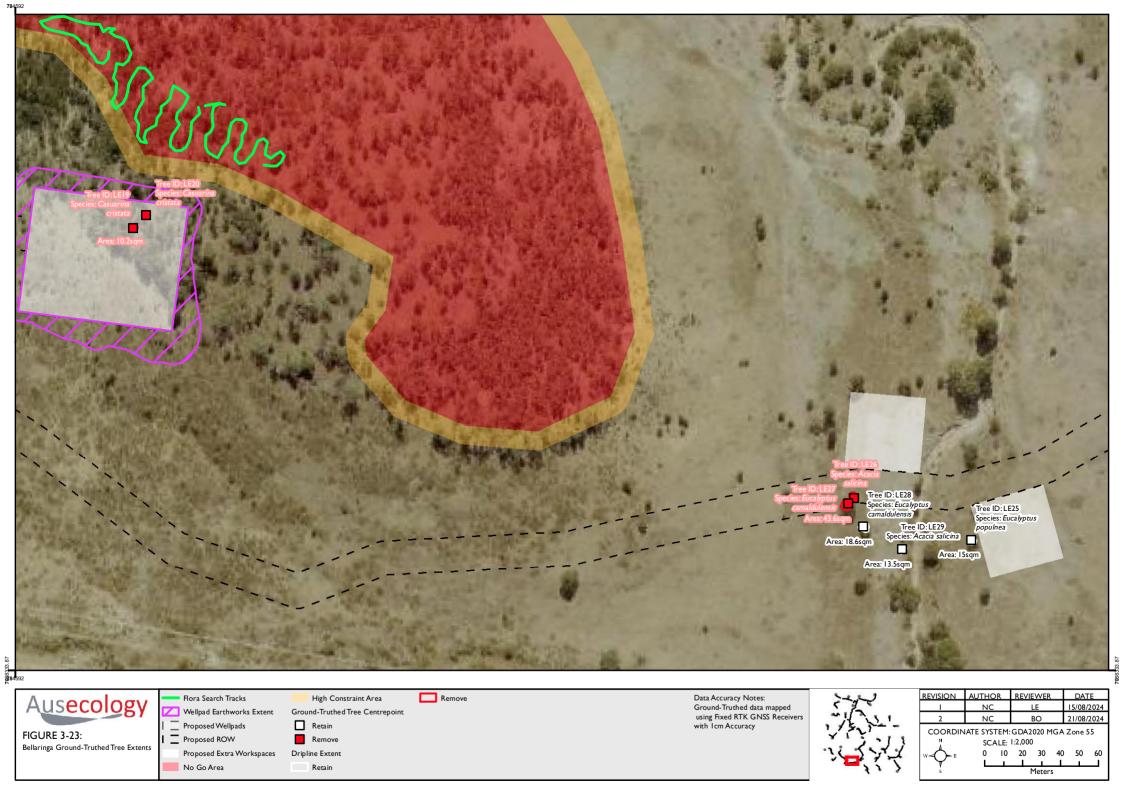


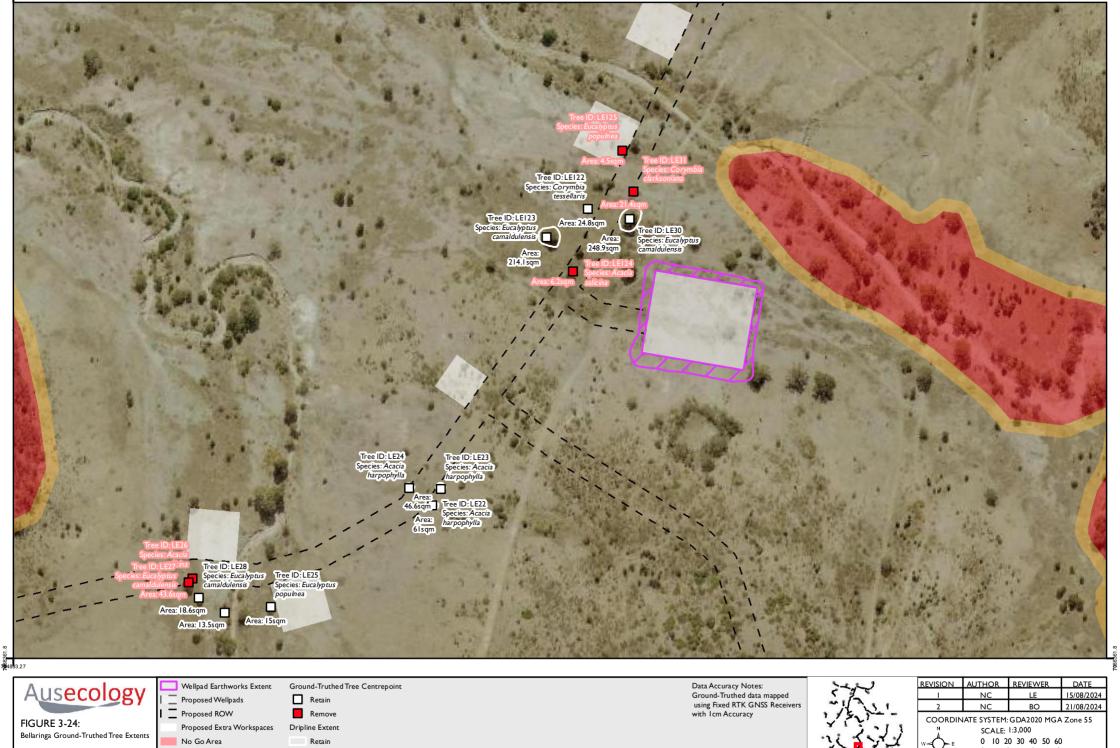








