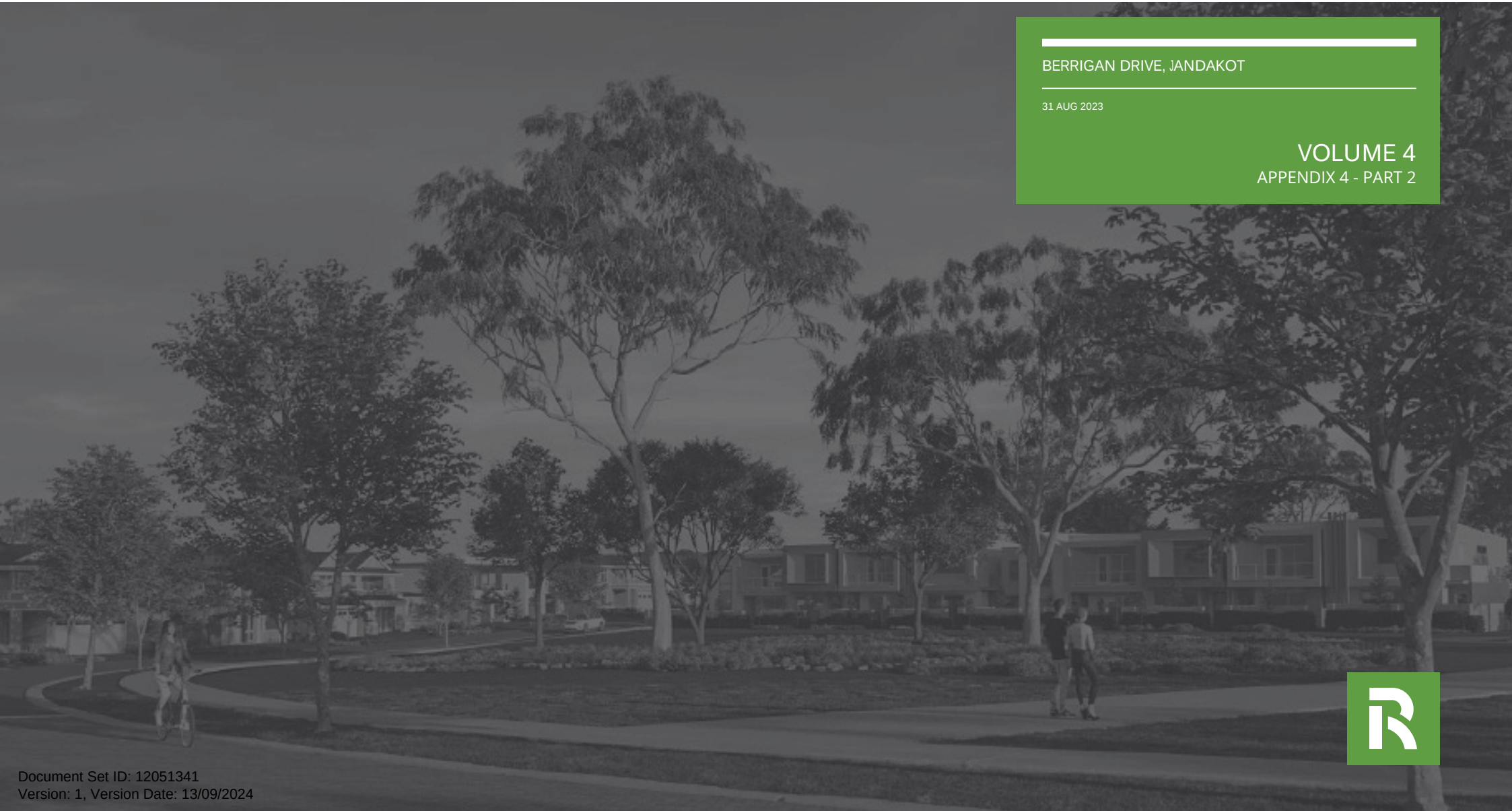
GLEN IRIS ESTATE

STRUCTURE PLAN



BERRIGAN DRIVE, JANDAKOT

31 AUG 2023

VOLUME 4
APPENDIX 4 - PART 2

Attachment A

Tree Inventory Data and Photos

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1	*Eucalyptus marginata*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.75	Yes
2	*Eucalyptus marginata*	1	10-15	5-10	Poor	Mature	15-25	Medium	0.67	Yes
3	*Eucalyptus marginata*	1	5-10	5-10	Poor	Mature	15-25	Low	0.61	Yes
4	*Eucalyptus marginata*	1	5-10	5-10	Poor	Mature	5-15	Low	0.68	Yes
5	*Eucalyptus marginata*	1	5-10	5-10	Poor	Mature	5-15	Low	0.89	Yes
6	*Eucalyptus marginata*	1	5-10	5-10	Poor	Mature	5-15	Low	0.86	Yes
7	*Eucalyptus marginata*	1	10-15	5-10	Poor	Mature	5-15	Medium	1.05	Yes
8	*Eucalyptus marginata*	1	10-15	5-10	Average	Mature	15-25	Medium	0.81	Yes
9	*Eucalyptus marginata*	1	5-10	5-10	Average	Mature	15-25	Low	0.58	Yes
10	*Eucalyptus marginata*	1	10-15	5-10	Average	Mature	15-25	Medium	0.87	Yes
11	*Eucalyptus marginata*	1	5-10	5-10	Excellent	Mature	25+	Medium	0.93	Yes
N/A	*Melaleuca sp.*	1	5-10	10-15	Good	Mature	25+	High	0.2	No
12	*Melaleuca rhaphiophylla*	1	1-5	1-5	Poor	Mature	0-5	Low	0.6	No
13	*Eucalyptus grandis*	1	20-25	15-20	Good	Mature	25+	High	1	No
14	*Eucalyptus camaldulensis*	1	15-20	5-10	Good	Semi-mature	15-25	Medium	0.4	No
15	*Eucalyptus camaldulensis*	1	5-10	10-15	Average	Semi-mature	15-25	Low	0.3	No
16	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Semi-mature	15-25	Low	0.55	No
17	*Corymbia maculata*	1	5-10	1-5	Good	Juvenile	25+	Low	0.15	No
18	*Corymbia maculata*	1	15-20	10-15	Average	Semi-mature	15-25	Medium	0.55	No
22	*Eucalyptus robusta*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.2	No
23	*Eucalyptus grandis*	1	20-25	10-15	Average	Semi-mature	15-25	Medium	0.5	No
24	*Eucalyptus grandis*	1	10-15	1-5	Poor	Juvenile	5-15	Low	0.2	No
25	*Eucalyptus robusta*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.25	No
26	*Eucalyptus grandis*	1	15-20	1-5	Average	Juvenile	15-25	Low	0.25	No
27	*Eucalyptus grandis*	1	15-20	5-10	Average	Semi-mature	25+	Medium	0.45	No
28	*Eucalyptus grandis*	1	5-10	1-5	Average	Juvenile	25+	Low	0.25	No
29	*Eucalyptus grandis*	1	5-10		Average	Juvenile	25+	Low	0.25	No
30	*Eucalyptus grandis*	1	20-25	15-20	Average	Mature	15-25	Medium	0.75	No
31	*Eucalyptus grandis*	1	20-25	10-15	Average	Mature	15-25	Medium	0.6	No
32	*Eucalyptus camaldulensis*	1	5-10	5-10	Average	Juvenile	25+	Low	0.4	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
33	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	25+	Low	0.3	No
34	*Eucalyptus grandis*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
38	*Erythrina sykseii*	1	10-15	10-15	Average	Mature	15-25	Medium	0.75	No
39	*Platanus x acerifolia*	1	10-15	5-10	Average	Mature	15-25	Low	0.5	No
40	*Melaleuca quinquenervia*	15	10-15	5-10	Average	Semi-mature	15-25	Low	0.4	No
41	*Melaleuca quinquenervia*	1	10-15	10-15	Good	Mature	25+	Medium	0.75	No
42	*Melaleuca quinquenervia*	1	5-10	5-10	Average	Semi-mature	25+	Low	0.55	No
43	*Melia azaderach*	1	10-15	5-10	Average	Semi-mature	25+	Low	0.45	No
44	*Erythrina sykseii*	1	10-15	10-15	Average	Mature	15-25	Medium	0.7	No
58	*Morus alba*	1	1-5	1-5	Average	Mature	15-25	Low	0.25	No
59	*Ficus microcarpa*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.5	No
60	*Ficus microcarpa*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.5	No
61	*Ficus microcarpa*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.55	No
62	*Ficus microcarpa*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.75	No
63	*Robinia pseudoacacia 'umbraculifera'*	6	1-5	1-5	Poor	Semi-mature		Low	0.2	No
64	*Tipuana tipu*	2	5-10	5-10	Poor	Semi-mature	0-5	Low	0.25	No
65	*Ulmus parvifolia*	1	5-10	1-5	Dead	Juvenile	0-5	Low	0.25	No
66	*Tipuana tipu*	5	5-10	5-10	Poor	Juvenile	0-5	Low	0.25	No
67	*Tipuana tipu*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.35	No
68	*Pheonix canariensis*	1	5-10	1-5	Average	Mature	15-25	Medium	0.6	No
69	*Schefflera actinophylla*	1	5-10	5-10	Average	Mature	5-15	Low	0.6	No
70	*Eucalyptus citriodora*	1	15-20	10-15	Average	Mature	5-15	High	0.75	No
71	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Mature	5-15	Low	0.55	No
72	*Hibiscus tiliaceus*	1	10-15	10-15	Average	Mature	15-25	Low	0.65	No
73	*Eucalyptus citriodora*	1	15-20	10-15	Average	Semi-mature	15-25	Medium	0.55	No
74	*Lagunaria patersonia*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.2	No
75	*Tipuana tipu*	4	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
76	*Robinia pseudoacacia 'umbraculifera'*	5	1-5	1-5	Average	Semi-mature	5-15	Low	0.2	No
77	*Robinia pseudoacacia 'umbraculifera'*	8	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
78	*Ficus microcarpa*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.5	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
79	*Ficus microcarpa*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.45	No
80	*Ficus microcarpa*	1	5-10	5-10	Average	Semi-mature	25+	Medium	0.35	No
81	*Schinus molle*	1	1-5	1-5	Average	Semi-mature	5-15	Low	0.25	No
82	*Ficus microcarpa*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
83	*Ficus microcarpa*	3	1-5	1-5	Poor	Juvenile	0-5	Low	0.2	No
84	*Allocasuarina sp.*	8	15-20	5-10	Good	Mature	25+	Medium	0.65	No
85	*Pheonix canariensis*	1	5-10	5-10	Average	Juvenile	25+	Low	0.8	No
86	*Eucalyptus camaldulensis*	1	20-25	5-10	Average	Semi-mature	25+	Medium	0.5	No
87	*Agonis flexuosa*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
88	*Cupressus sp.*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.25	No
89	*Syagrus romanzoffiana*	1	1-5	1-5	Poor	Juvenile	5-15	Low	0.2	No
90	*Syagrus romanzoffiana*	1	5-10	1-5	Average	Semi-mature	15-25	Low	0.35	No
91	*Melaleuca rhaphiophylla*	1	5-10	10-15	Average	Mature	15-25	High	0.8	No
92	*Unknown*	1	10-15	5-10	Average	Mature	15-25	Medium	0.5	No
93	*Banksia sp.*	1	1-5	1-5	Average	Semi-mature	15-25	Low	0.3	No
94	*Melaleuca rhaphiophylla*	4	1-5	1-5	Good	Semi-mature	25+	Medium	0.4	No
95	*Eucalyptus grandis*	1	20-25	15-20	Good	Mature	25+	High	1.2	No
96	*Ficus microcarpa*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.5	No
97	*Acacia saligna*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.4	No
98	*Schinus terebinthifolia*	1	1-5	5-10	Average	Juvenile	15-25	Low	0.3	No
99	*Acacia sp.*	1	1-5	5-10	Average	Semi-mature	15-25	Low	0.3	No
100	*Banksia attenuata*	1	1-5	5-10	Poor	Semi-mature	0-5	Low	0.45	No
101	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.45	No
102	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	25+	Low	0.45	No
103	*Acacia sp.*	1	1-5	5-10	Average	Semi-mature	15-25	Low	0.25	No
104	*Aruacaria columnaris*	1	5-10	1-5	Average	Juvenile	25+	Low	0.2	No
105	*Eucalyptus sp.*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.4	No
106	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.3	No
107	*Eucalyptus camaldulensis*	1	10-15	1-5	Average	Juvenile	15-25	Low	0.3	No
108	*Eucalyptus camaldulensis*	1	5-10	1-5	Good	Juvenile	25+	Medium	0.2	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
109	*Eucalyptus grandis*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
110	*Tipuana tipu*	1	1-5	5-10	Average	Semi-mature	15-25	Low	0.3	No
111	*Eucalyptus platypus*	1	1-5	1-5	Good	Juvenile	25+	Low	0.15	No
112	*Eucalyptus camaldulensis*	1	10-15	1-5	Good	Juvenile	25+	Medium	0.25	No
113	*Eucalyptus cladocalyx*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
114	*Olea europaea*	1	1-5	1-5	Good	Semi-mature	15-25	Low	0.25	No
115	*Ficus microcarpa*	1	1-5	1-5	Average	Juvenile	25+	Low	0.35	No
116	*Aruacaria heterophylla*	1	5-10	1-5	Average	Juvenile	25+	Medium	0.4	No
117	*Eucalyptus citriodora*	1	15-20	5-10	Average	Semi-mature	25+	Low	0.35	No
118	*Eucalyptus citriodora*	1	15-20	5-10	Good	Semi-mature	25+	High	0.5	No
119	*Eucalyptus citriodora*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.35	No
120	*Eucalyptus citriodora*	1	15-20	10-15	Good	Semi-mature	25+	High	0.5	No
121	*Ficus microcarpa*	1	1-5	1-5	Average	Semi-mature	15-25	Low	0.25	No
122	*Ficus microcarpa*	1	5-10	5-10	Good	Semi-mature	25+	Low	0	No
123	*Eucalyptus citriodora*	1	10-15	5-10	Average	Juvenile	25+	Medium	0.3	No
124	*Eucalyptus citriodora*	1	5-10	1-5	Good	Juvenile	25+	Medium	0.2	No
125	*Eucalyptus citriodora*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.3	No
126	*Tipuana tipu*	1	1-5	1-5	Poor	Juvenile	0-5	Low	0.2	No
127	*Ulmus parvifolia*	8	1-5	5-10	Average	Juvenile	5-15	Low	0.2	No
128	*Corymbia maculata*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.45	No
129	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	High	0.5	No
130	*Corymbia maculata*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.45	No
131	*Olea europaea*	1	1-5	1-5	Average	Semi-mature	15-25	Low	0.2	No
132	*Jacaranda mimosifolia*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.2	No
133	*Acacia sp.*	1	5-10	5-10	Poor	Mature	0-5	Low	0.3	No
134	*Cupressus sp.*	3	1-5	1-5	Poor	Semi-mature	0-5	Low	0.35	No
135	*Eucalyptus citriodora*	1	15-20	10-15	Average	Semi-mature	15-25	Medium	0.5	No
136	*Eucalyptus grandis*	1	15-20	10-15	Average	Semi-mature	25+	Medium	0.8	No
137	*Eucalyptus sp.*	1	1-5	1-5	Average	Juvenile	15-25	Low	0.1	No
138	*Eucalyptus cladocalyx*	1	5-10	1-5	Good	Juvenile	25+	Low	0.15	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
139	*Eucalyptus camaldulensis*	1	10-15	1-5	Average	Juvenile	25+	Medium	0.3	No
140	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.4	No
141	*Ficus microcarpa*	1	1-5	5-10	Average	Juvenile	15-25	Low	0.3	No
142	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No
143	*Cupressus sp.*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.3	No
144	*Acacia sp.*	1	1-5	1-5	Average	Semi-mature	15-25	Low	0.2	No
145	*Cupressus sp.*	1	1-5	1-5	Average	Semi-mature	5-15	Low	0.3	No
146	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No
147	*Cupressus sp.*	1	1-5	1-5	Average	Semi-mature	5-15	Low	0.3	No
148	*Eucalyptus grandis*	1	15-20	10-15	Average	Semi-mature	25+	Medium	0.75	No
149	*Ficus microcarpa*	1	1-5	1-5	Good	Juvenile	25+	Medium	0.2	No
150	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No
151	*Acacia sp.*	1	1-5	10-15	Average	Mature	5-15	Low	0.4	No
152	*Cupressus sp.*	1	1-5	1-5	Poor	Semi-mature	0-5	Low	0.2	No
153	*Grevillea robusta*	1	5-10	1-5	Good	Juvenile	15-25	Medium	0.2	No
154	*Banksia attenuata*	1	5-10	5-10	Average	Semi-mature	5-15	Medium	0.45	No
155	*Acacia sp.*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.25	No
156	*Aruacaria heterophylla*	1	5-10	1-5	Good	Juvenile	25+	Medium	0.25	No
157	*Cupressus sp.*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.3	No
158	*Eucalyptus leucoxylon*	1	5-10	10-15	Average	Mature	5-15	Low	0.55	No
159	*Erythrina sykseii*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.6	No
160	*Ficus microcarpa*	1	5-10	10-15	Good	Semi-mature	25+	Medium	0.6	No
161	*Eucalyptus camaldulensis*	1	10-15	1-5	Average	Juvenile	25+	Medium	0.25	No
162	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Semi-mature	25+	Medium	0.45	No
163	*Eucalyptus platypus*	1	1-5	1-5	Good	Juvenile	25+	Low	0.15	No
164	*Ulmus parvifolia*	1	5-10	10-15	Good	Mature	15-25	Medium	0.35	No
165	*Syagrus romanzoffiana*	1	10-15	1-5	Average	Semi-mature	15-25	Low	0.3	No
166	*Eucalyptus camaldulensis*	1	5-10	10-15	Average	Semi-mature	15-25	Low	0.75	No
167	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.35	No
168	*Ulmus parvifolia*	4	1-5	1-5	Average	Juvenile	15-25	Low	0.2	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
169	*Eucalyptus sp.*	1	5-10	1-5	Average	Juvenile	25+	Low	0.15	No
170	*Eucalyptus camaldulensis*	1	10-15	10-15	Poor	Semi-mature	5-15	Low	0.5	No
171	*Eucalyptus camaldulensis*	1	10-15	5-10	Poor	Semi-mature	5-15	Low	0.35	No
172	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	Low	0.5	No
176	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.3	No
177	*Eucalyptus camaldulensis*	1	1-5	1-5	Good	Juvenile	25+	Low	0.1	No
178	*Eucalyptus camaldulensis*	3	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
179	*Fraxinus ornus*	1	1-5	1-5	Average	Juvenile		Low	0.1	No
180	*Callistemon sp.*	1	1-5	1-5	Poor	Juvenile	0-5	Low	0.1	No
181	*Eucalyptus camaldulensis*	6	5-10	1-5	Average	Juvenile	15-25	Low	0.25	No
182	*Melaleuca rhaphiophylla*	1	1-5	1-5	Average	Mature	5-15	Low	0.6	No
183	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	Medium	0.6	No
184	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Mature	15-25	Low	0.65	No
185	*Eucalyptus camaldulensis*	1	15-20	5-10	Average	Mature	15-25	Low	0.55	No
186	*Eucalyptus camaldulensis*	1	5-10	10-15	Average	Juvenile	5-15	Low	0.35	No
187	*Ficus microcarpa*	1	10-15	10-15	Good	Mature	25+	Medium	0.75	No
188	*Eucalyptus camaldulensis*	1	15-20	10-15	Good	Mature	25+	High	0.75	No
189	*Platanus x acerifolia*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
190	*Eucalyptus camaldulensis*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.6	No
191	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
192	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
193	*Eucalyptus camaldulensis*	1	20-25	10-15	Average	Mature	15-25	Medium	0.65	No
194	*Eucalyptus camaldulensis*	1	1-5	1-5	Poor	Semi-mature	5-15	Low	0.4	No
195	*Eucalyptus camaldulensis*	1	10-15	1-5	Average	Juvenile	25+	Low	0.3	No
196	*Ficus carica*	1	1-5	1-5	Good	Semi-mature	15-25	Low	0.2	No
197	*Eucalyptus camaldulensis*	1	10-15	1-5	Average	Juvenile	25+	Low	0.25	No
198	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Semi-mature	25+	Low	0.35	No
199	*Platanus x acerifolia*	1	15-20	10-15	Excellent	Mature	25+	High	0.6	No
200	*Syzygium smithii*	1	10-15	5-10	Excellent	Mature	25+	Low	0.4	No
201	*Eucalyptus patens*	1	5-10	5-10	Average	Mature	5-15	Medium	0.5	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
202	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Mature	5-15	Medium	0.5	No
203	*Eucalyptus globulus*	1	15-20	10-15	Good	Mature	25+	High	1.2	No
204	*Archontophoenix cunninghamiana*	1	5-10	1-5	Excellent	Semi-mature	25+	Low	0.2	No
205	*Lagerstroemia indica*	1	1-5	5-10	Good	Semi-mature	15-25	Low	0.2	No
206	*Fraxinus sp.*	1	5-10	5-10	Poor	Mature	0-5	Low	0.3	No
207	*Ulmus parvifolia*	1	1-5	1-5	Good	Juvenile	15-25	Low	0.2	No
208	*Eucalyptus citriodora*	1	20-25	10-15	Excellent	Mature	25+	High	0.7	No
209	*Eucalyptus camaldulensis*	1	15-20	15-20	Good	Mature	25+	High	1.2	No
210	*Syagrus romanzoffiana*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.3	No
211	*Eucalyptus citriodora*	1	5-10	5-10	Good	Juvenile	25+	Medium	0.4	No
212	*Jacaranda mimosifolia*	1	5-10	5-10	Good	Semi-mature	15-25	Medium	0.2	No
213	*Syagrus romanzoffiana*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.25	No
214	*Tipuana tipu*	1	5-10	5-10	Excellent	Semi-mature	25+	Low	0.4	No
215	*Ulmus parvifolia*	1	5-10	5-10	Good	Mature	25+	Medium	0.4	No
216	*Erythrina sykseii*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.6	No
217	*Ficus sp.*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.6	No
218	*Cinnamomum camphora*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.6	No
219	*Melaleuca rhaphiophylla*	1	1-5	1-5	Average	Juvenile	15-25	Low	0.2	No
220	*Agonis flexuosa*	1	10-15	10-15	Good	Mature	25+	High	0.8	No
221	*Eucalyptus sp.*	1	5-10	5-10	Good	Semi-mature	15-25	Medium	0.4	No
222	*Eucalyptus sp.*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.4	No
223	*Poplar lombardi*	1	10-15	1-5	Excellent	Semi-mature	15-25	Low	0.4	No
224	*Cinnamomum camphora*	1	1-5	1-5	Good	Juvenile	15-25	Low	0.2	No
225	*Ficus microcarpa*	1	1-5	1-5	Good	Juvenile	25+	Low	0.35	No
226	*Jacaranda mimosifolia*	1	1-5	1-5	Average	Juvenile	15-25	Low	0.2	No
227	*Araucaria heterophylla*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.3	No
228	*Cinnamomum camphora*	1	1-5	1-5	Good	Juvenile	25+	Low	0.2	No
229	*Unknown*	1	10-15	10-15	Excellent	Semi-mature	25+	High	0.5	No
230	*Syagrus romanzoffiana*	1	5-10	1-5	Average	Semi-mature	15-25	Low	0.2	No
231	*Syagrus romanzoffiana*	1	10-15	1-5	Average	Semi-mature	15-25	Low	0.2	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
232	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.6	No
233	*Eucalyptus sp.*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.3	No
234	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.5	No
235	*Eucalyptus cladocalyx*	1	15-20	5-10	Good	Mature	25+	Medium	0.6	No
236	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Semi-mature	25+	Medium	0.5	No
237	*Eucalyptus camaldulensis*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.5	No
238	*Eucalyptus camaldulensis*	1	5-10	5-10	Average	Juvenile	25+	Low	0.5	No
239	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Mature	15-25	Medium	0.8	No
240	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	High	0.4	No
241	*Eucalyptus leucoxylon*	1	5-10	10-15	Good	Mature	25+	Medium	0.7	No
242	*Eucalyptus cladocalyx*	1	15-20	10-15	Average	Mature	5-15	Low	0.9	No
243	*Liquidambar styraciflua*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.25	No
244	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	25+	Medium	0.6	No
245	*Pinus radiata*	1	15-20	10-15	Excellent	Mature	25+	High	1.2	No
246	*Banksia attenuata*	1	1-5	1-5	Average	Semi-mature	5-15	Low	0.2	No
247	*Banksia attenuata*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.2	No
248	*Banksia attenuata*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.2	No
249	*Acacia sp.*	1	5-10	10-15	Poor	Mature	5-15	Low	0.7	No
250	*Eucalyptus cladocalyx*	1	5-10	5-10	Poor	Semi-mature	5-15	Low	0.5	No
251	*Tipuana tipu*	1	5-10	5-10	Good	Juvenile	25+	Low	0.4	No
252	*Eucalyptus grandis*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.5	No
253	*Melaleuca rhaphiophylla*	1	5-10	5-10	Average	Semi-mature	15-25	Medium	0.4	No
254	*Banksia attenuata*	1	5-10	1-5	Average	Semi-mature	15-25	Medium	0.3	No
255	*Melaleuca rhaphiophylla*	1	5-10	5-10	Average	Mature	15-25	Low	0.6	No
256	*Acacia sp.*	1	5-10	10-15	Average	Semi-mature	5-15	Low	0.5	No
257	*Eucalyptus marginata*	1	5-10	5-10	Poor	Semi-mature	5-15	Low	0.5	No
258	*Corymbia maculata*	1	15-20	5-10	Good	Semi-mature	25+	High	0.6	No
259	*Corymbia citriodora*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.4	No
260	*Eucalyptus sp.*	1	1-5	1-5	Poor	Juvenile	5-15	Low	0.3	No
261	*Eucalyptus leucoxylon*	1	10-15	5-10	Good	Mature	25+	High	0.6	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
262	*Eucalyptus cladocalyx*	1	15-20	5-10	Average	Mature	15-25	Medium	0.8	No
263	*Eucalyptus citriodora*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.4	No
264	*Eucalyptus camaldulensis*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.4	No
265	*Eucalyptus grandis*	1	15-20	5-10	Average	Semi-mature	25+	Low	0.4	No
266	*Eucalyptus citriodora*	1	15-20	5-10	Excellent	Semi-mature	25+	High	0.4	No
267	*Eucalyptus camaldulensis*	1	20-25	10-15	Average	Mature	15-25	Medium	0.6	No
268	*Eucalyptus citriodora*	1	20-25	5-10	Excellent	Semi-mature	25+	High	0.5	No
269	*Eucalyptus cladocalyx*	1	15-20	10-15	Average	Mature	25+	Medium	0.6	No
270	*Eucalyptus citriodora*	1	20-25	15-20	Good	Mature	25+	High	1	No
271	*Eucalyptus citriodora*	1	20-25	10-15	Excellent	Semi-mature	25+	High	0.7	No
272	*Eucalyptus botryoides*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.4	No
273	*Ulmus parvifolia*	1	1-5	1-5	Average	Juvenile	15-25	Low	0.1	No
274	*Eucalyptus camaldulensis*	1	15-20	15-20	Average	Mature	15-25	Medium	0.9	No
275	*Unknown*	1	5-10	5-10	Average	Semi-mature	5-15	Medium	0.5	No
276	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Semi-mature	5-15	Low	0.6	No
277	*Eucalyptus cladocalyx*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.5	No
278	*Eucalyptus cladocalyx*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.4	No
279	*Eucalyptus grandis*	1	10-15	5-10	Poor	Juvenile	5-15	Low	0.45	No
280	*Eucalyptus citriodora*	1	20-25	5-10	Good	Semi-mature	25+	High	0.5	No
281	*Eucalyptus citriodora*	1	20-25	10-15	Excellent	Mature	25+	High	0.8	No
282	*Agonis flexuosa*	1	1-5	5-10	Average	Juvenile	5-15	Low	0.3	No
283	*Grevillea robusta*	1	5-10	1-5	Good	Juvenile	15-25	Medium	0.2	No
284	*Eucalyptus sp.*	1	5-10	5-10	Good	Semi-mature	15-25	Medium	0.5	No
285	*Agonis flexuosa*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
286	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	25+	High	0.7	No
287	*Agonis flexuosa*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.2	No
288	*Ficus microcarpa*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.4	No
289	*Ficus microcarpa*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.4	No
290	*Eucalyptus grandis*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
291	*Eucalyptus botryoides*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
292	*Corymbia ficifolia*	1	10-15	5-10	Good	Juvenile	15-25	Medium	0.4	No
293	*Eucalyptus citriodora*	1	20-25	15-20	Good	Mature	25+	Medium	1	No
294	*Eucalyptus grandis*	1	20-25	15-20	Good	Mature	25+	High	1	No
295	*Corymbia maculata*	1	15-20	5-10	Good	Semi-mature	25+	High	0.45	No
296	*Allocasuarina sp.*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.6	No
297	*Eucalyptus botryoides*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.5	No
298	*Eucalyptus botryoides*	1	5-10	5-10	Poor	Semi-mature	5-15	Low	0.4	No
299	*Allocasuarina sp.*	1	10-15	1-5	Average	Semi-mature	15-25	Low	0.4	No
300	*Allocasuarina sp.*	1	5-10	1-5	Average	Juvenile	25+	Low	0.3	No
301	*Allocasuarina sp.*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
302	*Allocasuarina sp.*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.4	No
303	*Eucalyptus marginata*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.4	No
304	*Allocasuarina fraseriana*	1	10-15	1-5	Average	Semi-mature	15-25	Low	0.4	No
305	*Eucalyptus patens*	1	5-10	10-15	Average	Mature	5-15	Low	0.8	No
306	*Allocasuarina fraseriana*	1	10-15	5-10	Average	Mature	15-25	Low	0.5	No
307	*Allocasuarina sp.*	1	15-20	5-10	Good	Mature	15-25	Medium	0.8	No
308	*Allocasuarina sp.*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.4	No
309	*Allocasuarina sp.*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.4	No
310	*Melaleuca quinquenervia*	1	5-10	5-10	Poor	Semi-mature	5-15	Low	0.5	No
311	*Melia azaderach*	1	5-10	5-10	Poor	Juvenile	5-15	Low	0.4	No
312	*Corymbia ficifolia*	1	1-5	1-5	Good	Juvenile	15-25	Medium	0.3	No
313	*Melaleuca quinquenervia*	1	5-10	5-10	Good	Mature	25+	Low	0.5	No
314	*Melaleuca quinquenervia*	1	5-10	5-10	Good	Mature	25+	Medium	0.5	No
315	*Melaleuca quinquenervia*	1	5-10	5-10	Good	Mature	15-25	Medium	0.5	No
316	*Melia azaderach*	1	10-15	5-10	Good	Mature	25+	Low	0.6	No
317	*Cupressus sp.*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
318	*Cupressus sp.*	1	1-5	1-5	Poor	Juvenile	5-15	Low	0.2	No
319	*Eucalyptus grandis*	1	20-25	15-20	Excellent	Mature	25+	High	0.9	No
320	*Eucalyptus citriodora*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.6	No
321	*Eucalyptus camaldulensis*	1	15-20	5-10	Average	Semi-mature	25+	Medium	0.6	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
322	*Eucalyptus grandis*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.6	No
323	*Eucalyptus grandis*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.6	No
324	*Eucalyptus citriodora*	1	10-15	1-5	Good	Juvenile	25+	Low	0.2	No
325	*Eucalyptus cladocalyx*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
326	*Eucalyptus cladocalyx*	1	1-5	5-10	Average	Juvenile	5-15	Low	0.2	No
327	*Eucalyptus citriodora*	1	15-20	15-20	Good	Mature	25+	High	0.9	No
328	*Eucalyptus citriodora*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.3	No
329	*Eucalyptus citriodora*	1	20-25	10-15	Excellent	Semi-mature	25+	High	0.5	No
330	*Eucalyptus citriodora*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.6	No
331	*Eucalyptus camaldulensis*	1	15-20	15-20	Average	Mature	15-25	Medium	0.8	No
332	*Melia azaderach*	1	5-10	5-10	Good	Juvenile	25+	Low	0.4	No
333	*Melaleuca quinquenervia*	1	5-10	1-5	Average	Juvenile	25+	Low	0.3	No
334	*Eucalyptus citriodora*	1	10-15	5-10	Excellent	Juvenile	25+	Medium	0.3	No
335	*Melaleuca quinquenervia*	1	5-10	1-5	Good	Juvenile	25+	Medium	0.3	No
336	*Melaleuca quinquenervia*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
337	*Melaleuca quinquenervia*	1	5-10	1-5	Excellent	Juvenile	25+	Low	0.3	No
338	*Melaleuca quinquenervia*	1	5-10	1-5	Excellent	Juvenile	25+	Low	0.3	No
339	*Melaleuca quinquenervia*	10	5-10	1-5	Good	Semi-mature	25+	Medium	0.35	No
340	*Eucalyptus camaldulensis*	1	5-10	1-5	Excellent	Juvenile	25+	Medium	0.3	No
341	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.3	No
342	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
343	*Eucalyptus platypus*	1	1-5	5-10	Good	Juvenile	25+	Low	0.2	No
344	*Eucalyptus camaldulensis*	1	5-10	1-5	Excellent	Juvenile	25+	Low	0.2	No
345	*Olea europaea*	1	1-5	1-5	Good	Semi-mature	15-25	Low	0.2	No
346	*Syagrus romanzoffiana*	4	5-10	1-5	Average	Juvenile	25+	Low	0.3	No
347	*Eucalyptus robusta*	1	10-15	5-10	Good	Juvenile	25+	Low	0.45	No
348	*Melaleuca quinquenervia*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.3	No
349	*Melaleuca quinquenervia*	1	5-10	5-10	Excellent	Semi-mature	25+	Low	0.5	No
350	*Tipuana tipu*	1	5-10	1-5	Average	Juvenile	25+	Low	0.2	No
351	*Eucalyptus robusta*	4	10-15	1-5	Average	Juvenile	15-25	Low	0.3	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
352	*Eucalyptus sp.*	1	15-20	10-15	Good	Mature	25+	High	0.7	No
353	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	25+	Medium	0.5	No
354	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	25+	Medium	0.8	No
355	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	25+	Medium	0.5	No
356	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	25+	Medium	0.6	No
357	*Eucalyptus citriodora*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.55	No
358	*Corymbia maculata*	1	10-15	5-10	Excellent	Juvenile	25+	Medium	0.4	No
359	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
360	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.3	No
361	*Eucalyptus citriodora*	1	20-25	10-15	Excellent	Mature	25+	High	0.8	No
362	*Corymbia ficifolia*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.3	No
363	*Eucalyptus camaldulensis*	1	5-10	5-10	Poor	Juvenile	5-15	Low	0.2	No
364	*Eucalyptus globulus*	1	15-20	10-15	Average	Mature	15-25	Medium	0.7	No
365	*Eucalyptus camaldulensis*	1	5-10	10-15	Average	Mature	15-25	Low	0.5	No
366	*Eucalyptus cladocalyx*	1	15-20	10-15	Average	Mature	15-25	Medium	0.9	No
367	*Eucalyptus globulus*	1	15-20	10-15	Average	Mature	15-25	High	1.5	No
368	*Eucalyptus cladocalyx*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
369	*Eucalyptus cladocalyx*	1	10-15	5-10	Poor	Semi-mature	0-5	Low	0.5	No
370	*Eucalyptus robusta*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
371	*Eucalyptus nicholii*	1	15-20	10-15	Average	Mature	15-25	High	0.9	No
372	*Eucalyptus cladocalyx*	1	15-20	10-15	Average	Mature	15-25	Medium	0.6	No
373	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	25+	Medium	0.9	No
374	*Eucalyptus grandis*	1	15-20	5-10	Average	Mature	5-15	Low	1	No
375	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Mature	15-25	Medium	0.6	No
376	*Melaleuca rhaphiophylla*	1	5-10	5-10	Poor	Mature	5-15	Low	0.4	No
377	*Corymbia maculata*	1	10-15	1-5	Excellent	Semi-mature	25+	Medium	0.4	No
378	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	25+	Medium	0.5	No
379	*Eucalyptus patens*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.4	No