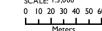


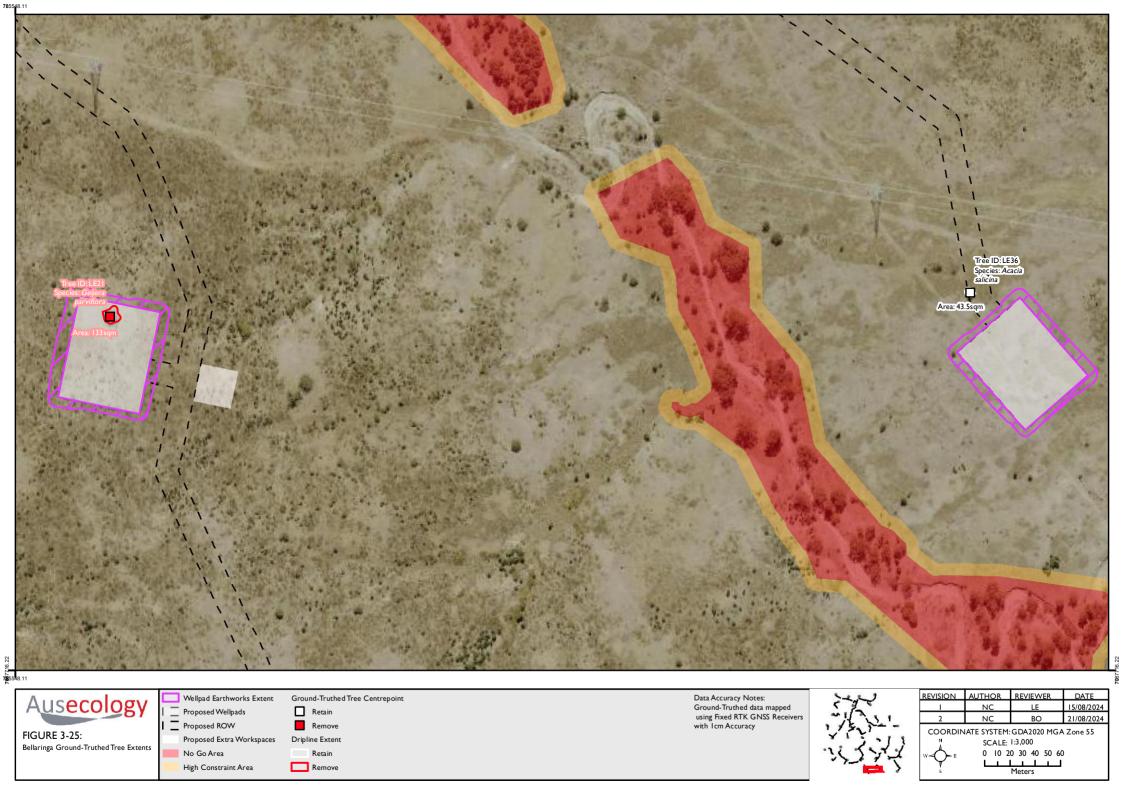


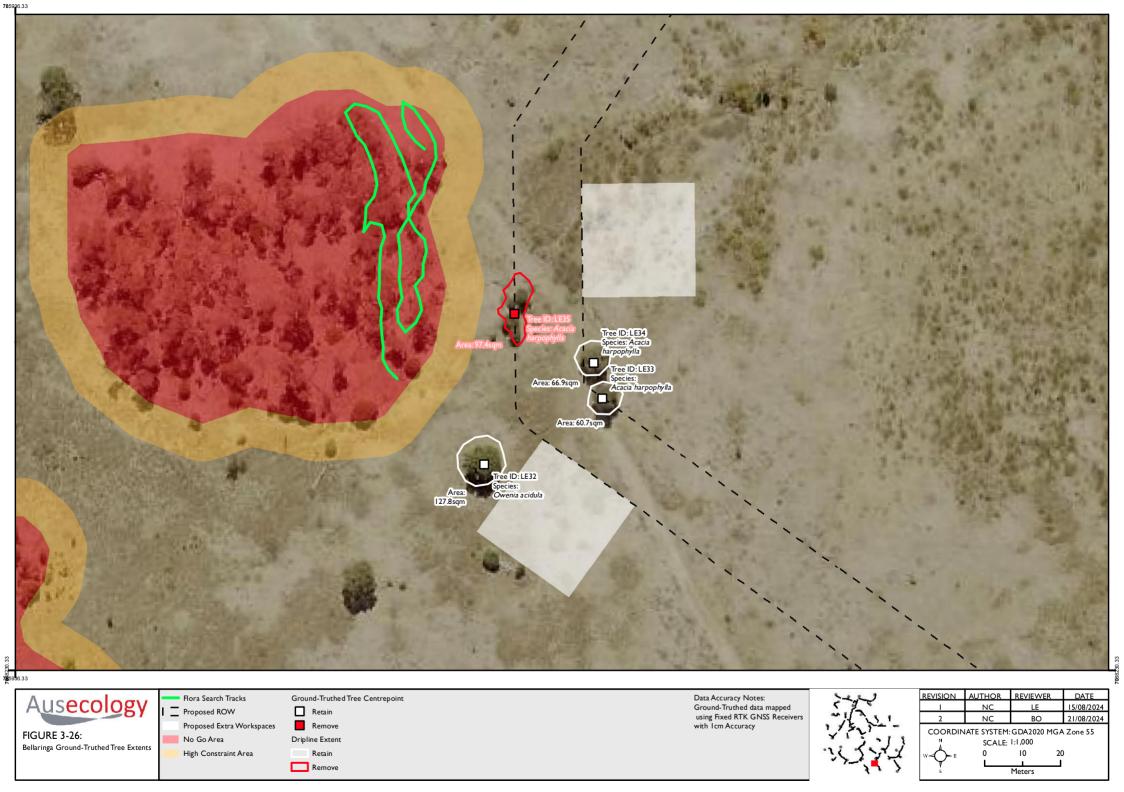
Bellaringa Ground-Truthed Tree Extents No Go Area High Constraint Area