380	*Eucalyptus patens*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.3	No
381	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
382	*Eucalyptus patens*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
383	*Banksia sp.*	1	5-10	5-10	Average	Mature	5-15	Medium	0.5	No
384	*Eucalyptus grandis*	1	15-20	10-15	Average	Mature	15-25	Low	0.7	No
385	*Eucalyptus sp.*	1	5-10	10-15	Poor	Mature	5-15	Low	0.9	No
386	*Eucalyptus leucoxylon*	1	5-10	5-10	Poor	Semi-mature	5-15	Low	0.4	No
387	*Eucalyptus sp.*	1	10-15	10-15	Average	Mature	5-15	Low	0.6	No
388	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.3	No
389	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No
390	*Corymbia maculata*	1	10-15	1-5	Good	Semi-mature	25+	Medium	0.3	No
391	*Eucalyptus botryoides*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
392	*Eucalyptus sp.*	1	10-15	10-15	Average	Mature	5-15	Low	0.5	No
393	*Eucalyptus grandis*	1	15-20	10-15	Excellent	Mature	25+	High	0.7	No
394	*Corymbia maculata*	1	10-15	5-10	Excellent	Juvenile	25+	Medium	0.3	No
395	*Eucalyptus grandis*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.2	No
396	*Acacia sp.*	1	5-10	10-15	Poor	Mature	5-15	Low	0.4	No
397	*Eucalyptus grandis*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
398	*Eucalyptus grandis*	1	5-10	5-10	Poor	Juvenile	5-15	Low	0.2	No
399	*Eucalyptus grandis*	1	10-15	5-10	Excellent	Juvenile	25+	Medium	0.3	No
400	*Eucalyptus sp.*	1	5-10	5-10	Good	Juvenile	25+	Low	0.2	No
401	*Eucalyptus sp.*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.4	No
402	*Eucalyptus sp.*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.4	No
403	*Eucalyptus sp.*	1	10-15	1-5	Average	Semi-mature	15-25	Low	0.4	No
404	*Eucalyptus sp.*	1	15-20	10-15	Average	Mature	25+	Medium	0.6	No
405	*Eucalyptus sp.*	1	15-20	10-15	Excellent	Mature	25+	Medium	0.6	No
406	*Eucalyptus robusta*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.5	No
407	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.5	No
408	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Mature	15-25	Low	0.7	No
409	*Brachychiton populneus*	1	5-10	1-5	Good	Juvenile	15-25	Medium	0.3	No
410	*Eucalyptus camaldulensis*	1	5-10	5-10	Average	Semi-mature	25+	Medium	0.6	No
411	*Eucalyptus citriodora*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.6	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
412	*Eucalyptus sp.*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.5	No
413	*Melia azaderach*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
414	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Mature	15-25	Medium	0.9	No
415	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	Medium	0.8	No
416	*Corymbia citriodora*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.6	No
417	*Corymbia calophylla*	1	5-10	1-5	Excellent	Juvenile	25+	Low	0.2	No
418	*Corymbia citriodora*	1	25+	10-15	Excellent	Mature	25+	High	0.8	No
419	*Eucalyptus robusta*	1	5-10	5-10	Average	Semi-mature	15-25	Medium	0.7	No
420	*Corymbia calophylla*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.2	No
421	*Corymbia calophylla*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.35	No
422	*Eucalyptus sp.*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.3	No
423	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Mature	5-15	Low	0.6	No
424	*Eucalyptus cladocalyx*	1	10-15	10-15	Average	Mature	5-15	Low	0.6	No
425	*Agonis flexuosa*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.4	No
426	*Corymbia calophylla*	1	1-5	1-5	Average	Juvenile	15-25	Low	0.2	No
427	*Eucalyptus camaldulensis*	1	5-10	5-10	Excellent	Juvenile	25+	Medium	0.4	No
428	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No
429	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Semi-mature	15-25	Low	0.5	No
430	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No
431	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.35	No
432	*Eucalyptus camaldulensis*	1	15-20	10-15	Good	Juvenile	25+	Medium	0.4	No
433	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.4	No
434	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.35	No
435	*Ulmus parvifolia*	1	1-5	5-10	Good	Juvenile	15-25	Low	0.2	No
436	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	High	0.7	No
437	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
438	*Corymbia maculata*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
439	*Eucalyptus grandis*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.6	No
440	*Robinia sp.*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
441	*Eucalyptus robusta*	1	10-15	5-10	Good	Mature	25+	High	0.6	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
442	*Corymbia maculata*	1	10-15	5-10	Excellent	Juvenile	25+	Medium	0.2	No
443	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.4	No
444	*Corymbia maculata*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.4	No
445	*Eucalyptus camaldulensis*	1	15-20	10-15	Good	Mature	25+	Medium	0.6	No
446	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.5	No
447	*Eucalyptus grandis*	1	20-25	10-15	Average	Semi-mature	15-25	Medium	0.6	No
448	*Eucalyptus marginata*	1	5-10	5-10	Average	Semi-mature	15-25	Medium	0.5	No
449	*Banksia attenuata*	1	1-5	1-5	Good	Juvenile	25+	Medium	0.2	No
450	*Corymbia maculata*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.4	No
451	*Eucalyptus grandis*	1	10-15	5-10	Poor	Semi-mature	0-5	Low	0.5	No
452	*Corymbia maculata*	1	15-20	5-10	Average	Semi-mature	5-15	Low	0.4	No
453	*Corymbia maculata*	1	15-20	10-15	Good	Semi-mature	15-25	Medium	0.5	No
454	*Eucalyptus grandis*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.5	No
455	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
456	*Allocasuarina fraseriana*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.4	No
457	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	15-25	Medium	0.6	No
458	*Eucalyptus camaldulensis*	1	10-15	10-15	Excellent	Semi-mature	25+	Medium	0.6	No
459	*Eucalyptus leucoxylon*	1	5-10	5-10	Excellent	Semi-mature	25+	Medium	0.5	No
460	*Eucalyptus leucoxylon*	1	10-15	10-15	Excellent	Mature	25+	High	0.8	No
461	*Ficus microcarpa*	1	10-15	5-10	Excellent	Juvenile	25+	Medium	0.4	No
462	*Eucalyptus leucoxylon*	1	10-15	10-15	Excellent	Mature	25+	High	0.6	No
463	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Juvenile	25+	Low	0.3	No
464	*Eucalyptus camaldulensis*	1	10-15	1-5	Good	Juvenile	25+	Medium	0.4	No
465	*Eucalyptus camaldulensis*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
466	*Eucalyptus camaldulensis*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
467	*Ficus microcarpa*	1	5-10	5-10	Good	Semi-mature	25+	Low	0.3	No
468	*Eucalyptus botryoides*	1	15-20	10-15	Average	Mature	15-25	Medium	0.75	No
469	*Eucalyptus cladocalyx*	1	10-15	10-15	Poor	Mature	5-15	Low	0.6	No
470	*Corymbia maculata*	1	15-20	5-10	Excellent	Semi-mature	25+	High	0.45	No
471	*Eucalyptus leucoxylon*	1	5-10	10-15	Excellent	Mature	25+	High	0.7	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
472	*Eucalyptus grandis*	1	20-25	10-15	Average	Mature	15-25	Medium	1	No
473	*Corymbia maculata*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.4	No
474	*Eucalyptus cladocalyx*	1	10-15	10-15	Average	Semi-mature	15-25	Low	0.45	No
475	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Mature	15-25	Medium	0.6	No
476	*Olea europaea*	1	5-10	5-10	Excellent	Semi-mature	15-25	Low	0.3	No
477	*Olea europaea*	1	5-10	5-10	Excellent	Semi-mature	15-25	Low	0.3	No
478	*Lophostemon confertus*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.4	No
479	*Eucalyptus marginata*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.5	No
480	*Eucalyptus grandis*	1	20-25	10-15	Excellent	Mature	25+	High	0.8	No
481	*Eucalyptus grandis*	1	20-25	10-15	Good	Mature	25+	Medium	1	No
482	*Eucalyptus grandis*	1	20-25	10-15	Good	Mature	15-25	Medium	0.7	No
483	*Eucalyptus cladocalyx*	1	20-25	10-15	Excellent	Mature	25+	High	0.75	No
484	*Eucalyptus grandis*	1	20-25	10-15	Good	Mature	15-25	Medium	0.7	No
485	*Unknown*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
486	*Eucalyptus spathulata*	1	5-10	5-10	Poor	Semi-mature	5-15	Low	0.4	No
487	*Araucaria columnaris*	1	10-15	5-10	Excellent	Semi-mature	25+	High	0.4	No
488	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
489	*Corymbia maculata*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.4	No
490	*Eucalyptus cladocalyx*	1	1-5	5-10	Average	Juvenile	5-15	Low	0.3	No
491	*Eucalyptus citriodora*	1	15-20	10-15	Average	Mature	5-15	Low	0.65	No
492	*Lophostemon confertus*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
493	*Eucalyptus citriodora*	1	20-25	10-15	Good	Semi-mature	25+	High	0.6	No
494	*Eucalyptus citriodora*	1	20-25	10-15	Excellent	Mature	25+	High	0.6	No
495	*Corymbia maculata*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.4	No
496	*Eucalyptus sp.*	1	20-25	15-20	Good	Mature	25+	Medium	0.7	No
497	*Corymbia maculata*	1	20-25	15-20	Excellent	Mature	25+	High	0.9	No
498	*Eucalyptus camaldulensis*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.4	No
499	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.4	No
500	*Eucalyptus sp.*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.4	No
501	*Eucalyptus camaldulensis*	1	15-20	10-15	Good	Mature	25+	Medium	0.7	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
502	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.3	No
503	*Banksia attenuata*	1	1-5	5-10	Good	Semi-mature	25+	Medium	0.3	No
504	*Corymbia maculata*	1	10-15	1-5	Good	Semi-mature	25+	Medium	0.4	No
505	*Corymbia maculata*	1	10-15	1-5	Good	Semi-mature	25+	Medium	0.3	No
506	*Eucalyptus robusta*	1	10-15	10-15	Good	Mature	25+	Medium	0.8	No
507	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Mature	15-25	Low	0.5	No
508	*Banksia attenuata*	2	1-5	1-5	Average	Semi-mature	15-25	Low	0.3	No
509	*Corymbia maculata*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.4	No
510	*Angophora costada*	1	10-15	1-5	Excellent	Semi-mature	25+	Medium	0.4	No
511	*Eucalyptus gomphocephala*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.5	No
512	*Banksia attenuata*	2	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
513	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.3	No
514	*Corymbia maculata*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.3	No
515	*Banksia attenuata*	2	5-10	5-10	Average	Mature	0-5	Low	0.5	No
516	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.6	No
517	*Corymbia maculata*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.4	No
518	*Corymbia maculata*	1	10-15	10-15	Excellent	Semi-mature	25+	Medium	0.5	No
519	*Banksia sp.*	1	1-5	1-5	Average	Semi-mature	15-25	Low	0.3	No
520	*Banksia attenuata*	2	1-5	5-10	Average	Semi-mature	5-15	Low	0.4	No
521	*Eucalyptus marginata*	1	10-15	5-10	Average	Mature	5-15	Low	0.6	No
522	*Eucalyptus marginata*	1	5-10	5-10	Poor	Mature	5-15	Low	0.6	No
523	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
524	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.5	No
525	*Jacaranda mimosifolia*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.3	No
526	*Banksia attenuata*	1	1-5	1-5	Poor	Semi-mature	0-5	Low	0.2	No
527	*Banksia attenuata*	2	1-5	5-10	Average	Semi-mature	5-15	Low	0.3	No
528	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.5	No
529	*Corymbia maculata*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.5	No
530	*Banksia attenuata*	10	1-5	1-5	Poor	Semi-mature	5-15	Low	0.2	No
531	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.6	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
532	*Callistemon sp.*	1	1-5	5-10	Good	Semi-mature	15-25	Low	0.2	No
533	*Banksia attenuata*	3	1-5	1-5	Average	Semi-mature	5-15	Low	0.2	No
534	*Corymbia maculata*	1	5-10	1-5	Excellent	Juvenile	25+	Medium	0.4	No
535	*Banksia sp.*	1	1-5	1-5	Average	Semi-mature	5-15	Low	0.3	No
536	*Eucalyptus marginata*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.3	No
537	*Banksia attenuata*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
538	*Unknown*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.2	No
539	*Banksia sp.*	1	5-10	5-10	Good	Mature	15-25	Medium	0.4	No
540	*Banksia attenuata*	4	1-5	1-5	Average	Semi-mature	5-15	Low	0.2	No
541	*Allocasuarina fraseriana*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.4	No
542	*Banksia attenuata*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.2	No
543	*Allocasuarina fraseriana*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.6	No
544	*Allocasuarina fraseriana*	1	5-10	5-10	Average	Mature	5-15	Low	0.8	No
545	*Allocasuarina fraseriana*	1	5-10	5-10	Average	Mature	5-15	Low	0.7	No
546	*Melia azaderach*	1	5-10	5-10	Good	Juvenile	25+	Low	0.3	No
547	*Eucalyptus citriodora*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.5	No
548	*Corymbia ficifolia*	1	5-10	5-10	Excellent	Semi-mature	15-25	Medium	0.5	No
549	*Eucalyptus citriodora*	1	20-25	15-20	Excellent	Mature	25+	High	0.8	No
550	*Eucalyptus camaldulensis*	1	15-20	15-20	Good	Mature	15-25	Medium	0.85	No
551	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	Medium	0.7	No
552	*Eucalyptus camaldulensis*	1	15-20	5-10	Average	Semi-mature	15-25	Low	0.5	No
553	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No
554	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.4	No
555	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	Low	0.7	No
556	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Semi-mature	5-15	Low	0.6	No
557	*Eucalyptus camaldulensis*	1	15-20	5-10	Average	Mature	15-25	Medium	0.5	No
558	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Mature	15-25	Low	0.5	No
559	*Eucalyptus camaldulensis*	1	15-20	10-15	Good	Mature	25+	Medium	0.6	No
560	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	Medium	1.1	No
561	*Eucalyptus camaldulensis*	1	15-20	15-20	Average	Mature	5-15	Low	0.7	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
562	*Eucalyptus marginata*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
563	*Eucalyptus citriodora*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No
564	*Eucalyptus grandis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.4	No
565	*Eucalyptus grandis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.4	No
566	*Corymbia maculata*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.6	No
567	*Allocasuarina fraseriana*	1	10-15	5-10	Poor	Mature	0-5	Low	0.5	No
568	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
569	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
570	*Agonis flexuosa*	1	1-5	5-10	Good	Juvenile	15-25	Low	0.2	No
571	*Schinus molle*	1	5-10	10-15	Good	Mature	15-25	Low	0.7	No
572	*Ficus microcarpa*	1	5-10	10-15	Excellent	Semi-mature	25+	Medium	0.6	No
573	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.3	No
574	*Eucalyptus cladocalyx*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.3	No
575	*Ulmus parvifolia*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.2	No
576	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.45	No
577	*Melia azaderach*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
578	*Eucalyptus leucoxylon*	1	1-5	5-10	Average	Juvenile	15-25	Low	0.2	No
579	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.2	No
580	*Corymbia ficifolia*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.2	No
581	*Corymbia maculata*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.5	No
582	*Eucalyptus cladocalyx*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
583	*Corymbia maculata*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
584	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.3	No
585	*Eucalyptus citriodora*	1	20-25	15-20	Excellent	Mature	25+	High	1	No
586	*Eucalyptus marginata*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
587	*Banksia attenuata*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.2	No
588	*Robinia sp.*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.1	No
589	*Quercus robur*	1	10-15	10-15	Excellent	Juvenile	25+	High	0.4	No
590	*Banksia ilicifolia*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
591	*Eucalyptus robusta*	1	10-15	5-10	Good	Semi-mature	15-25	Medium	0.5	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
592	*Corymbia calophylla*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.4	No
593	*Cupressus sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
594	*Ulmus parvifolia*	1	5-10	10-15	Good	Juvenile	25+	Low	0.3	No
595	*Eucalyptus grandis*	1	20-25	10-15	Average	Mature	15-25	Medium	0.8	No
596	*Corymbia citriodora*	1	15-20	10-15	Good	Mature	15-25	Medium	0.6	No
597	*Angophora costada*	1	10-15	10-15	Excellent	Semi-mature	25+	Medium	0.4	No
598	*Eucalyptus camaldulensis*	1	10-15	1-5	Good	Juvenile	25+	Low	0.3	No
599	*Callistemon sp.*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.2	No
600	*Eucalyptus spathulata*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.2	No
601	*Eucalyptus spathulata*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.2	No
602	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	25+	Medium	0.7	No
603	*Corymbia calophylla*	1	10-15	5-10	Good	Semi-mature	15-25	Medium	0.5	No
604	*Jacaranda mimosifolia*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.2	No
605	*Corymbia maculata*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.5	No
606	*Corymbia citriodora*	1	15-20	5-10	Excellent	Mature	25+	High	0.6	No
607	*Eucalyptus grandis*	1	20-25	15-20	Good	Mature	25+	Medium	1	No
608	*Corymbia calophylla*	1	10-15	10-15	Good	Mature	25+	Medium	0.6	No
609	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
610	*Eucalyptus leucoxylon*	1	5-10	10-15	Excellent	Semi-mature	25+	Medium	0.5	No
611	*Corymbia maculata*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.2	No
612	*Eucalyptus sp.*	1	15-20	10-15	Excellent	Mature	25+	High	0.7	No
613	*Eucalyptus robusta*	1	10-15	10-15	Average	Mature	5-15	Medium	1	No
614	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.35	No
615	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	Low	0.6	No
616	*Banksia attenuata*	1	5-10	5-10	Average	Semi-mature	15-25	Medium	0.3	No
617	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Semi-mature	5-15	Low	0.6	No
618	*Eucalyptus robusta*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.4	No
619	*Eucalyptus sp.*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.5	No
620	*Eucalyptus sp.*	1	15-20	10-15	Good	Mature	25+	Medium	0.65	No
621	*Corymbia maculata*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.4	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
622	*Eucalyptus sp.*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.4	No
623	*Eucalyptus sp.*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.5	No
624	*Eucalyptus sp.*	1	10-15	10-15	Good	Mature	25+	Medium	0.6	No
625	*Banksia ilicifolia*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.3	No
626	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	Medium	0.5	No
627	*Corymbia maculata*	1	15-20	10-15	Good	Mature	15-25	Medium	0.6	No
628	*Eucalyptus sp.*	1	15-20	10-15	Excellent	Mature	25+	High	0.6	No
629	*Eucalyptus sp.*	1	15-20	10-15	Excellent	Mature	15-25	Medium	0.6	No
630	*Eucalyptus sp.*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.4	No
631	*Corymbia maculata*	1	10-15	5-10	Excellent	Juvenile	25+	Low	0.3	No
632	*Corymbia calophylla*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
633	*Corymbia maculata*	1	15-20	10-15	Good	Mature	25+	Medium	0.8	No
634	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	25+	Medium	0.75	No
635	*Eucalyptus sp.*	1	10-15	5-10	Good	Juvenile	25+	Low	0.3	No
636	*Corymbia maculata*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
637	*Eucalyptus leucoxylon*	1	5-10	10-15	Good	Semi-mature	25+	Medium	0.5	No
638	*Eucalyptus nicholii*	1	10-15	5-10	Average	Mature	15-25	Medium	0.6	No
639	*Eucalyptus camaldulensis*	1	10-15	1-5	Average	Juvenile	15-25	Low	0.2	No
640	*Eucalyptus citriodora*	1	10-15	5-10	Poor	Semi-mature	5-15	Low	0.4	No
641	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.2	No
642	*Eucalyptus cladocalyx*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.3	No
643	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
644	*Eucalyptus leucoxylon*	1	5-10	10-15	Good	Mature	25+	Medium	0.5	No
645	*Grevillea robusta*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.2	No
646	*Eucalyptus cladocalyx*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.3	No
647	*Eucalyptus sp.*	1	10-15	1-5	Good	Juvenile	25+	Low	0.3	No
648	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Mature	15-25	Low	0.5	No
649	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
650	*Lophostemon confertus*	1	10-15	5-10	Poor	Juvenile	5-15	Low	0.4	No
651	*Eucalyptus leucoxylon*	1	1-5	5-10	Good	Juvenile	15-25	Low	0.3	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
652	*Eucalyptus cladocalyx*	1	10-15	5-10	Good	Semi-mature	25+	Low	0.45	No
653	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
654	*Corymbia calophylla*	1	5-10	10-15	Good	Semi-mature	25+	Medium	0.55	No
655	*Eucalyptus camaldulensis*	1	15-20	10-15	Good	Mature	25+	High	0.5	No
656	*Corymbia maculata*	1	15-20	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
657	*Eucalyptus camaldulensis*	1	15-20	5-10	Good	Semi-mature	25+	Low	0.4	No
658	*Eucalyptus camaldulensis*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.3	No
659	*Brachychiton populneus*	1	5-10	1-5	Excellent	Juvenile	25+	Medium	0.2	No
660	*Eucalyptus camaldulensis*	1	10-15	10-15	Good	Mature	25+	Medium	0.5	No
661	*Eucalyptus camaldulensis*	1	10-15	10-15	Good	Semi-mature	25+	Low	0.5	No
662	*Eucalyptus cladocalyx*	1	15-20	15-20	Good	Mature	25+	High	0.7	No
663	*Eucalyptus camaldulensis*	1	15-20	5-10	Average	Semi-mature	15-25	Low	0.3	No
664	*Eucalyptus sp.*	1	15-20	10-15	Good	Mature	25+	High	0.7	No
665	*Corymbia maculata*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.45	No
666	*Araucaria columnaris*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
667	*Eucalyptus citriodora*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
668	*Lophostemon confertus*	1	10-15	10-15	Excellent	Mature	25+	Low	0.6	No
669	*Robinia sp.*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.2	No
670	*Eucalyptus sp.*	1	10-15	5-10	Average	Mature	25+	Medium	1	No
671	*Eucalyptus patens*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.5	No
672	*Banksia attenuata*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.35	No
673	*Banksia attenuata*	1	5-10	5-10	Good	Semi-mature	15-25	Medium	0.3	No
674	*Eucalyptus marginata*	1	10-15	10-15	Good	Mature	25+	Medium	0.7	No
675	*Corymbia citriodora*	1	15-20	10-15	Good	Mature	25+	Medium	0.6	No
676	*Corymbia citriodora*	1	15-20	10-15	Good	Mature	25+	Medium	0.7	No
677	*Erythrina sykseii*	1	5-10	5-10	Good	Mature	25+	Low	0.6	No
678	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	15-25	Low	0.55	No
679	*Corymbia citriodora*	1	20-25	10-15	Excellent	Mature	25+	High	0.9	No
680	*Corymbia citriodora*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.4	No
681	*Corymbia citriodora*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.4	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
682	*Corymbia citriodora*	1	15-20	5-10	Average	Semi-mature	15-25	Low	0.45	No
683	*Corymbia citriodora*	1	10-15	1-5	Average	Semi-mature	5-15	Low	0.4	No
684	*Corymbia citriodora*	1	15-20	10-15	Excellent	Mature	25+	High	0.6	No
685	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	25+	Medium	0.6	No
686	*Corymbia maculata*	1	10-15	10-15	Excellent	Mature	25+	High	0.6	No
687	*Eucalyptus nicholii*	1	10-15	10-15	Excellent	Mature	25+	High	0.7	No
688	*Eucalyptus nicholii*	1	5-10	10-15	Average	Mature	25+	Medium	0.6	No
689	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.3	No
690	*Corymbia maculata*	1	15-20	5-10	Poor	Semi-mature	5-15	Low	0.4	No
691	*Eucalyptus nicholii*	1	10-15	10-15	Excellent	Mature	25+	High	0.8	No
692	*Eucalyptus nicholii*	1	10-15	10-15	Good	Mature	25+	Medium	0.6	No
694	*Eucalyptus nicholii*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.4	No
695	*Corymbia maculata*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.4	No
696	*Allocasuarina fraseriana*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
697	*Eucalyptus nicholii*	1	15-20	10-15	Good	Mature	15-25	High	1.3	No
698	*Banksia attenuata*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.3	No
699	*Eucalyptus nicholii*	1	10-15	5-10	Good	Mature	25+	Medium	0.7	No
700	*Banksia ilicifolia*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
701	*Banksia attenuata*	2	5-10	1-5	Average	Semi-mature	5-15	Low	0.3	No
702	*Leptospermum laevigatum*	1	5-10	5-10	Average	Mature	5-15	Low	0.3	No
703	*Eucalyptus nicholii*	1	15-20	5-10	Good	Mature	25+	Medium	0.7	No
704	*Eucalyptus sp.*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.5	No
705	*Cupressus sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
706	*Callistemon sp.*	1	5-10	5-10	Average	Mature	5-15	Low	0.4	No
707	*Cupressus sp.*	1	5-10	5-10	Average	Mature	5-15	Low	0.6	No
708	*Callistemon sp.*	1	1-5	5-10	Average	Mature	5-15	Low	0.4	No
709	*Eucalyptus sideroxylon*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
710	*Melia azaderach*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.2	No
711	*Eucalyptus leucoxylon*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.4	No
712	*Unknown*	1	5-10	5-10	Poor	Mature	0-5	Low	0.7	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
713	*Eucalyptus grandis*	1	15-20	15-20	Excellent	Mature	25+	High	0.8	No
714	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.2	No
715	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
716	*Unknown*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
717	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
718	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.2	No
719	*Eucalyptus leucoxylon*	1	5-10	5-10	Excellent	Semi-mature	25+	Medium	0.2	No
720	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
721	*Eucalyptus leucoxylon*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.35	No
722	*Eucalyptus sideroxylon*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.4	No
723	*Eucalyptus nicholii*	1	5-10	5-10	Excellent	Semi-mature	25+	Medium	0.5	No
724	*Eucalyptus citriodora*	1	10-15	5-10	Excellent	Juvenile	25+	Medium	0.2	No
725	*Corymbia maculata*	1	10-15	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
726	*Eucalyptus camaldulensis*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
727	*Eucalyptus cladocalyx*	1	5-10	1-5	Excellent	Juvenile	25+	Low	0.2	No
728	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	25+	Low	0.3	No
729	*Unknown*	1	5-10	5-10	Poor	Mature	0-5	Low	0.5	No
730	*Eucalyptus camaldulensis*	1	10-15	1-5	Good	Juvenile	25+	Low	0.2	No
731	*Eucalyptus cladocalyx*	1	5-10	5-10	Good	Juvenile	25+	Low	0.2	No
732	*Eucalyptus camaldulensis*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
733	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
734	*Eucalyptus camaldulensis*	2	10-15	5-10	Good	Juvenile	25+	Low	0.2	No
735	*Eucalyptus sideroxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
736	*Eucalyptus camaldulensis*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
737	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.3	No
738	*Eucalyptus camaldulensis*	1	10-15	1-5	Good	Juvenile	25+	Low	0.2	No
739	*Eucalyptus cladocalyx*	1	5-10	5-10	Good	Juvenile	25+	Low	0.2	No
740	*Eucalyptus camaldulensis*	1	15-20	10-15	Good	Mature	25+	Medium	0.5	No
741	*Eucalyptus leucoxylon*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.2	No
742	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.2	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
743	*Banksia attenuata*	1	5-10	5-10	Good	Mature	15-25	Medium	0.3	No
744	*Banksia attenuata*	15	5-10	5-10	Good	Mature	15-25	Medium	0.3	No
745	*Ficus microcarpa*	7	5-10	5-10	Good	Semi-mature	15-25	Medium	0.3	No
746	*Corymbia maculata*	1	10-15	5-10	Good	Mature	25+	Medium	0.4	No
747	*Eucalyptus sideroxylon*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.4	No
748	*Melaleuca quinquenervia*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.5	No
749	*Unknown*	2	5-10	5-10	Poor	Semi-mature	0-5	Low	0.3	No
750	*Fraxinus ornus*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.2	No
751	*Syzygium smithii*	2	5-10	5-10	Good	Juvenile	15-25	Low	0.2	No
752	*Melia azaderach*	1	10-15	10-15	Good	Mature	25+	Low	0.7	No
753	*Corymbia maculata*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.5	No
754	*Melia azaderach*	1	5-10	5-10	Good	Semi-mature	25+	Low	0.4	No
755	*Eucalyptus sideroxylon*	1	10-15	5-10	Good	Semi-mature	15-25	Medium	0.4	No
756	*Eucalyptus leucoxylon*	1	5-10	10-15	Good	Mature	25+	Medium	0.5	No
757	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.3	No
758	*Eucalyptus grandis*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.4	No
759	*Eucalyptus sp.*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.3	No
760	*Eucalyptus botryoides*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.2	No
761	*Eucalyptus sideroxylon*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
762	*Eucalyptus grandis*	1	15-20	10-15	Good	Juvenile	25+	Low	0.3	No
763	*Eucalyptus sideroxylon*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.4	No
764	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Mature	5-15	Low	0.3	No
765	*Callistemon sp.*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.3	No
766	*Eucalyptus cladocalyx*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.2	No
767	*Schinus molle*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.2	No
768	*Eucalyptus cladocalyx*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.3	No
769	*Eucalyptus cladocalyx*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.3	No
770	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
771	*Eucalyptus leucoxylon*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.3	No
772	*Corymbia calophylla*	1	5-10	5-10	Average	Juvenile	15-25	Medium	0.3	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
773	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.4	No
774	*Corymbia maculata*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
775	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.25	No
776	*Acacia sp.*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.2	No
777	*Schinus molle*	1	1-5	5-10	Good	Juvenile	15-25	Low	0.2	No
778	*Eucalyptus sideroxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.3	No
779	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
780	*Eucalyptus sideroxylon*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.3	No
781	*Corymbia calophylla*	1	15-20	10-15	Good	Semi-mature	25+	High	0.6	No
782	*Eucalyptus sideroxylon*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No
783	*Eucalyptus camaldulensis*	1	10-15	1-5	Good	Juvenile	15-25	Low	0.25	No
784	*Eucalyptus cladocalyx*	1	5-10	5-10	Excellent	Juvenile	25+	Medium	0.2	No
785	*Fraxinus sp.*	3	1-5	1-5	Poor	Semi-mature	0-5	Low	0.1	No
786	*Melia azaderach*	4	5-10	1-5	Poor	Juvenile	0-5	Low	0.2	No
787	*Eucalyptus camaldulensis*	1	5-10	1-5	Good	Juvenile	5-15	Low	0.2	No
788	*Allocasuarina fraseriana*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
789	*Acacia sp.*	1	10-15	10-15	Average	Mature	5-15	Low	0.6	No
790	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.5	No
791	*Banksia attenuata*	3	5-10	1-5	Average	Semi-mature	5-15	Low	0.2	No
792	*Eucalyptus sp.*	1	5-10	1-5	Poor	Semi-mature	5-15	Low	0.3	No
793	*Banksia attenuata*	3	5-10	1-5	Average	Mature	5-15	Low	0.3	No
794	*Eucalyptus grandis*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.5	No
795	*Banksia attenuata*	1	1-5	1-5	Poor	Semi-mature	5-15	Low	0.2	No
796	*Corymbia calophylla*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.3	No
797	*Banksia attenuata*	1	5-10	5-10	Average	Mature	5-15	Low	0.3	No
798	*Eucalyptus marginata*	8	5-10	5-10	Average	Juvenile	15-25	Medium	0.3	No
799	*Banksia attenuata*	8	1-5	1-5	Average	Semi-mature	5-15	Low	0.2	No
800	*Corymbia ficifolia*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.2	No
801	*Corymbia ficifolia*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.2	No
802	*Eucalyptus sp.*	2	1-5	5-10	Good	Juvenile	15-25	Low	0.3	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
803	*Eucalyptus sp.*	1	5-10	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
804	*Eucalyptus sp.*	1	5-10	5-10	Excellent	Semi-mature	25+	Medium	0.4	No
805	*Eucalyptus sp.*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
806	*Schinus molle*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
807	*Schinus molle*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.3	No
808	*Unknown*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.2	No
809	*Unknown*	1	10-15	1-5	Average	Semi-mature	15-25	Low	0.3	No
810	*Erythrina sykseii*	1	10-15	10-15	Good	Mature	15-25	Low	0.6	No
811	*Unknown*	1	10-15	1-5	Good	Semi-mature	15-25	Low	0.2	No
812	*Erythrina sykseii*	1	10-15	10-15	Average	Mature	15-25	Low	0.7	No
813	*Melaleuca quinquenervia*	1	10-15	10-15	Excellent	Mature	25+	High	0.9	No
814	*Lophostemon confertus*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
815	*Lophostemon confertus*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.4	No
816	*Eucalyptus marginata*	1	10-15	10-15	Average	Semi-mature	15-25	Medium	0.75	No
817	*Eucalyptus marginata*	1	5-10	5-10	Average	Semi-mature	15-25	Medium	0.5	No
818	*Ficus microcarpa*	1	10-15	10-15	Excellent	Semi-mature	25+	Medium	0.6	No
819	*Banksia attenuata*	10	5-10	1-5	Poor	Semi-mature	5-15	Low	0.2	No
820	*Corymbia ficifolia*	1	5-10	5-10	Good	Semi-mature	15-25	Medium	0.4	No
821	*Banksia attenuata*	2	1-5	1-5	Poor	Semi-mature	5-15	Low	0.2	No
822	*Eucalyptus marginata*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
823	*Melaleuca preissiana*	1	5-10	10-15	Average	Mature	5-15	Low	0.4	No
824	*Schinus molle*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
825	*Corymbia maculata*	1	10-15	1-5	Average	Juvenile	5-15	Low	0.3	No
826	*Eucalyptus sp.*	1	15-20	10-15	Excellent	Mature	25+	High	0.7	No
827	*Corymbia maculata*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.3	No
828	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	25+	Medium	0.7	No
829	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
830	*Eucalyptus grandis*	1	10-15	1-5	Excellent	Juvenile	25+	Low	0.2	No
831	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
832	*Acacia sp.*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
833	*Eucalyptus grandis*	1	10-15	5-10	Good	Juvenile	25+	Low	0.2	No
834	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
835	*Eucalyptus grandis*	1	10-15	1-5	Excellent	Juvenile	25+	Low	0.2	No
836	*Eucalyptus grandis*	1	10-15	5-10	Good	Juvenile	25+	Low	0.3	No
837	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.4	No
838	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.4	No
839	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.2	No
840	*Corymbia ficifolia*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.3	No
841	*Jacaranda mimosifolia*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
842	*Cupressus sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
843	*Eucalyptus sp.*	1	15-20	5-10	Good	Mature	25+	Medium	0.5	No
844	*Eucalyptus sp.*	1	15-20	5-10	Good	Mature	25+	Medium	0.5	No
845	*Eucalyptus sp.*	1	10-15	1-5	Average	Juvenile	15-25	Low	0.3	No
846	*Eucalyptus sp.*	1	10-15	1-5	Average	Juvenile	5-15	Low	0.3	No
847	*Eucalyptus sp.*	1	15-20	15-20	Excellent	Mature	25+	High	0.7	No
848	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Low	0.3	No
849	*Corymbia calophylla*	1	10-15	10-15	Good	Semi-mature	15-25	Medium	0.4	No
850	*Jacaranda mimosifolia*	1	10-15	1-5	Average	Juvenile	5-15	Low	0.2	No
851	*Eucalyptus sp.*	1	10-15	10-15	Good	Mature	25+	Medium	0.7	No
852	*Eucalyptus sp.*	1	10-15	5-10	Good	Semi-mature	15-25	Medium	0.4	No
853	*Eucalyptus sp.*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.5	No
854	*Eucalyptus sp.*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.5	No
855	*Callistemon sp.*	1	1-5	5-10	Average	Semi-mature	5-15	Low	0.2	No
856	*Corymbia calophylla*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.3	No
857	*Eucalyptus sp.*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.3	No
858	*Angophora costada*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
859	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
860	*Corymbia ficifolia*	1	1-5	1-5	Poor	Juvenile	0-5	Low	0.2	No
861	*Eucalyptus grandis*	1	10-15	5-10	Excellent	Juvenile	25+	Medium	0.4	No
862	*Corymbia ficifolia*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.2	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
863	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	25+	Medium	0.5	No
864	*Eucalyptus nicholii*	1	10-15	5-10	Poor	Mature	5-15	Low	0.6	No
865	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Medium	0.3	No
866	*Eucalyptus grandis*	1	15-20	10-15	Average	Semi-mature	15-25	Low	0.5	No
867	*Corymbia calophylla*	1	10-15	10-15	Excellent	Semi-mature	15-25	Medium	0.5	No
868	*Eucalyptus grandis*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.5	No
869	*Cupressus sp.*	2	5-10	1-5	Poor	Juvenile	5-15	Low	0.2	No
870	*Corymbia maculata*	1	5-10	1-5	Good	Juvenile	25+	Low	0.2	No
871	*Eucalyptus camaldulensis*	1	10-15	1-5	Average	Juvenile	15-25	Low	0.3	No
872	*Corymbia citriodora*	1	10-15	10-15	Good	Semi-mature	15-25	Medium	0.5	No
873	*Eucalyptus nicholii*	1	10-15	10-15	Average	Mature	5-15	Low	0.8	No
874	*Eucalyptus nicholii*	1	10-15	10-15	Average	Mature	15-25	Medium	0.7	No
875	*Eucalyptus nicholii*	1	10-15	10-15	Good	Mature	15-25	Medium	0.6	No
876	*Eucalyptus nicholii*	1	10-15	10-15	Average	Mature	5-15	Low	0.6	No
877	*Acacia sp.*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.3	No
878	*Erythrina sykseii*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
879	*Corymbia calophylla*	1	10-15	5-10	Excellent	Semi-mature	25+	High	0.4	No
880	*Jacaranda mimosifolia*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
881	*Quercus robur*	1	5-10	1-5	Excellent	Juvenile	25+	Medium	0.1	No
882	*Corymbia calophylla*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.5	No
883	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.2	No
884	*Corymbia maculata*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.4	No
885	*Corymbia calophylla*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.5	No
886	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.7	No
887	*Corymbia calophylla*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.3	No
888	*Eucalyptus cladocalyx*	1	10-15	1-5	Good	Juvenile	25+	Low	0.2	No
889	*Eucalyptus cladocalyx*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.3	No
890	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.3	No
891	*Unknown*	1	5-10	10-15	Average	Semi-mature	15-25	Low	0.4	No
892	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	15-25	Medium	0.4	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
893	*Ficus microcarpa*	1	5-10	5-10	Good	Juvenile	5-15	Low	0.2	No
894	*Eucalyptus utilis*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
895	*Eucalyptus sideroxylon*	1	5-10	5-10	Excellent	Semi-mature	25+	Medium	0.3	No
896	*Corymbia maculata*	1	10-15	10-15	Excellent	Mature	25+	High	0.6	No
897	*Eucalyptus sideroxylon*	1	10-15	5-10	Good	Mature	15-25	Medium	0.5	No
898	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	25+	High	0.6	No
899	*Eucalyptus sideroxylon*	1	10-15	10-15	Good	Mature	25+	Medium	0.5	No
900	*Corymbia maculata*	1	10-15	1-5	Good	Juvenile	15-25	Low	0.1	No
901	*Corymbia citriodora*	1	15-20	10-15	Excellent	Mature	25+	High	0.5	No
902	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Mature	5-15	Low	0.6	No
903	*Eucalyptus camaldulensis*	1	15-20	10-15	Average	Mature	15-25	Medium	0.7	No
904	*Eucalyptus camaldulensis*	1	5-10	1-5	Excellent	Juvenile	15-25	Low	0.1	No
905	*Eucalyptus marginata*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.4	No
906	*Corymbia maculata*	1	10-15	10-15	Excellent	Semi-mature	25+	Medium	0.4	No
907	*Eucalyptus globulus*	1	10-15	10-15	Average	Mature	5-15	Low	0.9	No
908	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.6	No
909	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	15-25	Low	0.4	No
910	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	15-25	Medium	0.5	No
911	*Eucalyptus sp.*	1	15-20	10-15	Excellent	Mature	25+	Medium	0.5	No
912	*Ulmus parvifolia*	1	5-10	10-15	Average	Mature	15-25	Low	0.5	No
913	*Platanus acerifolia*	1	10-15	10-15	Excellent	Mature	25+	Medium	0.5	No
914	*Acacia sp.*	8	5-10	10-15	Poor	Semi-mature	0-5	Low	0.3	No
915	*Schinus terebinthifolia*	1	5-10	5-10	Poor	Juvenile	5-15	Low	0.2	No
916	*Melia azaderach*	1	5-10	5-10	Good	Semi-mature	25+	Low	0.4	No
917	*Melia azaderach*	3	5-10	5-10	Average	Semi-mature	15-25	Low	0.5	No
918	*Ficus microcarpa*	3	5-10	5-10	Good	Juvenile	15-25	Low	0.3	No
919	*Melia azaderach*	3	10-15	5-10	Average	Semi-mature	5-15	Low	0.5	No
920	*Unknown*	1	10-15	10-15	Good	Semi-mature	15-25	Medium	0.5	No
921	*Liquidambar styraciflua*	1	10-15	10-15	Good	Mature	25+	Medium	0.4	No
922	*Toona australis*	1	5-10	5-10	Good	Semi-mature	15-25	Medium	0.4	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
923	*Ulmus parvifolia*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.2	No
924	*Melia azaderach*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
925	*Lagenaria patersonia*	1	10-15	5-10	Good	Mature	15-25	Low	0.5	No
926	*Jacaranda mimosifolia*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
927	*Tipuana tipu*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.3	No
928	*Ulmus parvifolia*	1	5-10	5-10	Excellent	Juvenile	25+	Low	0.2	No
929	*Tipuana tipu*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
930	*Acacia sp.*	1	5-10	5-10	Poor	Mature	0-5	Low	0.4	No
931	*Agonis flexuosa*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.5	No
932	*Allocasuarina fraseriana*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.4	No
933	*Banksia attenuata*	1	1-5	5-10	Average	Mature	5-15	Low	0.3	No
934	*Eucalyptus grandis*	1	15-20	10-15	Average	Semi-mature	15-25	Low	0.55	No
935	*Eucalyptus citriodora*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.4	No
936	*Platanus acerifolia*	1	10-15	5-10	Poor	Juvenile	5-15	Low	0.2	No
937	*Eucalyptus citriodora*	1	15-20	10-15	Excellent	Semi-mature	25+	High	0.5	No
938	*Banksia attenuata*	1	5-10	5-10	Average	Mature	5-15	Low	0.4	No
939	*Corymbia maculata*	1	15-20	10-15	Excellent	Semi-mature	25+	Medium	0.5	No
940	*Eucalyptus cladocalyx*	1	15-20	10-15	Average	Semi-mature	15-25	Low	0.6	No
941	*Eucalyptus marginata*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.6	No
942	*Corymbia citriodora*	1	15-20	10-15	Excellent	Mature	25+	High	0.6	No
943	*Corymbia citriodora*	1	15-20	5-10	Good	Semi-mature	25+	Medium	0.4	No
944	*Eucalyptus grandis*	1	25+	10-15	Good	Mature	25+	High	1.3	No
945	*Eucalyptus grandis*	1	15-20	10-15	Average	Mature	15-25	Low	0.8	No
946	*Eucalyptus grandis*	1	15-20	10-15	Average	Mature	15-25	Low	0.7	No
947	*Corymbia citriodora*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.4	No
948	*Eucalyptus marginata*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.4	No
949	*Ficus microcarpa*	1	10-15	10-15	Good	Semi-mature	15-25	Low	0.5	No
950	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.45	No
951	*Corymbia citriodora*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.5	No
952	*Corymbia maculata*	1	15-20	10-15	Good	Mature	25+	Medium	0.5	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
953	*Corymbia citriodora*	1	15-20	10-15	Good	Semi-mature	15-25	Low	0.7	No
954	*Eucalyptus cladocalyx*	4	10-15	5-10	Good	Juvenile	15-25	Low	0.2	No
955	*Banksia attenuata*	2	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
956	*Corymbia citriodora*	1	10-15	1-5	Good	Juvenile	15-25	Low	0.2	No
957	*Eucalyptus sp.*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.3	No
958	*Eucalyptus camaldulensis*	4	10-15	5-10	Good	Juvenile	15-25	Low	0.3	No
959	*Corymbia maculata*	1	10-15	1-5	Good	Juvenile	15-25	Low	0.3	No
960	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
961	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	15-25	Medium	0.4	No
962	*Eucalyptus sp.*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.3	No
963	*Corymbia maculata*	1	10-15	1-5	Good	Juvenile	15-25	Low	0.3	No
964	*Eucalyptus marginata*	1	1-5	5-10	Good	Juvenile	5-15	Low	0.2	No
965	*Eucalyptus marginata*	1	10-15	10-15	Average	Mature	5-15	Low	0.6	No
966	*Corymbia citriodora*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
967	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No
968	*Eucalyptus cladocalyx*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
969	*Eucalyptus camaldulensis*	2	10-15	5-10	Average	Juvenile	5-15	Low	0.3	No
970	*Corymbia citriodora*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
971	*Cupressus sp.*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
972	*Banksia attenuata*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.3	No
973	*Eucalyptus nicholii*	1	10-15	10-15	Good	Mature	25+	Medium	0.7	No
974	*Banksia attenuata*	2	1-5	1-5	Good	Juvenile	5-15	Low	0.2	No
975	*Acacia sp.*	1	5-10	10-15	Average	Mature	5-15	Low	0.5	No
976	*Banksia attenuata*	2	5-10	1-5	Average	Semi-mature	5-15	Low	0.2	No
977	*Platanus acerifolia*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
978	*Corymbia maculata*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
979	*Banksia attenuata*	1	5-10	1-5	Average	Mature	15-25	Medium	0.3	No
980	*Eucalyptus nicholii*	1	5-10	5-10	Good	Semi-mature	25+	Medium	0.5	No
981	*Corymbia citriodora*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.3	No
982	*Liquidambar styraciflua*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.1	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
983	*Platanus acerifolia*	1	5-10	5-10	Poor	Juvenile	0-5	Low	0.2	No
984	*Ficus microcarpa*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
985	*Ficus microcarpa*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
986	*Ficus microcarpa*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
987	*Eucalyptus leucoxylon*	1	5-10	10-15	Average	Mature	5-15	Low	0.6	No
988	*Jacaranda mimosifolia*	1	5-10	5-10	Poor	Juvenile	0-5	Low	0.2	No
989	*Acacia sp.*	1	5-10	10-15	Poor	Mature	0-5	Low	0.8	No
990	*Corymbia maculata*	1	10-15	1-5	Average	Juvenile	5-15	Low	0.3	No
991	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
992	*Araucaria heterophylla*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No
993	*Eucalyptus grandis*	1	15-20	10-15	Average	Mature	15-25	Medium	1.3	No
994	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.2	No
995	*Cinnamomum camphora*	1	5-10	10-15	Good	Semi-mature	15-25	Low	0.6	No
996	*Corymbia citriodora*	1	15-20	10-15	Average	Mature	25+	Low	0.7	No
997	*Eucalyptus cladocalyx*	1	10-15	1-5	Average	Juvenile	15-25	Low	0.3	No
998	*Eucalyptus cladocalyx*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.4	No
999	*Eucalyptus cladocalyx*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.4	No
1000	*Corymbia ficifolia*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
1017	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No
1019	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.4	No
1020	*Eucalyptus cladocalyx*	1	10-15	1-5	Good	Juvenile	15-25	Low	0.3	No
1021	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.3	No
1022	*Fraxinus sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.2	No
1023	*Eucalyptus grandis*	1	15-20	10-15	Average	Semi-mature	15-25	Low	0.5	No
1024	*Eucalyptus grandis*	1	15-20	10-15	Average	Semi-mature	15-25	Medium	0.5	No
1025	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.5	No
1026	*Corymbia maculata*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.4	No
1027	*Eucalyptus grandis*	1	15-20	10-15	Average	Semi-mature	15-25	Medium	0.7	No
1028	*Eucalyptus nicholii*	1	10-15	5-10	Good	Mature	25+	Medium	0.6	No
1029	*Corymbia maculata*	1	10-15	5-10	Good	Juvenile	25+	Medium	0.35	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1030	*Corymbia citriodora*	1	15-20	10-15	Average	Semi-mature	15-25	Low	0.7	No
1031	*Eucalyptus leucoxylon*	1	5-10	10-15	Good	Semi-mature	25+	Medium	0.5	No
1032	*Eucalyptus grandis*	1	15-20	10-15	Average	Mature	15-25	Low	0.6	No
1033	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	Medium	0.55	No
1034	*Erythrina sykseii*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
1035	*Platanus acerifolia*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.3	No
1036	*Eucalyptus leucoxylon*	1	5-10	10-15	Average	Mature	5-15	Low	0.5	No
1037	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	Medium	0.5	No
1038	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
1039	*Cupressus sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
1040	*Eucalyptus grandis*	1	20-25	10-15	Good	Mature	15-25	Medium	0.7	No
1041	*Eucalyptus leucoxylon*	1	5-10	10-15	Good	Mature	15-25	Medium	0.6	No
1042	*Eucalyptus nicholii*	1	10-15	10-15	Good	Mature	25+	Medium	0.8	No
1043	*Erythrina sykseii*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
1044	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Mature	5-15	Low	0.5	No
1045	*Brachychiton acerifolius*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.2	No
1046	*Eucalyptus grandis*	1	20-25	15-20	Average	Mature	15-25	Medium	0.6	No
1047	*Liquidambar styraciflua*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.3	No
1048	*Melia azaderach*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
1049	*Melia azaderach*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
1050	*Melia azaderach*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.35	No
1051	*Melia azaderach*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
1052	*Melia azaderach*	1	5-10	5-10	Poor	Juvenile	5-15	Low	0.3	No
1053	*Unknown*	1	10-15	10-15	Average	Mature	5-15	Low	0.5	No
1054	*Ficus microcarpa*	1	10-15	10-15	Excellent	Semi-mature	15-25	Medium	0.6	No
1055	*Melia azaderach*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
1056	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.8	No
1057	*Araucaria heterophylla*	1	10-15	1-5	Poor	Juvenile	5-15	Low	0.2	No
1058	*Melia azaderach*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
1059	*Acacia sp.*	1	10-15	5-10	Poor	Mature	0-5	Low	0.6	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1060	*Corymbia maculata*	1	15-20	5-10	Good	Mature	25+	Medium	0.5	No
1061	*Eucalyptus camaldulensis*	1	15-20	15-20	Good	Mature	25+	High	0.8	No
1063	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.3	No
1064	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	15-25	Medium	0.8	No
1065	*Melia azaderach*	2	10-15	5-10	Average	Juvenile	5-15	Low	0.4	No
1066	*Unknown*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.2	No
1067	*Corymbia citriodora*	1	15-20	5-10	Average	Semi-mature	15-25	Low	0.5	No
1068	*Eucalyptus leucoxylon*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
1069	*Platanus acerifolia*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.3	No
1070	*Corymbia maculata*	1	10-15	5-10	Good	Mature	15-25	Medium	0.5	No
1071	*Eucalyptus grandis*	1	20-25	15-20	Good	Mature	25+	Medium	0.8	No
1072	*Platanus acerifolia*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.3	No
1073	*Unknown*	1	5-10	10-15	Good	Mature	15-25	Low	0.5	No
1074	*Tipuana tipu*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.3	No
1075	*Eucalyptus grandis*	1	20-25	15-20	Good	Mature	15-25	Medium	1	No
1076	*Eucalyptus leucoxylon*	1	5-10	10-15	Average	Mature	15-25	Low	0.55	No
1077	*Brachychiton acerifolius*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.3	No
1078	*Callistemon sp.*	1	5-10	1-5	Average	Semi-mature	5-15	Low	0.2	No
1079	*Corymbia citriodora*	1	10-15	5-10	Good	Juvenile	25+	Low	0.5	No
1080	*Platanus acerifolia*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.35	No
1081	*Acacia sp.*	3	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
1082	*Eucalyptus grandis*	4	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No
1083	*Liquidambar styraciflua*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
1084	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
1085	*Eucalyptus grandis*	1	10-15	5-10	Average	Juvenile	25+	Low	0.3	No
1086	*Cupressus sp.*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
1087	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
1088	*Eucalyptus grandis*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.3	No
1089	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
1090	*Eucalyptus grandis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1091	*Eucalyptus grandis*	1	10-15	5-10	Average	Juvenile	15-25	Medium	0.3	No
1092	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	15-25	Medium	0.5	No
1093	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.2	No
1094	*Eucalyptus sp.*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
1095	*Eucalyptus patens*	1	1-5	5-10	Average	Juvenile	5-15	Low	0.2	No
1096	*Eucalyptus camaldulensis*	1	10-15	15-20	Good	Mature	25+	High	0.8	No
1097	*Corymbia citriodora*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.3	No
1098	*Eucalyptus grandis*	1	15-20	10-15	Good	Mature	15-25	Medium	0.6	No
1099	*Eucalyptus grandis*	1	15-20	10-15	Average	Mature	15-25	Low	0.8	No
1100	*Lagenaria patersonia*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.2	No
1101	*Eucalyptus grandis*	1	20-25	10-15	Good	Mature	25+	Medium	0.9	No
1102	*Erythrina sykseii*	1	5-10	5-10	Poor	Juvenile	0-5	Low	0.3	No
1103	*Eucalyptus camaldulensis*	3	5-10	1-5	Average	Juvenile	15-25	Low	0.25	No
1104	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Mature	5-15	Low	0.5	No
1105	*Cupressus sp.*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.5	No
1106	*Callistemon sp.*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.2	No
1107	*Ulmus parvifolia*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
1108	*Corymbia calophylla*	1	5-10	5-10	Good	Juvenile	15-25	Medium	0.3	No
1109	*Eucalyptus cladocalyx*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
1110	*Eucalyptus camaldulensis*	1	10-15	10-15	Good	Mature	15-25	Medium	0.7	No
1111	*Ficus microcarpa*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
1112	*Eucalyptus cladocalyx*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
1113	*Eucalyptus cladocalyx*	3	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
1114	*Acacia sp.*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.4	No
1115	*Eucalyptus nicholii*	1	5-10	5-10	Dead	Semi-mature	0-5	Low	0.4	No
1116	*Acacia sp.*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.3	No
1117	*Corymbia maculata*	1	10-15	5-10	Excellent	Mature	25+	Medium	0.4	No
1118	*Unknown*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.1	No
1119	*Araucaria heterophylla*	1	10-15	5-10	Poor	Semi-mature	0-5	Low	0.4	No
1120	*Eucalyptus leucoxylon*	1	10-15	10-15	Good	Mature	15-25	Medium	0.7	No