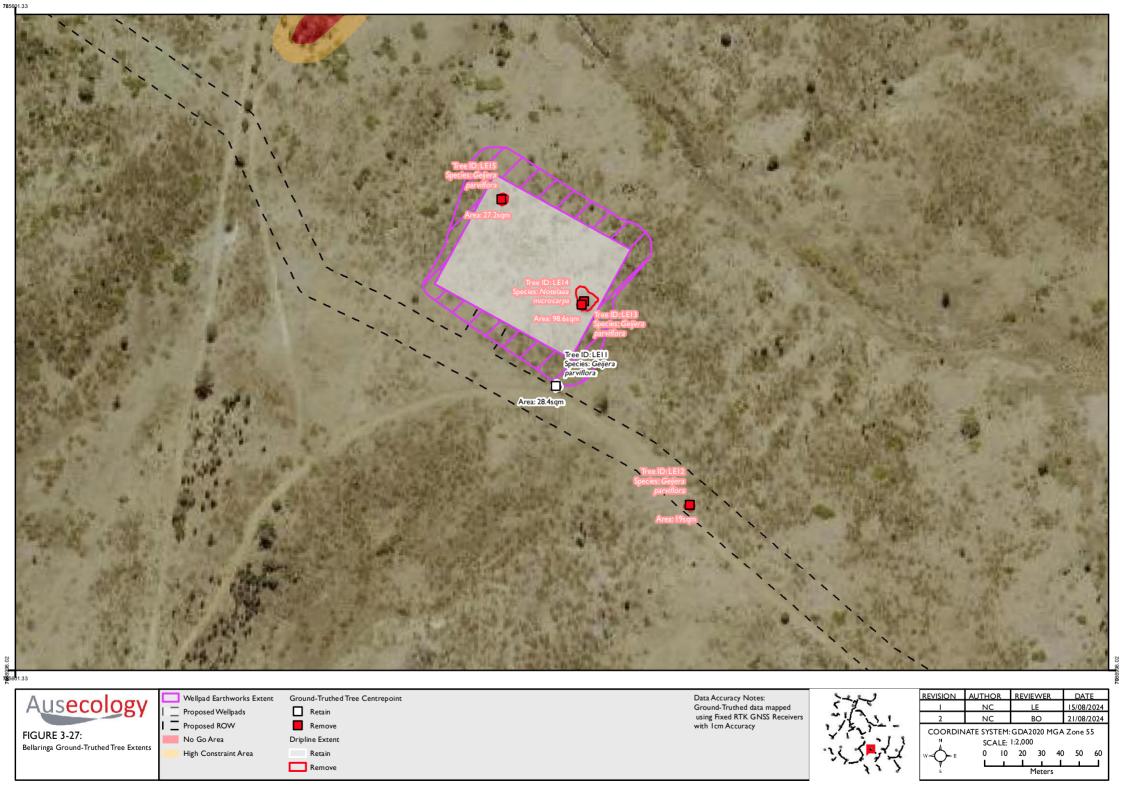
Retain Remove

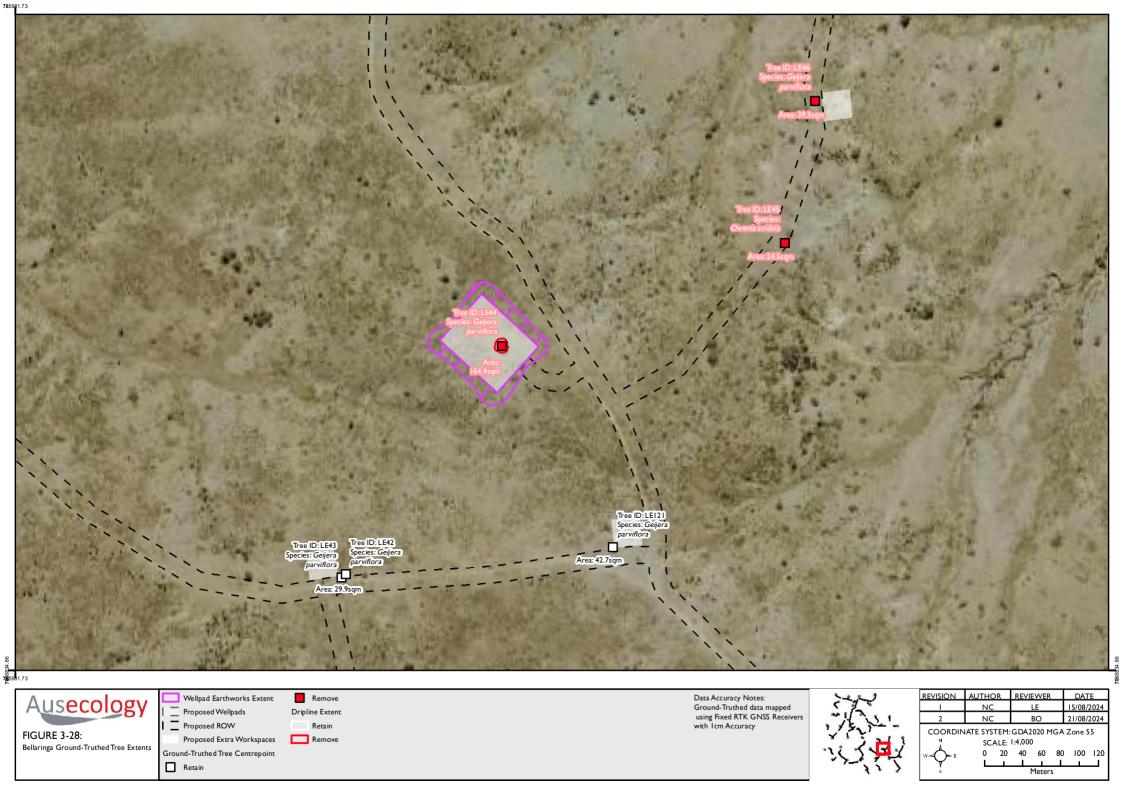


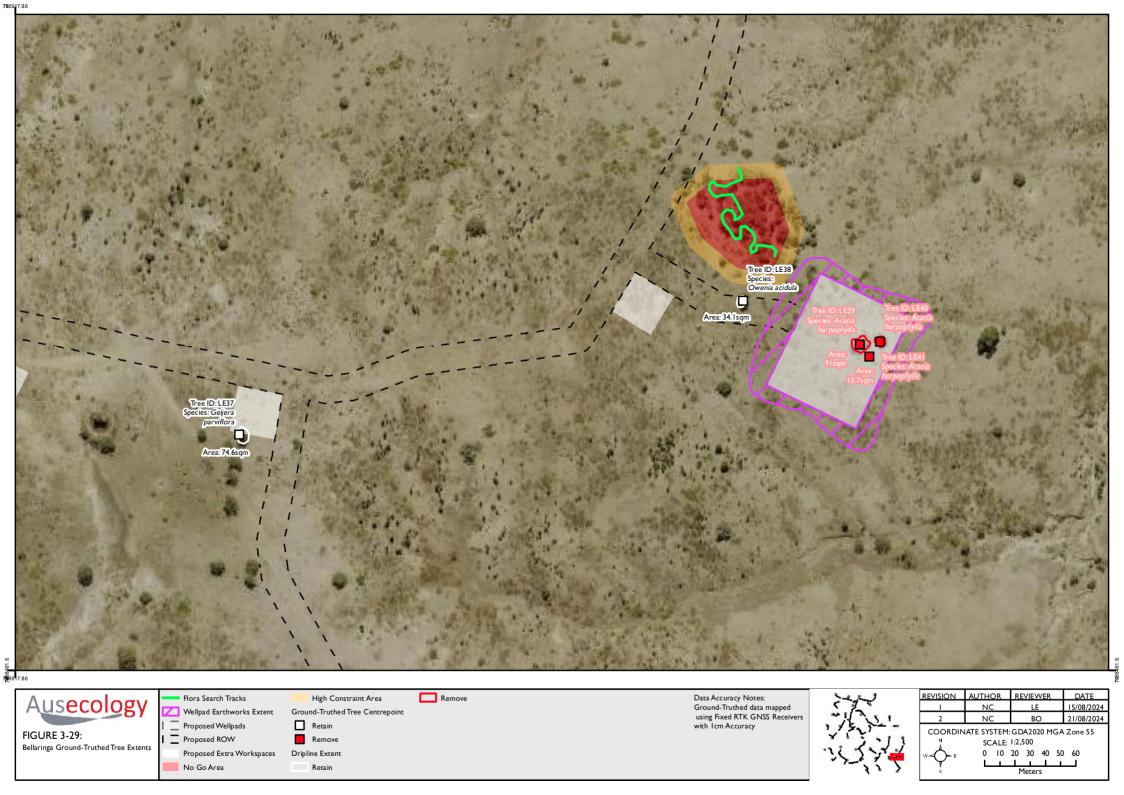












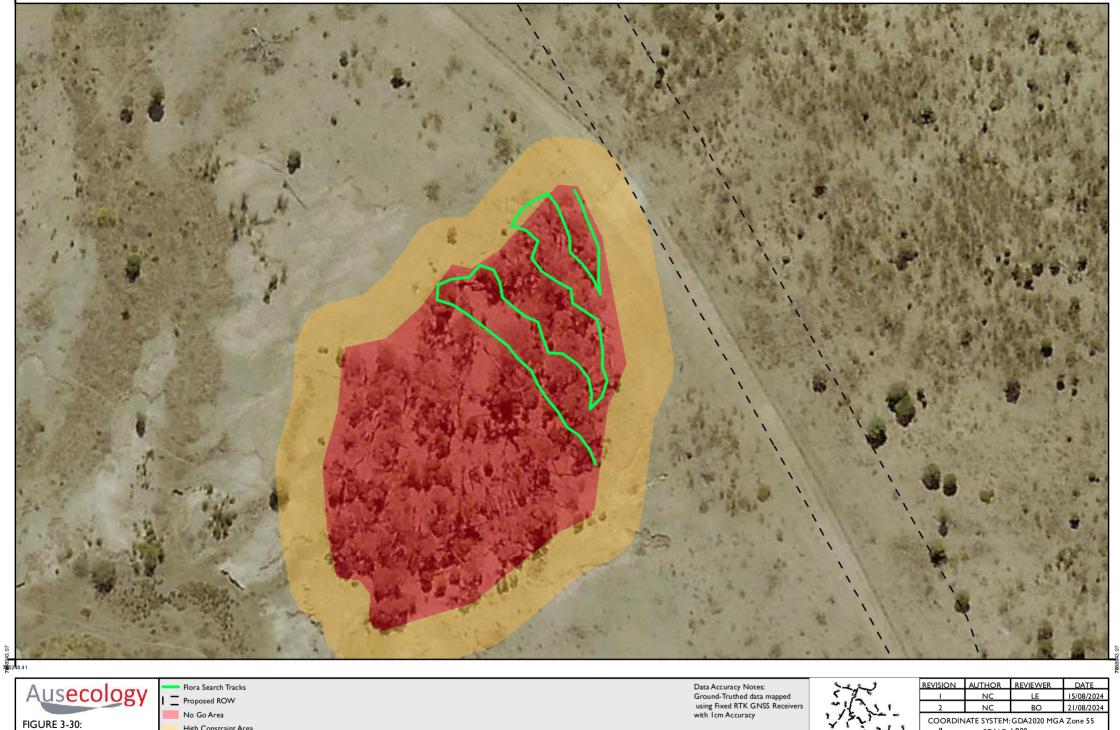
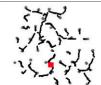


FIGURE 3-30: High Constraint Area Bellaringa Ground-Truthed Tree Extents



COORDINATE SYSTEM: GDA2020 MGA Zone 55

N SCALE: 1:800





4 Discussion

The surveys on the Bellaringa property found that the project impacts to koala dispersal habitat would be minimal, with a total of 0.30 ha (2955.2 m²) to be potentially cleared. This impact is across the approximately 92 ha disturbance footprint on the property, including wellpads, gathering, workspaces and laydowns. The majority of the impact footprint is located within predominantly cleared agricultural areas and Senex has actively avoided patches of remnant and regrowth vegetation, as well as individual paddock trees, resulting in retaining at least 0.64 ha (or 6446.4 m²) in close proximity to the alignment. In