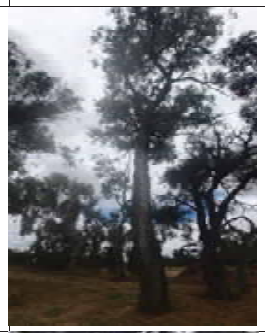
Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1121	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
1122	*Eucalyptus leucoxylon*	1	10-15	10-15	Good	Mature	15-25	Medium	0.6	No
1123	*Acacia sp.*	1	10-15	5-10	Good	Semi-mature	5-15	Low	0.5	No
1124	*Ficus microcarpa*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.5	No
1125	*Acacia sp.*	1	10-15	5-10	Average	Mature	5-15	Low	0.7	No
1126	*Eucalyptus cladocalyx*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
1127	*Eucalyptus sp.*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No
1128	*Acacia sp.*	1	10-15	1-5	Poor	Juvenile	5-15	Low	0.2	No
1129	*Eucalyptus grandis*	1	15-20	5-10	Good	Juvenile	15-25	Low	0.4	No
1130	*Acacia sp.*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
1131	*Eucalyptus cladocalyx*	3	10-15	1-5	Average	Juvenile	5-15	Low	0.2	No
1132	*Eucalyptus grandis*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.3	No
1133	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	25+	High	0.8	No
1134	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No
1135	*Eucalyptus leucoxylon*	1	5-10	10-15	Good	Mature	15-25	Medium	0.5	No
1136	*Toona australis*	1	5-10	5-10	Good	Juvenile	5-15	Low	0.2	No
1137	*Eucalyptus nicholii*	1	10-15	10-15	Good	Mature	25+	Medium	0.8	No
1138	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.4	No
1139	*Corymbia citriodora*	1	15-20	10-15	Average	Semi-mature	5-15	Low	0.5	No
1140	*Cinnamomum camphora*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.3	No
1141	*Eucalyptus leucoxylon*	1	5-10	10-15	Average	Mature	5-15	Low	0.5	No
1142	*Eucalyptus grandis*	1	15-20	10-15	Good	Semi-mature	25+	Medium	0.5	No
1143	*Corymbia citriodora*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.3	No
1145	*Ficus microcarpa*	1	5-10	10-15	Good	Semi-mature	15-25	Low	0.6	No
1146	*Eucalyptus cladocalyx*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.25	No
1147	*Platanus acerifolia*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.2	No
1148	*Eucalyptus cladocalyx*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.35	No
1149	*Corymbia ficifolia*	1	1-5	5-10	Average	Juvenile	15-25	Low	0.35	No
1150	*Melia azaderach*	1	1-5	5-10	Poor	Juvenile	5-15	Low	0.3	No
1151	*Cupressus sempervirens*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.15	No

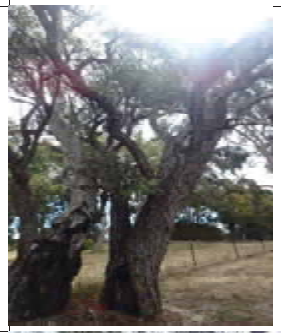
Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1152	*Araucaria heterophylla*	1	10-15	5-10	Average	Juvenile	15-25	Low	0.35	No
1153	*Eucalyptus grandis*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.25	No
1154	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.2	No
1155	*Schinus molle*	1	5-10	5-10	Average	Semi-mature	15-25	Low	0.45	No
1156	*Eucalyptus camaldulensis*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.3	No
1157	*Jacaranda mimosifolia*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.35	No
1158	*Liquidambar styraciflua*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.15	No
1159	*Eucalyptus platypus*	1	1-5	5-10	Good	Juvenile	15-25	Low	0.3	No
1160	*Eucalyptus cladocalyx*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.25	No
1161	*Melia azaderach*	1	10-15	10-15	Average	Mature	5-15	Low	0.5	No
1162	*Eucalyptus leucoxylon*	1	1-5	1-5	Average	Juvenile	5-15	Low	0.15	No
1163	*Corymbia maculata*	1	10-15	10-15	Excellent	Semi-mature	25+	Medium	0.45	No
1164	*Ulmus parvifolia*	1	5-10	10-15	Good	Semi-mature	15-25	Medium	0.35	No
1165	*Fraxinus sp.*	1	5-10	10-15	Average	Mature	15-25	Medium	0.4	No
1166	*Unknown*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.25	No
1167	*Unknown*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.15	No
1168	*Cupressus sp.*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.35	No
1169	*Eucalyptus grandis*	1	20-25	15-20	Average	Mature	15-25	Medium	0.65	No
1170	*Olea europaea*	1	5-10	5-10	Excellent	Semi-mature	25+	Low	0.3	No
1171	*Melia azaderach*	1	10-15	5-10	Good	Semi-mature	15-25	Low	0.35	No
1172	*Agonis flexuosa*	1	5-10	10-15	Good	Mature	25+	Medium	0.7	No
1173	*Eucalyptus cladocalyx*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.4	No
1174	*Eucalyptus camaldulensis*	1	10-15	5-10	Good	Semi-mature	25+	Medium	0.4	No
1175	*Eucalyptus cladocalyx*	1	10-15	5-10	Good	Juvenile	15-25	Low	0.35	No
1176	*Cupressus sp.*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.45	No
1177	*Eucalyptus grandis*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
1178	*Eucalyptus grandis*	1	5-10	1-5	Good	Juvenile	15-25	Low	0.2	No
1179	*Agonis flexuosa*	1	5-10	5-10	Average	Mature	15-25	Low	0.6	No
1180	*Platanus acerifolia*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.4	No
1181	*Schinus terebinthifolia*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.4	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1182	*Erythrina sykseii*	1	10-15	10-15	Excellent	Mature	15-25	Low	0.65	No
1183	*Eucalyptus nicholii*	1	10-15	10-15	Good	Semi-mature	15-25	Medium	0.5	No
1184	*Acacia sp.*	1	10-15	5-10	Poor	Mature	0-5	Low	0.8	No
1185	*Platanus acerifolia*	1	10-15	10-15	Good	Semi-mature	15-25	Medium	0.5	No
1186	*Eucalyptus leucoxylon*	1	10-15	10-15	Good	Mature	25+	Medium	0.75	No
1187	*Eucalyptus grandis*	1	20-25	10-15	Good	Mature	25+	Medium	0.85	No
1188	*Melia azaderach*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.25	No
1189	*Liquidambar styraciflua*	1	5-10	5-10	Excellent	Juvenile	15-25	Medium	0.3	No
1190	*Eucalyptus leucoxylon*	1	5-10	5-10	Good	Mature	15-25	Low	0.5	No
1191	*Melia azaderach*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.4	No
1192	*Melia azaderach*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.3	No
1193	*Eucalyptus grandis*	1	20-25	10-15	Good	Mature	25+	Medium	1.35	No
1194	*Brachychiton acerifolius*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.35	No
1195	*Melia azaderach*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.45	No
1196	*Fraxinus sp.*	1	5-10	10-15	Good	Semi-mature	15-25	Medium	0.35	No
1197	*Platanus acerifolia*	1	10-15	10-15	Good	Mature	25+	Medium	0.6	No
1198	*Unknown*	1	5-10	5-10	Average	Mature	5-15	Low	0.35	No
1199	*Araucaria heterophylla*	1	10-15	5-10	Average	Semi-mature	5-15	Low	0.5	No
1200	*Jacaranda mimosifolia*	1	5-10	5-10	Good	Semi-mature	5-15	Low	0.35	No
1201	*Liquidambar styraciflua*	1	5-10	1-5	Good	Juvenile	5-15	Low	0.25	No
1202	*Acacia sp.*	1	5-10	5-10	Poor	Mature	0-5	Low	0.6	No
1203	*Ficus microcarpa*	1	10-15	10-15	Good	Mature	15-25	Medium	0.5	No
1204	*Corymbia maculata*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.45	No
1205	*Washingtonia robusta*	1	10-15	1-5	Average	Semi-mature	15-25	Low	0.5	No
1206	*Eucalyptus patens*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.4	No
1207	*Brachychiton acerifolius*	1	5-10	1-5	Poor	Juvenile	0-5	Low	0.25	No
1208	*Melia azaderach*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.45	No
1209	*Corymbia maculata*	1	10-15	5-10	Good	Mature	25+	Medium	0.45	No
1210	*Platanus acerifolia*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.2	No
1211	*Platanus acerifolia*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.25	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1212	*Eucalyptus sp.*	1	10-15	1-5	Excellent	Juvenile	25+	Low	0.25	No
1213	*Corymbia ficifolia*	1	1-5	5-10	Average	Juvenile	5-15	Low	0.2	No
1214	*Corymbia ficifolia*	1	5-10	5-10	Average	Semi-mature	15-25	Medium	0.4	No
1215	*Corymbia maculata*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.55	No
1216	*Eucalyptus camaldulensis*	1	10-15	10-15	Good	Semi-mature	25+	Medium	0.65	No
1217	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Semi-mature	25+	Medium	0.5	No
1218	*Eucalyptus camaldulensis*	1	10-15	10-15	Average	Semi-mature	15-25	Low	0.5	No
1219	*Eucalyptus camaldulensis*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.35	No
1220	*Eucalyptus camaldulensis*	1	10-15	15-20	Good	Mature	25+	High	1	No
1221	*Eucalyptus cladocalyx*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.15	No
1222	*Eucalyptus camaldulensis*	1	10-15	1-5	Average	Juvenile	5-15	Low	0.2	No
1223	*Unknown*	1	1-5	5-10	Average	Juvenile	5-15	Low	0.15	No
1224	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.3	No
1225	*Corymbia calophylla*	1	10-15	10-15	Average	Mature	15-25	Medium	0.55	No
1226	*Eucalyptus cladocalyx*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.15	No
1227	*Cinnamomum camphora*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.35	No
1228	*Corymbia ficifolia*	1	5-10	5-10	Poor	Juvenile	0-5	Low	0.5	No
1229	*Corymbia citriodora*	1	5-10	5-10	Average	Juvenile	15-25	Low	0.25	No
1230	*Eucalyptus camaldulensis*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.2	No
1231	*Eucalyptus cladocalyx*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
1232	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Juvenile	5-15	Low	0.25	No
1233	*Eucalyptus camaldulensis*	1	5-10	1-5	Average	Juvenile	15-25	Low	0.25	No
1234	*Eucalyptus camaldulensis*	1	10-15	5-10	Average	Semi-mature	15-25	Low	0.4	No
1237	*Eucalyptus cladocalyx*	1	5-10	5-10	Good	Juvenile	15-25	Low	0.35	No
1238	*Eucalyptus patens*	1	5-10	5-10	Average	Juvenile	5-15	Low	0.4	No
1239	*Unknown*	1	10-15	10-15	Good	Mature	25+	Medium	0.65	No
1240	*Melia azaderach*	1	5-10	5-10	Good	Semi-mature	15-25	Low	0.5	No
1241	*Eucalyptus sp.*	1	5-10	5-10	Poor	Juvenile	0-5	Low	0.2	No
1242	*Corymbia maculata*	1	15-20	10-15	Excellent	Mature	15-25	Medium	0.5	No
1243	*Eucalyptus leucoxylon*	1	5-10	5-10	Average	Mature	5-15	Low	0.6	No