all cases, trees are retained within close proximity to those that are unable to be avoided and the clearing of 0.30 ha 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 the 30m buffer. 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 should undertake a preclearance survey across the disturbance footprint to identify habitat features prior to clearing, and be present during clearing works to check habitat features and relocate fauna, and where possible habitat features in order to minimise impacts to fauna



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

Senex

ATLAS Stage 3 – ATLAS Pre-clearance Survey Report Bellaringa Wells and Gathering August 2024



Appendix A – Fauna records

Results of the fauna spotted during the time surveying the property and the GPS location where spotted.

Common Name	Scientific Name	Latitude, Longitude
striated pardalote	Pardalotus striatus	-26.264730, 149.845208
pied currawong	Strepera graculina	-26.292307, 149.858135
brown falcon	Falco berigora	-26.294173, 149.850475
noisy miner	Manorina melanocephala	-26.261824, 149.845269
wedge-tailed eagle	Aquila audax	-26.261824, 149.845269
mistletoebird	Dicaeum hirundinaceum	-26.280372, 149.858808
rufous whistler	Pachycephala rufiventris	-26.294173, 149.850475
sulphur-crested cockatoo	Cacatua galerita	-26.294173, 149.850475
black-faced cuckoo-shrike	Coracina novaehollandiae	-26.292307, 149.858135
grey fantail	Rhipidura albiscapa	-26.280372, 149.858808
willie wagtail	Rhipidura leucophrys	-26.294173, 149.850475
little shrike-thrush	Colluricincla megarhyncha	-26.294173, 149.850475
brown gerygone	Gerygone mouki	-26.275695, 149.868475
crested pigeon	Ocyphaps lophotes	-26.293241, 149.875135
eastern grey kangaroo	Macropus giganteus	-26.280372, 149.858808



Appendix B – Fauna habitat recorded

Habitat type	Latitude, Longitude	Photo
Stick nest	-26.28701785, 149.8471746	
Stick nest	-26.2711082, 149.8445483	No photo
Pardalote burrows in bank	-26.26478632, 149.8451892	
Stick nest	-26.27081501, 149.8429162	