Tag No.	Species name	No. Individuals	Height (m)	Width (m)	Health	Age	ULE	Retention Value	DBH (m)	Black cockatoo habitat tree
1244	*Eucalyptus camaldulensis*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.55	No
1245	*Corymbia ficifolia*	1	5-10	1-5	Average	Juvenile	5-15	Low	0.2	No
1246	*Eucalyptus camaldulensis*	1	5-10	1-5	Poor	Semi-mature	0-5	Low	0.45	No
1247	*Eucalyptus leucoxylon*	1	10-15	10-15	Good	Mature	25+	Medium	0.5	No
1248	*Eucalyptus platypus*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.25	No
1249	*Eucalyptus camaldulensis*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.25	No
1250	*Eucalyptus camaldulensis*	1	5-10	1-5	Poor	Juvenile	5-15	Low	0.25	No
1251	*Erythrina sykseii*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.55	No
1252	*Eucalyptus leucoxylon*	1	5-10	5-10	Poor	Semi-mature	0-5	Low	0.4	No
1253	*Jacaranda mimosifolia*	1	5-10	5-10	Good	Semi-mature	5-15	Low	0.3	No
1254	*Melia azaderach*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.5	No
1255	*Lagenaria patersonia*	1	5-10	1-5	Good	Juvenile	5-15	Low	0.2	No
1256	*Unknown*	1	5-10	5-10	Average	Semi-mature	5-15	Low	0.3	No
1257	*Eucalyptus sp.*	1	5-10	5-10	Poor	Mature	5-15	Low	0.6	No
1258	*Acacia sp.*	1	5-10	5-10	Poor	Juvenile	0-5	Low	0.25	No

Tag No.	Photo
1	
2	
3	

Tag No.	Photo
4	
5	
6	

Tag No.	Photo
7	
8	
9	

Tag No.	Photo
10	
11	
12	

Tag No.	Photo
13	
14	
15	
16	

Tag No.	Photo
33	
34	
38	
39	

Tag No.	Photo
40	
41	
42	
44	

Tag No.	Photo
58	
59	
60	
61	

Tag No.	Photo
62	
63	
64	
65	

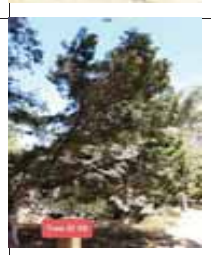
Tag No.	Photo
66	
67	
68	
69	

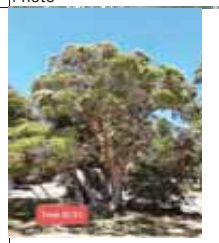
Tag No.	Photo
70	
71	
72	
73	

Tag No.	Photo
75	
76	
77	
78	

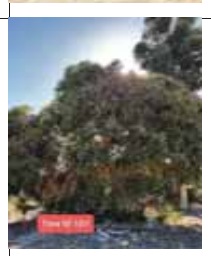
Tag No.	Photo
79	
80	
81	
82	

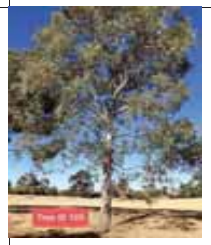
Tag No.	Photo
83	
84	
85	
86	

Tag No.	Photo
87	
88	
89	
90	

Tag No.	Photo
91	
92	
93	
94	

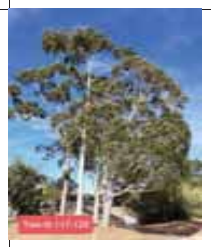
Tag No.	Photo
95	
96	
97	
98	

Tag No.	Photo
99	
100	
101	
102	

Tag No.	Photo
103	
104	
105	
106	

Tag No.	Photo
107	
108	
109	
110	

Tag No.	Photo
111	
112	
113	
114	

Tag No.	Photo
115	
116	
117	
118	

Tag No.	Photo
119	
120	
121	
122	

Tag No.	Photo
123	
124	
125	
126	

Tag No.	Photo
127	
128	
129	
130	

Tag No.	Photo
131	
132	
133	
134	

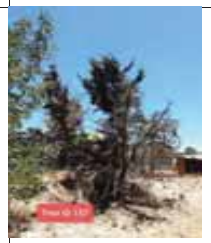
Tag No.	Photo
135	
136	
137	
138	

Tag No.	Photo
139	
140	
141	
142	

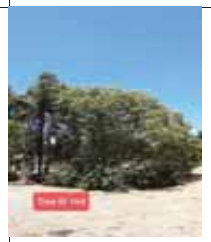
Tag No.	Photo
143	
144	
145	
146	

Tag No.	Photo
147	
148	
149	
150	

Tag No.	Photo
151	
152	
153	
154	

Tag No.	Photo
155	
156	
157	
158	

Tag No.	Photo
159	
160	
161	
162	

Tag No.	Photo
163	
164	
165	
166	

Tag No.	Photo
167	
168	
169	
170	

Tag No.	Photo
171	
172	
176	
177	

Tag No.	Photo
178	
179	
180	
181	

Tag No.	Photo
182	
183	
184	
185	

Tag No.	Photo
186	
187	
188	
189	

Tag No.	Photo
190	
191	
192	
193	

Tag No.	Photo
194	
195	
196	
197	

Tag No.	Photo
198	
17	
18	
22	

Tag No.	Photo
23	
24	
25	
26	

Tag No.	Photo
27	
28	
29	
30	

Tag No.	Photo
31	
199	
200	
201	

Tag No.	Photo
202	
203	
204	
205	

Tag No.	Photo
206	
207	
208	
211	

Tag No.	Photo
209	
210	
212	
213	

Tag No.	Photo
214	
215	
216	
217	

Tag No.	Photo
218	
219	
220	
221	

Tag No.	Photo
222	
223	
224	
225	

Tag No.	Photo
226	
227	
229	
230	

Tag No.	Photo
231	
232	
233	
234	

Tag No.	Photo
235	
236	
237	
238	

Tag No.	Photo
239	
240	
241	
242	

Tag No.	Photo
243	
244	
228	
245	

Tag No.	Photo
246	
247	
248	
249	

Tag No.	Photo
250	
251	
252	
253	

Tag No.	Photo
254	
255	
256	
257	

Tag No.	Photo
258	
259	
260	
261	

Tag No.	Photo
262	
263	
264	
265	

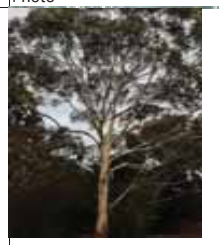
Tag No.	Photo
266	
267	
268	
269	

Tag No.	Photo
270	
271	
272	
273	

Tag No.	Photo
274	
275	
276	
277	

Tag No.	Photo
278	
279	
280	
281	

Tag No.	Photo
282	
283	
284	
285	

Tag No.	Photo
286	
287	
288	
289	

Tag No.	Photo
290	
291	
292	
293	

Tag No.	Photo
294	
295	
296	
297	

Tag No.	Photo
298	
299	
300	
301	

Tag No.	Photo
302	
303	
304	
305	

Tag No.	Photo
306	
307	
308	
309	

Tag No.	Photo
310	
311	
312	
313	

Tag No.	Photo
314	
315	
316	
317	

Tag No.	Photo
318	
319	
320	
321	

Tag No.	Photo
322	
323	
324	
325	

Tag No.	Photo
326	
327	
328	
329	

Tag No.	Photo
330	
331	
332	
333	

Tag No.	Photo
334	
335	
336	
337	

Tag No.	Photo
338	
340	
341	
342	

Tag No.	Photo
343	
344	
345	
346	

Tag No.	Photo
347	
348	
349	
350	

Tag No.	Photo
351	
352	
353	
354	

Tag No.	Photo
355	
356	
357	
358	

Tag No.	Photo
359	
360	
361	
362	

Tag No.	Photo
363	
364	
365	
366	

Tag No.	Photo
367	
368	
369	
370	

Tag No.	Photo
371	
372	
373	
374	

Tag No.	Photo
375	
376	
377	
378	

Tag No.	Photo
379	
380	
381	
382	

Tag No.	Photo
383	
384	
385	
386	

Tag No.	Photo
387	
388	
389	
390	

Tag No.	Photo
391	
392	
393	
394	

Tag No.	Photo
395	
396	
397	
398	

Tag No.	Photo
399	
400	
401	
402	

Tag No.	Photo
403	
404	
405	
406	

Tag No.	Photo
407	
408	
409	
410	

Tag No.	Photo
411	
412	
413	
414	

Tag No.	Photo
415	
416	
417	
418	

Tag No.	Photo
419	
420	
421	
422	

Tag No.	Photo
423	
424	
425	
426	

Tag No.	Photo
427	
428	
429	
430	

Tag No.	Photo
431	
432	
433	
434	

Tag No.	Photo
435	
436	
437	
438	

Tag No.	Photo
439	
440	
441	
442	

Tag No.	Photo
443	
444	
445	
446	

Tag No.	Photo
447	
448	
449	
450	

Tag No.	Photo
451	
452	
453	
454	

Tag No.	Photo
455	
456	
457	
458	

Tag No.	Photo
459	
460	
461	
462	

Tag No.	Photo
463	
464	
465	
466	

Tag No.	Photo
467	
468	
469	
470	

Tag No.	Photo
471	
472	
473	
474	

Tag No.	Photo
475	
476	
477	
478	

Tag No.	Photo
479	
480	
481	
482	

Tag No.	Photo
483	
484	
485	
486	

Tag No.	Photo
487	
488	
489	
490	

Tag No.	Photo
491	
492	
493	
494	

Tag No.	Photo
495	
496	
497	
498	

Tag No.	Photo
499	
500	
501	
502	

Tag No.	Photo
503	
504	
505	
506	

Tag No.	Photo
507	
508	
509	
510	

Tag No.	Photo
511	
512	
513	
514	

Tag No.	Photo
515	
516	
517	
518	

Tag No.	Photo
519	
520	
521	
522	

Tag No.	Photo
523	
524	
525	
526	

Tag No.	Photo
527	
528	
529	
530	

Tag No.	Photo
531	
532	
533	
534	

Tag No.	Photo
535	
536	
537	
538	

Tag No.	Photo
539	
540	
541	
542	

Tag No.	Photo
543	
544	
545	
546	

Tag No.	Photo
547	
548	
549	
550	

Tag No.	Photo
551	
552	
553	
554	

Tag No.	Photo
555	
556	
557	
558	

Tag No.	Photo
559	
560	
561	
562	

Tag No.	Photo
563	
564	
565	
566	

Tag No.	Photo
567	
568	
569	
570	

Tag No.	Photo
571	
572	
573	
574	

Tag No.	Photo
575	
576	
577	
578	

Tag No.	Photo
579	
580	
581	
582	

Tag No.	Photo
583	
584	
585	
586	

Tag No.	Photo
587	
588	
589	
590	

Tag No.	Photo
591	
592	
593	
594	

Tag No.	Photo
595	
596	
597	
598	

Tag No.	Photo
599	
600	
601	
602	

Tag No.	Photo
603	
604	
605	
606	

Tag No.	Photo
607	
608	
609	
610	

Tag No.	Photo
611	
612	
613	
614	

Tag No.	Photo
615	
616	
617	
618	

Tag No.	Photo
619	
620	
621	
622	

Tag No.	Photo
623	
624	
625	
626	

Tag No.	Photo
627	
628	
629	
630	

Tag No.	Photo
631	
632	
633	
634	

Tag No.	Photo
635	
636	
637	
638	

Tag No.	Photo
639	
640	
641	
642	

Tag No.	Photo
643	
644	
645	
646	

Tag No.	Photo
647	
648	
649	
650	

Tag No.	Photo
651	
652	
653	
654	

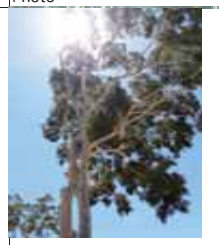
Tag No.	Photo
655	
656	
657	
658	

Tag No.	Photo
659	
660	
661	
662	

Tag No.	Photo
663	
664	
665	
666	

Tag No.	Photo
667	
668	
669	
670	

Tag No.	Photo
671	
672	
673	
674	

Tag No.	Photo
675	
676	
677	
678	

Tag No.	Photo
679	
680	
681	
682	

Tag No.	Photo
683	
684	
685	
686	

Tag No.	Photo
687	
688	
689	
690	

Tag No.	Photo
691	
692	
694	
695	

Tag No.	Photo
696	
697	
698	
699	

Tag No.	Photo
700	
701	
702	
703	

Tag No.	Photo
704	
705	
706	
707	

Tag No.	Photo
708	
709	
710	
711	

Tag No.	Photo
712	
713	
714	
715	

Tag No.	Photo
716	
717	
718	
719	

Tag No.	Photo
720	
721	
722	
723	

Tag No.	Photo
724	
725	
726	
727	

Tag No.	Photo
728	
729	
730	
731	

Tag No.	Photo
732	
733	
734	
735	

Tag No.	Photo
736	
737	
738	
739	

Tag No.	Photo
740	
741	
742	
743	

Tag No.	Photo
744	
745	
746	
747	

Tag No.	Photo
748	
749	
750	
751	

Tag No.	Photo
752	
753	
754	
755	

Tag No.	Photo
756	
757	
758	
759	

Tag No.	Photo
760	
761	
762	
763	

Tag No.	Photo
764	
765	
766	
767	

Tag No.	Photo
768	
769	
770	
771	

Tag No.	Photo
772	
773	
774	
775	

Tag No.	Photo
776	
777	
778	
779	

Tag No.	Photo
780	
781	
782	
783	

Tag No.	Photo
784	
785	
786	
787	

Tag No.	Photo
788	
789	
790	
791	

Tag No.	Photo
792	
793	
794	
795	

Tag No.	Photo
796	
798	
797	
799	

Tag No.	Photo
800	
801	
802	
803	

Tag No.	Photo
804	
805	
806	
807	

Tag No.	Photo
808	
809	
810	
811	

Tag No.	Photo
812	
813	
815	
816	

Tag No.	Photo
814	
817	
818	
819	

Tag No.	Photo
820	
821	
822	
823	

Tag No.	Photo
824	
825	
826	
827	

Tag No.	Photo
828	
829	
830	
831	

Tag No.	Photo
832	
833	
834	
835	

Tag No.	Photo
836	
837	
838	
839	

Tag No.	Photo
840	
841	
842	
843	

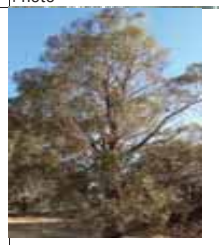
Tag No.	Photo
844	
845	
846	
847	

Tag No.	Photo
848	
849	
850	
851	

Tag No.	Photo
852	
853	
854	
855	

Tag No.	Photo
856	
857	
858	
859	

Tag No.	Photo
860	
861	
862	
863	

Tag No.	Photo
864	
865	
866	
867	

Tag No.	Photo
868	
869	
870	
871	

Tag No.	Photo
872	
873	
874	
875	

Tag No.	Photo
876	
877	
878	
879	

Tag No.	Photo
880	
881	
882	
883	

Tag No.	Photo
884	
885	
886	
887	

Tag No.	Photo
888	
889	
890	
891	

Tag No.	Photo
892	
893	
894	
895	

Tag No.	Photo
896	
897	
898	
899	

Tag No.	Photo
900	
901	
902	
903	

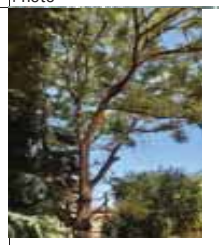
Tag No.	Photo
904	
905	
906	
907	

Tag No.	Photo
908	
909	
910	
911	

Tag No.	Photo
912	
913	
914	
915	

Tag No.	Photo
916	
917	
918	
919	

Tag No.	Photo
920	
921	
922	
923	

Tag No.	Photo
924	
925	
926	
927	

Tag No.	Photo
928	
929	
930	
931	

Tag No.	Photo
932	
933	
934	
935	

Tag No.	Photo
936	
937	
938	
939	

Tag No.	Photo
940	
941	
942	
943	

Tag No.	Photo
944	
945	
946	
947	

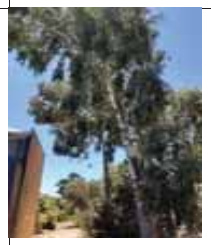
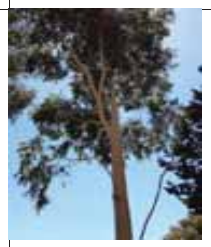
Tag No.	Photo
948	
949	
950	
951	

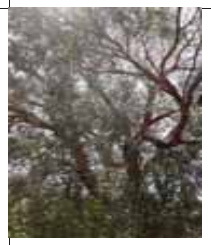
Tag No.	Photo
952	
953	
954	
955	

Tag No.	Photo
956	
957	
958	
959	

Tag No.	Photo
960	
961	
962	
963	

Tag No.	Photo
964	
965	
966	
967	

Tag No.	Photo
968	
969	
970	
971	

Tag No.	Photo
972	
973	
974	
975	

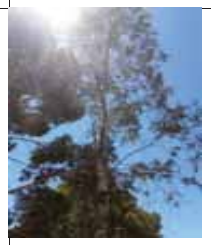
Tag No.	Photo
976	
977	
978	
979	

Tag No.	Photo
980	
981	
982	
983	

Tag No.	Photo
984	
985	
986	
987	

Tag No.	Photo
988	
989	
990	
991	

Tag No.	Photo
992	
993	
994	
995	

Tag No.	Photo
996	
997	
998	
999	

Tag No.	Photo
1000	
1017	
1019	
1020	

Tag No.	Photo
1021	
1022	
1023	
1024	

Tag No.	Photo
1025	
1026	
1027	
1028	

Tag No.	Photo
1029	
1030	
1031	
1032	

Tag No.	Photo
1033	
1034	
1035	
1036	

Tag No.	Photo
1037	
1038	
1039	
1040	

Tag No.	Photo
1041	
1042	
1043	
1044	

Tag No.	Photo
1045	
1046	
1047	
1048	

Tag No.	Photo
1049	
1050	
1051	
1052	

Tag No.	Photo
1053	
1054	
1055	
1056	

Tag No.	Photo
1057	
1058	
1059	
1060	

Tag No.	Photo
1061	
1063	
1064	
1065	

Tag No.	Photo
1066	
1067	
1068	
1069	

Tag No.	Photo
1070	
1071	
1072	
1073	

Tag No.	Photo
74	
1075	
1076	
1077	

Tag No.	Photo
1078	
1079	
1080	
1081	

Tag No.	Photo
1082	
1083	
1084	
1085	

Tag No.	Photo
1086	
1087	
1088	
1089	

Tag No.	Photo
1090	
1091	
1092	
1093	

Tag No.	Photo
1094	
1095	
1096	
1097	

Tag No.	Photo
1098	
1099	
1100	
1101	

Tag No.	Photo
1102	
1103	
1104	
1105	

Tag No.	Photo
1106	
1107	
1108	
1109	

Tag No.	Photo
1110	
1111	
1112	
1113	

Tag No.	Photo
1114	
1115	
1116	
1117	

Tag No.	Photo
1118	
1119	
1120	
1121	

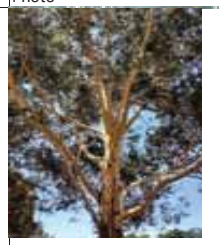
Tag No.	Photo
1122	
1123	
1124	
1125	

Tag No.	Photo
1126	
1127	
1128	
1129	

Tag No.	Photo
1130	
1131	
1132	
1133	

Tag No.	Photo
1134	
1135	
1136	
1137	

Tag No.	Photo
1138	
1139	
1140	
1141	

Tag No.	Photo
1142	
1143	
1145	
1146	

Tag No.	Photo
1147	
1148	
1149	
1150	

Tag No.	Photo
1151	
1152	
1153	
1154	

Tag No.	Photo
1155	
1156	
1157	
1158	

Tag No.	Photo
1159	
1160	
1161	
1162	

Tag No.	Photo
1163	
1164	
1165	
1166	

Tag No.	Photo
1167	
1168	
1169	
1170	

Tag No.	Photo
1171	
1172	
1173	
1174	

Tag No.	Photo
1175	
1176	
1177	
1178	

Tag No.	Photo
1179	
1180	
1181	
1182	

Tag No.	Photo
1183	
1184	
1185	
1186	

Tag No.	Photo
1187	
1188	
1189	
1190	

Tag No.	Photo
1191	
1192	
1193	
1194	

Tag No.	Photo
1195	
1196	
1197	
1198	

Tag No.	Photo
1199	
1200	
1201	
1202	

Tag No.	Photo
1203	
1204	
1205	
1206	

Tag No.	Photo
1207	
1208	
1209	
1210	

Tag No.	Photo
1211	
1212	
1213	
1214	

Tag No.	Photo
1215	
1216	
1217	
1218	

Tag No.	Photo
1219	
1220	
1221	
1222	

Tag No.	Photo
1223	
1224	
1225	
1226	

Tag No.	Photo
1227	
1228	
1229	
1230	

Tag No.	Photo
1231	
1232	
1233	
1234	

Tag No.	Photo
1237	
1238	
1239	
1240	

Tag No.	Photo
1241	
1242	
1243	
1244	

Tag No.	Photo
1245	
1246	
1247	
1248	

Tag No.	Photo
1249	
1250	
1251	
1252	

Tag No.	Photo
1253	
1254	
1255	
1256	

Tag No.	Photo
1257	
1258	
0	No photo
32	No photo
43	No photo
339	No photo
1074	No photo

Appendix G

Acoustic Assessment

GLEN IRIS GOLF COURSE

DEAN RD, JANDAKOT

STRUCTURE PLAN
ACOUSTIC ASSESSMENT

SEPTEMBER 2021

OUR REFERENCE: 27789-5-20325

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
HERRING STORER ACOUSTICS
P.O. Box 219, Como, W.A. 6952
(08) 9367 6200
hsa@hsacoustics.com.au

DOCUMENT CONTROL PAGE

ACOUSTIC ASSESSMENT
GLEN IRIS GOLF COURSE

Job No: 20325

Document Reference: 27789-5-20325

DOCUMENT INFORMATION			
Author:	Paul Daly	**Checked By:**	George Watts
Date of Issue :	24 May 2021		

REVISION HISTORY

Revision	Description	Date	Author	Checked
1	Issued For comment	24/05/2022	PLD	TR
2	Incorporate City Cockburn Comments (RFI 2/8/21)	16/09/2021	PLD	TR
3	Incorporate City Cockburn Comments (Environ Health Dept)	21/04/2022	PLD	
4	MRWA comments addressed	30/06/2022	PLD	
5	Updated for Schedule of Modifications as per WAPC approval	21/08/2023	PLD	

DOCUMENT DISTRIBUTION

Copy No.	Version No.	Destination	Hard Copy	Electronic Copy
1	1	Acumen Development Solutions Attn : Mitch Dodson Email: Mitch.Dodson@acumends.com.au		✓
1	2	Acumen Development Solutions Attn : Mitch Dodson Email: Mitch.Dodson@acumends.com.au		✓
1	3	Acumen Development Solutions Attn : Jarrod Rendell Email: Mitch.Dodson@acumends.com.au		✓
1	4	Acumen Development Solutions Attn : Jarrod Rendell Email: Mitch.Dodson@acumends.com.au		✓
1	5	Rowe Group Attn : Rebecca Thompson Email: Rebecca.Thompson@rowegroup.com.au		✓

CONTENTS

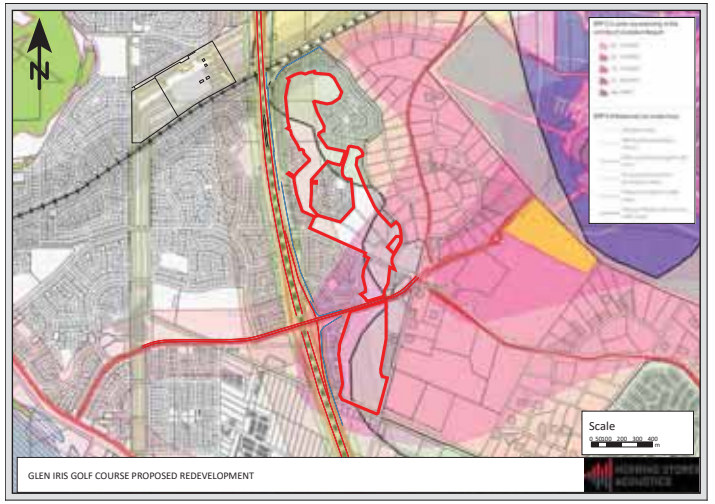
APPENDICIES

EXECUTIVE SUMMARY

Herring Storer Acoustics have been commissioned by Acumen Development Solutions to carry out an acoustical assessment of the proposed development of the Glen Iris Golf Course into residential land use.

This acoustic assessment is provided in support of the Structure Plan process, therefore provides high level acoustic advice for the proposed development to inform the development team and regulatory authorities of the potential noise issues and associated noise controls. It is noted that detailed design for these requirements can be applied at subdivision staging, once further information is available.

The proposed residential estate is potentially impacted by noise from road traffic (Kwinana Freeway and Berigan Drive), rail traffic (Yangebup Freight Rail Line and future Thornlie to Cockburn Passenger Rail Line) and aircraft associated with Jandakot Airport with the figure below showing the PlanWa advice regarding noise impacts. Consideration has also been given to the potential impact from noise related to existing industry to the south of the development on Prinsep Road.



Based on the above, the following criteria are proposed for this development:

ROAD TRAFFIC AND RAIL NOISE

External

Day	Maximum of 55 dB(A) L_{Aeq}
Night	Maximum of 50 dB(A) L_{Aeq}
Outdoor Living Areas*	Maximum of 50 dB(A) $L_{Aeq\ (night\ period)}$

*This is a suggested noise level; noise is to be reduced as far as practicably possible.

Internal

Sleeping Areas	35 dB(A) $L_{Aeq(night)}$
Living Areas	40 dB(A) $L_{Aeq(day)}$

AIRCRAFT NOISE

Internal

Sleeping areas	50 dB(A) L_{Amax}
Other habitable spaces	55 dB(A) L_{Amax}

ROAD NOISE

Based on the development plan, it is proposed that areas are to be constructed for the purpose of residential with some commercial usage for the section to the north of Berrigan Drive. Noise levels for the future road traffic are such, that at some of the lot façades, the noise could exceed the 55 dB(A) noise Target. Therefore, amelioration in the form of Quiet House Design is required. These areas have been identified and general "deemed to satisfy packages" as per the SPP 5.4 guidelines applied. Detailed design for these requirements can be applied at subdivision staging once further information is available.

Given the noise levels, the lot façades would require Quiet House Design in the form of Package A. Appendix F contains the deemed to satisfy packages or Quiet House Design requirements and an area plan outlining the effected Lots.

Additionally, as they are over the "Target" noise level, the lots in this area would require notification on titles of the Freeway and Berrigan Drive noise impact.

RAIL NOISE

For train noise associated with the Yangebup Freight Line, due to the topography (line being in a cutting) and the noise wall and residential housing between the rail line and the development, the noise levels for the worst-case future scenario of one train per hour have been assessed as being below the night time noise Target criteria at the façade lots of the development boundary, hence there are no acoustic requirements.

Information was sought from the Metronet and the EPA as to the proposed design and impact of noise levels from the proposed future passenger rail and freight rail lines.

As there are existing residential premises located on the proposed rail line, development of the future rail line operations needs to consider these highly noise sensitive premises.

Review of the preliminary design noise levels, as provided in the *Thornnlie-Cockburn Link Noise and Vibration Assessment Report Number 675.10409.00100-R01* shows that noise levels to these existing residential premises will be designed such that the target noise levels (as per SPP 5.4) will be met.

As the Glen Iris development is set back behind these residential premises, noise levels would be less than those at the lot façades, hence compliance with the requirements of SPP 5.4 would be achieved. Therefore, noise modelling of the future proposed Freight / Passenger Rail would not be required for this development as the infrastructure provide will meet the requirements of SPP 5.4 for existing residential premises closer to the rail line.

Notwithstanding the above, confirmation assessment of the freight rail has been undertaken and calibrated to existing noise levels. These noise levels have been increased for future rail freight movements of one per hour. This is based on the current built form, including the noise wall

Herring Storer Acoustics
Our ref: 27789-5-20325

located along the existing residence boarding the rail line. When the proposed passenger rail development is constructed, the noise mitigation requirements would incorporate the freight rail, hence noise levels would be less than those considered in this assessment. This provides a conservative acoustic assessment for the proposed development, where the future freight rail increases, and no further noise attenuation works are carried out.

AIRCRAFT NOISE

Based on guidance from SPP 5.3, the majority of the northern section of the proposed development site is acceptable for residential development, as indicated in Figure 5.3.

The blue area (ANEF 20 to 25) is also acceptable for residential development, although it requires conditions. These conditions are such that the internal noise level (for aircraft noise events) are to meet the criteria contained in AS2021. The affected lots within this development are those within the blue contour as noted in Figure 5.3.

Further to the criteria contained in SPP 5.3, the City of Cockburn LPP 1.12 contains advice as follows:

> *Consideration should be given to noise attenuation for noise sensitive premises within the Frame area corresponding to the requirements of Western Australian Planning Commission publication "Aircraft Noise Insulation for Residential Development in the Vicinity of Perth Airport" 2004 (such as the installation of 6.38mm laminated glazing), in order to ensure that residential amenity is adequately protected within noise sensitive developments.*

Therefore, whilst at this stage of the development the lot configuration and layout are not known, a preliminary "deemed to satisfy construction" has been provided within this report for areas within the ANEF 20-25 noise contour. This can form the basis of future concept designs and can be refined at subdivision staging. For area outside the ANEF 20 but contained within the Frame Area upgraded glazing would be required (as per LPP 1.12).

INDUSTRY NOISE

Based on the City of Cockburn Intramaps, there is industrial zoned land use to the south of the proposed residential development, as shown in Figure 5.4.

As there are existing residential premises located on Imlah Court, located at a closer distance to the industrial premises than the proposed development, expectations are that compliance with Regulatory criterial contained in the *Environmental Protection (Noise) Regulations 1997* would be achieved for the existing situation at these locations. However, consideration of the potential for noise impact from this area has been undertaken for the proposed residential development.

Three forms of noise amelioration have been considered for the future residence located on the southern end of the Glen Iris development, with these being as follows:

1. Noise Wall (Prinsep Road)
2. Upgrade Building Design (As per SPP 5.3)
3. Setback

Given the implementation of the above, noise levels can be managed, regardless of compliance with the regulatory criteria.

1.0 INTRODUCTION

Herring Storer Acoustics have been commissioned by Acumen Development Solutions to carry out an acoustical assessment of the proposed development of the Glen Iris Golf Course into residential land use.

The proposed residential estate is potentially impacted by noise from the following noise sources:

- Road Traffic Noise- Kwinana Freeway and Berrigan Drive.
- Rail Traffic Noise - Existing Yangebup Freight Rail Line and proposed Thornlie to Cockburn Passenger Rail Line.
- Aircraft Noise – Aircrafts associated with Jandakot Airport.
- Industrial Noise – Existing Industry located on Prinsep Road.

The objectives of the study were to:

- Measure existing noise levels at the proposed development from vehicles travelling on Kwinana Freeway and Berrigan Drive.
- Measure existing noise levels at the proposed development from trains travelling on the Yangebup Freight Rail Line.
- Determine by noise modelling the noise levels that would be received at residences within the development from vehicles travelling on the future Kwinana Freeway, Berrigan Drive and Yangebup freight Rail Line and proposed passenger rail.
- Assess the predicted noise levels received at residence for compliance with the requirements of the WAPC State Planning Policy 5.4 "Road and Rail Noise" (SPP 5.4).
- If exceedances are predicted, comment on possible noise amelioration options for compliance with the appropriate criteria.
- Assess the predicted noise levels received at residence for compliance with the requirements of the WAPC State Planning Policy 5.3 "Land Use Planning in the Vicinity of Jandakot Airport" (SPP 5.3).
- Consider impacts of industrial noise associated with existing industry located on Prinsep Road, in accordance with the City of Cockburn's Local Planning Policy 1.12 (LPP 1.12).

This acoustic assessment is provided in support of the Structure Plan process, therefore provides high level acoustic advice for the proposed development to inform the development team and regulatory authorities of the potential noise issues and associated noise controls. It is noted that detailed design for these requirements can be applied at subdivision staging, once further information is available.

2.0 CRITERIA

2.1 NOISE INGRESS INTO DEVELOPMENT

The Western Australian Planning Commission (WAPC) released on 6th September 2019 State Planning Policy 5.4 *"Road and Rail Noise".* The requirements of State Planning Policy 5.4 are outlined below.

POLICY APPLICATION (Section 4)

When and where it applies (Section 4.1)

SPP 5.4 applies to the preparation and assessment of planning instruments, including region and local planning schemes; planning strategies, structure plans; subdivision and development proposals in Western Australia, where there is proposed:

*a) noise-sensitive land-use within the policy's trigger distance of a transport corridor as specified in **Table 1**;*

*b) New or major upgrades of roads as specified in **Table 1** and maps **(Schedule 1,2 and 3);** or*

*c) New railways or major upgrades of railways as specified in maps (**Schedule 1, 2 and 3);** or any other works that increase capacity for rail vehicle storage or movement and will result in an increased level of noise.*

Policy trigger distances (Section 4.1.2)

***Table 1** identifies the State's transport corridors and the trigger distances to which the policy applies.*

*The designation of land within the trigger distances outlined in **Table 1** should not be interpreted to imply that land is affected by noise and/or that areas outside the trigger distances are un-affected by noise.*

*Where any part of the lot is within the specified trigger distance, an assessment against the policy is required to determine the likely level of transport noise and management/ mitigation required. An initial screening assessment (**guidelines: Table 2: noise exposure forecast**) will determine if the lot is affected and to what extent."*

TABLE 1: TRANSPORT CORRIDOR CLASSIFICATION AND TRIGGER DISTANCES

Transport corridor classification	*Trigger distance*	*Distance measured from*
Roads		
Strategic freight and major traffic routes *Roads as defined by Perth and Peel Planning Frameworks and/or roads with either 500 or more Class 7 to 12 Austroads vehicles per day, and/or 50,000 per day traffic volume*	*300 metres*	*Road carriageway edge*
Other significant freight/traffic routes *These are generally any State administered road and/or local government road identified as being a future State administered road (red road) and other roads that meet the criteria of either >=23,000 daily traffic count (averaged equivalent to 25,000 vehicles passenger car units under region schemes)*	*200 metres*	*Road carriageway edge*
Passenger railways		
	100 metres	*Centreline of the closest track*
Freight railways		
	200 metres	*Centreline of the closest track*

Proponents are advised to consult with the decision making authority as site specific conditions (significant differences in ground levels, extreme noise levels) may influence the noise mitigation measures required, that may extend beyond the trigger distance.

POLICY MEASURES (Section 6)

The policy applies a performance-based approach to the management and mitigation of transport noise. The policy measures and resultant noise mitigation will be influenced by the function of the transport corridor and the type and intensity of the land-use proposed. Where there is risk of future land-use conflict in close proximity to strategic freight routes, a precautionary approach should be applied. Planning should also consider other broader planning policies. This is to ensure a balanced approach takes into consideration reasonable and practical considerations.

Noise Targets (Section 6.1)

***Table 2** sets out noise targets that are to be achieved by proposals under which the policy applies. Where exceeded, an assessment is required to determine the likely level of transport noise and management/mitigation required.*

In the application of the noise targets the objective is to achieve:

- *indoor noise levels as specified in **Table 2** in noise sensitive areas (for example, bedrooms and living rooms of houses, and school classrooms); and*
- *a reasonable degree of acoustic amenity for outdoor living areas on each residential lot. For non-residential noise-sensitive developments, for example schools and child care centres the design of outdoor areas should take into consideration the noise target.*

It is recognised that in some instances, it may not be reasonable and/or practicable to meet the outdoor noise targets. Where transport noise is above the noise targets, measures are expected to be implemented that balance reasonable and practicable considerations with the need to achieve acceptable noise protection outcomes.

TABLE 2: NOISE TARGETS

Proposals	New/Upgrade	Noise Targets		
		Outdoor		Indoor
		Day (L_{Aeq}(Day) dB) (6 am-10 pm)	Night (L_{Aeq}(Night)dB) (10 pm-6 am)	(L_{Aeq} dB)
Noise-sensitive land-use and/or development	New noise sensitive land use and/or development within the trigger distance of an existing/proposed transport corridor	55	50	L_{Aeq} (Day) 40(Living and work areas) L_{Aeq} (Night) 35 (bedrooms)
Roads	New	55	50	N/A
	Upgrade	60	55	N/A
Railways	New	55	50	N/A
	Upgrade	60	55	N/A

Notes:

- *The noise target is to be measured at one metre from the most exposed, habitable façade of the proposed building, which has the greatest exposure to the noise-source. A habitable room has the same meaning as defined in State Planning Policy 3.1 Residential Design Codes.*
- *For all noise-sensitive land-use and/or development, indoor noise targets for other room usages may be reasonably drawn from Table 1 of Australian Standard/New Zealand Standard AS/NZS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors (as amended) for each relevant time period.*
- *The 5dB difference in the criteria between new and upgrade infrastructure proposals acknowledges the challenges in achieving noise level reduction where existing infrastructure is surrounded by existing noise-sensitive development.*
- *Outdoor targets are to be met at all outdoor areas as far as is reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines. For example, it is likely unreasonable for a transport infrastructure provider to achieve the outdoor targets at more than 1 or 2 floors of an adjacent development with direct line of sight to the traffic.*

Noise Exposure Forecast (Section 6.2)

*When it is determined that SPP 5.4 applies to a planning proposal as outlined in Section 4, proponents and/or decision makers are required to undertake a preliminary assessment using **Table 2**: noise exposure forecast in the guidelines. This will provide an estimate of the potential noise impacts on noise-sensitive land-use and/ or development within the trigger distance of a specified transport corridor. The outcomes of the initial assessment will determine whether:*

- *no further measures is required;*
- *noise-sensitive land-use and/or development is acceptable subject to deemed-to-comply mitigation measures; or*
- *noise-sensitive land-use and/or development is not recommended. Any noise-sensitive land-use and/ or development is subject to mitigation measures outlined in a noise management plan."*

2.2 STATE PLANNING POLICY 5.3 LAND USE IN THE VICINITY OF JANDAKOT AIRPORT

AS2021: Acoustics – Aircraft Noise Intrusion-Building Siting and Construction, provides guidelines for determines the type of building construction necessary to provide a given noise reduction, given that external windows and doors are closed.

Additionally, guidance has been sought from *State Planning Policy 5.3 Land use in the vicinity of Jandakot airport.*

2.2.1 Building Site Acceptability

AS2021:2015 lists the building types compared to the acceptable ANEF contour in Table 2.1 of AS2021:2015. The applicable building types are reproduced in Table 1 below.

TABLE 1 – ANEF ACCEPTABILITY FOR SITING AND CONSTRUCTION

Building Type	ANEF zone of Site		
	Acceptable	Conditionally Acceptable	Unacceptable
House, home unit, flat, caravan park	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF

AS2021:2015 *"Acoustics – Aircraft Noise Intrusion-Building Siting and Construction"* provides guidelines for determining the type of building construction necessary to provide a given noise reduction, given that external windows and doors are closed.

Indoor design sound levels for determination of aircraft noise reductions are given as follows:

Sleeping areas	-	50 dB(A)
Other habitable spaces	-	55 dB(A)

For commercial buildings:

Private offices	-	55 dB(A)
Open offices	-	65 dB(A)
Shops, showrooms etc.	-	75 dB(A)
Industrial	-	75 dB(A)

We note that the above noise levels are maximum noise levels.

2.3 CITY OF COCKBURN LOCAL PLANNING POLICY 1.12 – NOISE ATTENUATION

An Acoustic Report must accompany a Structure Plan, variations to a Structure Plan that materially alter the Plans intent or a Local Development Plan. The Acoustic Report shall be prepared in accordance with the attached City of Cockburn Noise Attenuation Guidelines where:

1. Noise sensitive development is proposed in the vicinity of an existing or future major road, rail infrastructure or a freight handling facility as required by SPP 5.4;
2. The land is located within either the Core Area or Frame Area for Jandakot Airport as identified by SPP 5.3; or
3. Noise sensitive development and commercial, industrial or light industry land uses or essential infrastructure are proposed in close proximity.

2.3.1 NOISE INTRUSION (NOISE SENSITIVE DEVELOPMENT)

1. Noise sensitive developments are to be designed to achieve the following sound levels:

   (a) Leq 35 dB(A) in sleeping areas (bedrooms); and
   (b) Leq 40 dB(A) in living/work areas and other habitable rooms.

   IMPORTANT NOTE:
   The Leq level should not be unduly biased toward the lower frequencies of the octave band spectrum. If lower frequencies are dominant in sound levels taken during the sampling phase of reporting (below 200Hz or a 15-20dB difference between LA and LC levels), the Acoustic Consultant shall discuss the findings with the City in developing appropriate solutions to ensure that low frequency noise is appropriately attenuated, prior to the submission of the final Acoustic Report.

2. For all other developments, noise intrusion is to be controlled to achieve the indoor design sound levels for buildings as set out in Australian Standard AS/NZS2107: "Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors".
3. For noise sensitive developments in close proximity to road and rail infrastructure, the report must address the requirements of SPP 5.4, including the requirement for a reasonable degree of acoustic amenity in at least one outdoor living area.
4. For noise sensitive developments in close proximity to freight rail infrastructure or other sources of vibration, the Acoustic Report should also address ground borne vibration levels to ensure that occupants of the development are not exposed to an unacceptable level of vibration. The report should make reference to:
   (a) Australian Standard 2670.2-1990 "Evaluation of human exposure to whole-body vibration; Part 2: Continuous and shock induced vibration in buildings (1 to 80 Hz)"
   (b) ISO 2631-2:2003 "Evaluation of human exposure to whole-body vibration Part 2: Vibration in buildings (1 Hz to 80 Hz)";
   (c) British Standard BS6472-2008: "Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)".
5. Residential developments are to be constructed to meet the requirements of the National Construction Code (as amended) and the Building Code of Australia Part F5 (as amended).

2.3.2 NOISE SOURCE IDENTIFICATION

Acoustic reports must identify all noise sources relevant to a development, including those which may require detailed assessment at a later stage. Ambient environmental noise sources that are relevant within the City of Cockburn include the following:

1. Noise from Road, Rail and Freight Infrastructure
2. Breakout and Street Noise
3. Mechanical Plant and Equipment
4. Co-existing Land Uses
5. Noise Sensitive Developments in Proximity to Jandakot Airport

2.4 APPROPRIATE CRITERIA

Based on the above, the following criteria are proposed for this development:

ROAD TRAFFIC AND RAIL NOISE

External

Day	Maximum of 55 dB(A) L_{Aeq}
Night	Maximum of 50 dB(A) L_{Aeq}
Outdoor Living Areas*	Maximum of 50 dB(A) $L_{Aeq\ (night\ period)}$

*This is a suggested noise level; noise is to be reduced as far as practicably possible.

Internal

Sleeping Areas	35 dB(A) $L_{Aeq(night)}$
Living Areas	40 dB(A) $L_{Aeq(day)}$

AIRCRAFT NOISE

Internal

Sleeping areas	50 dB(A) L_{Amax}
Other habitable spaces	55 dB(A) L_{Amax}

3.0 NOISE MONITORING

Noise monitoring was undertaken as part of the study with the results used to calibrate the noise model.

In summary, the monitoring was undertaken over seven-day period commencing Monday 2nd December 2020. Monitoring was conducted at two locations, firstly at the northern end of the golf course, with the second location being in the south of the golf course

The results of this monitoring are summarised in Table 3.1.

TABLE 3.1 : SUMMARY OF MEASURED ROAD TRAFFIC NOISE LEVELS (dB(A))

Date	Day of week	North Monitor		South Monitor	
		$L_{Aeq,day}$ (6am to 10pm)	$L_{Aeq,night}$ (10pm to 6am)	$L_{Aeq,day}$ (6am to 10pm)	$L_{Aeq,night}$ (10pm to 6am)
2/12/2020	Wednesday	-	-	55.9	48.0
3/12/2020	Thursday	56.7	49.8	55.4	48.4
4/12/2020	Friday	57.4	48.0	57.3	48.6
5/12/2020	Saturday	56.8	49.1	55.2	49.3
6/12/2020	Sunday	55.1	50.2	53.6	47.4
7/12/2020	Monday	54.3	47.0	51.9	47.4
8/12/2020	Tuesday	54.6	48.1	52.5	45.7
Average (Weekdays)		**55.8**	**48.2**	**54.6**	**47.6**

Note: Based on the results of the noise monitoring the difference between the L_{Aeq} (Day) and L_{Aeq} (Night) is greater than 5 dB(A). Hence, achieving compliance with the day period criteria would also result in compliance with the night period criteria. Thus, the day period has been used for the assessment.

A third measurement location was included to calibrate noise levels for Berrigan Drive. The measurement was conducted on 14th September 2021. Short term (15 minute), noise levels were measured during peak traffic volumes, as referenced from the MRWA traffic count web site. The $L_{Aeq(15minute)}$ has been used as the overall L_{Aeq} day, based on current traffic volumes.

This method was used in place of continuous monitoring over 3 weekdays due to the potential change in traffic speeds etc and due to the construction of Jandakot Road, which was impacting Berrigan Drive in this area.

The short-term measurement of road traffic has been shown (previously) as being a conservative method when assessing noise levels for an existing roadway. This is due to the L_{Aeq} noise level measurement being based on peak traffic flows, hence is generally higher than the L_{Aeaday}, when measured over a 16-hour period.

This method provides information for the Structure Plan, which is used to inform the general acoustic requirements, and once Berrigan Drive returns to normal traffic conditions on the completion of the Jandakot Road works, then confirmation noise levels can be conducted.

The summarised results are contained in table 3.2.

TABLE 3.2 : SUMMARY OF MEASURED ROAD TRAFFIC NOISE LEVELS BERRIGAN DRIVE (dB(A))

Date	Day of week	L_{Aeq}	L_{A10}	L_{A90}
14/09/2021	Tuesday	68.8	72.5	56.7

For information, the results of the monitoring are shown graphically in Appendix E, with Figure 3.1 showing the location map, and Figure 3.2 showing the monitors in situ.

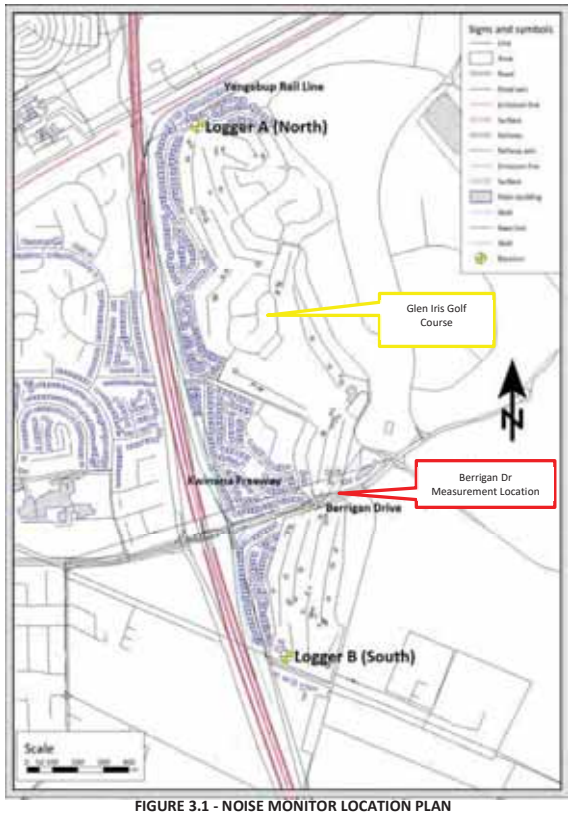


FIGURE 3.1 - NOISE MONITOR LOCATION PLAN


FIGURE 3.2 - NOISE MONITOR IN SITU

4.0 METHODOLOGY

4.1 ROAD TRAFFIC

The future road traffic volumes were based on information provided by the MRWA traffic modelling department. ROM24 2016 validation plots for 2016 and 2041 link volume plots were provided.

Predictive noise modelling has allowed for the following traffic data. It is noted that where available on the MRWA traffic maps site, current traffic counts were used to calibrate the measured noise levels.

Other information relevant to the calculations are shown below in Table 4.1.

TABLE 4.1 - NOISE MODELLING INPUT DATA

Parameter	Traffic Flow VPD Current	Traffic Flow VPD Future (2041)	Traffic Speed km/hr	Road Surface
Traffic flows VPD Kwinana Freeway South Bound	*48,368 (13%)	124,300 (11%)	100	Dense Graded Asphalt
Traffic flows VPD Kwinana Freeway North Bound	*55,082 (14%)	118,000 (11%)	100	Dense Graded Asphalt
Kwinana Freeway (South Bound) Berrigan Drive Offramp	9,000 (13%)	20,900 (11%)	60	Dense Graded Asphalt
Berrigan Drive to Kwinana Freeway (South Bound) Onramp	2,300 (17%)	7,700 (11%)	60	Dense Graded Asphalt
Berrigan Drive East of Kwinana Freeway (East Bound)	*27,780 (11%)*	20,000 (9%)	70	Dense Graded Asphalt
Berrigan Drive East of Kwinana Freeway (West Bound)		17,300 (11%)	70	Dense Graded Asphalt

* Based on current traffic counts (2018 to 2021)

Other input data for the model included:

- Traffic data from MRWA (https://mrapps.mainroads.wa.gov.au/TrafficMap/)
- Noise source heights for the three road source strings (Passenger Vehicles, Heavy Vehicles Engine and Heavy Vehicle Exhausts) are +0.5, +1.5 and +3.6m, with a noise correction of -0.8 and -8.0 applied to the heavy vehicles engine and exhaust noise sources.

- Topographical data, with the ground level within the development based on natural ground levels as surveys conducted.
- A +2.5 dB adjustment to allow for façade reflection.
- Development receiver heights at 1.4m above ground level.
- Calculations based on CoRTN algorithms.
- Other parameter listed in SPP 5.4 as to guidance for modelling road traffic noise / assessment.

To determine the noise that would be received within the development from the surrounding road network, acoustic modelling was carried out using the computer program 'SoundPlan'.

The following scenario have been modelled:

- Current Traffic flows, with existing walls and surrounding residential housing.
- Future traffic flows, with existing walls and surrounding residential housing

Based on the above, the noise contours plot for day period for the above modelling scenario is attached in Appendix B.

4.2 RAIL TRAFFIC

4.2.1 FREIGHT RAIL

To determine the requirements of noise associated with the Yangebup freight Line, acoustic modelling was carried out using the computer program 'SoundPlan' using Nord2000 calculation methodology.

As the Freeway is the dominant noise source in the area, it is impacting the ability to measure current noise levels of train movements on the freight line and provide a basis for a statistical analysis. Additionally, the freight line is contained within a cutting for this section of track, as well as there being a noise wall and two storey residential buildings between the development and the rail line.

Reference was made to other monitoring conducted on the Cockburn freight line as to the validity of using an $L_{Aeq(1hour)}$ level for calibration of this assessment. Previous studies resulted in an $L_{Aeq(130seconds)}$ of 68.7 dB(A) for busier sections of the freight line. This was at a monitoring point 20m from the freight line. For information, calculating this noise level to the equivalent $L_{Aeq(1hour)}$ gives a resultant noise level of 54.3 dB(A).

Freight rail movements generally involved S class locomotives, with up to 150 wagons. Speeds were generally posted as 70km per hour.

Based on the calibrated freight rail line, the following scenarios were modelled:

1. Ultimate capacity volumes, i.e. 24 per 24 hours at 1 per hour, with existing walls and residential buildings between train line and proposed development.

Based on the above, the noise contours plots for day and night period for the above modelling scenarios are attached in Appendix C with the resultant level discussed further in the next section.

4.2.2 PROPOSED FUTURE FREIGHT / PASSENGER RAIL

Information was sought from the Metronet and the EPA as to the proposed design and impact of noise levels from the proposed future passenger rail and freight rail lines.

As there are existing residential premises located on the proposed rail line, development of the future rail line operations needs to consider these highly noise sensitive premises.

Review of the preliminary design noise levels, as provided in the *Thornnlie-Cockburn Link Noise and Vibration Assessment Report Number 675.10409.00100-R01* shows that noise levels to these existing residential premises will be designed such that the target noise levels (as per SPP 5.4) will be met.

As the Glen Iris development is set back behind these residential premises, noise levels would be less than those at the façade lots, hence compliance with the requirements of SPP 5.4 would be achieved. Therefore, noise modelling of the future proposed Freight / Passenger Rail would not be required for this development as the infrastructure provide will meet the requirements of SPP 5.4 for existing residential premises closer to the rail line.

It is noted that assessment of the freight rail has been undertaken and calibrated to existing noise levels. These noise levels have been increased for future rail freight movements of one per hour. This is based on the current built form, including the noise wall located along the existing residence boarding the rail line, and the two storey dwellings currently in place. If the proposed passenger rail development goes ahead, the noise mitigation requirements would incorporate the freight rail, hence noise levels would be less than those considered in this assessment. This provides as conservative acoustic assessment for the proposed development, where the future freight rail increases, and no further noise attenuation works are carried out.

5.0 RESULTS / ASSESSMENT

5.1 ROAD TRAFFIC

Under the WAPC State Planning Policy 5.4, for this development, the appropriate "Noise Targets" to be achieved under SPP 5.4, external to a residence are:

External	
Day	Maximum of 55 dB(A) L_{Aeq}
Night	Maximum of 50 dB(A) L_{Aeq}

The policy states that the "outdoor targets are to be met at all outdoor areas as far as reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines". The Policy also states, under Section 6 – Policy Measures that "a reasonable degree of acoustic amenity for living areas on each residential lot". The policy recognises that "it may not be practicable to meet the outdoor noise targets".

The Policy states the following acceptable internal noise levels:

Internal	
Living and Work Areas	$L_{Aeq(Day)}$ of 40 dB(A)
Bedrooms	$L_{Aeq(Night)}$ of 35 dB(A)

For this development, compliance with the requirements of SPP 5.4, noise modelling and assessment are based on the day period.

The results of the acoustic assessment indicate that noise received at the proposed residential development would generally comply with the "Noise Targets" as outlined in SPP 5.4 with the exception of three main areas. These are identified below in Figure 5.1 and are discussed further below.

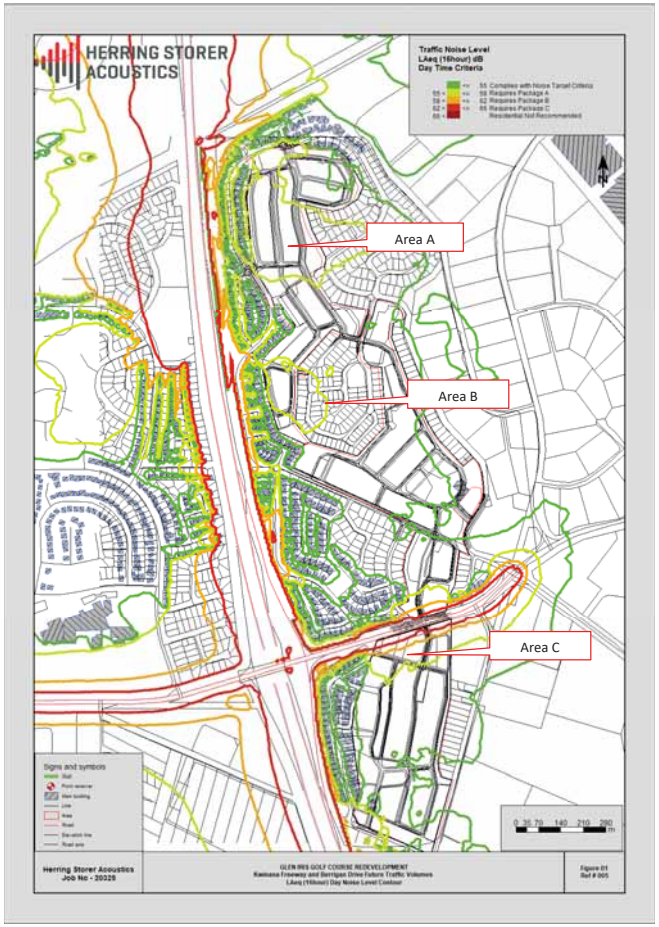


FIGURE 5.1 – FUTURE ROAD TRAFFIC NOISE LEVELS

5.1.1 AREA A - NORTH

Based on the development plan, it is proposed that areas are to be constructed for the purpose of residential. As per Figure 5.2 the areas exceed the 55 dB(A) noise Target, however only marginally and likely at only the façade Lots. This is shown by the spread of noise through the existing dwellings located between the development and the Freeway.

Given the noise levels, the façade lots would require quiet house design in the form of Package A for ground floor locations. Appendix F contains the quiet house design requirements and an area plan outlining the effected Lots. It is noted that for upper levels, it is likely Package B would be applied, however specialist acoustic advice will be detailed at subdivision staging.

Additionally, as they are over the Target noise level, the lots in this area would require notification on titles of the Freeway noise impact.

FIGURE 5.2 – FUTURE ROAD TRAFFIC NOISE LEVELS, AREA A - NORTH

5.1.1 AREA B - CENTRAL

Based on the development plan, it is proposed that areas are to be constructed for the purpose of residential. As per Figure 5.3, the areas exceed the 55 dB(A) noise Target, however only marginally and likely at only the façade Lots. This is shown by the spread of noise through the existing dwellings located between the development and the Freeway.

Given the noise levels, the façade lots would require quiet house design in the form of Package A for ground floor locations. Appendix F contains the quiet house design requirements and an area plan outlining the effected Lots. It is noted that for upper levels, it is likely Package B would be applied, however specialist acoustic advice will be detailed at subdivision staging.

Additionally, as they are over the Target noise level, the lots in this area would require notification on titles of the Freeway noise impact.

FIGURE 5.3 – FUTURE ROAD TRAFFIC NOISE LEVELS, AREA B - CENTRAL

5.1.1 AREA C – BERRIGAN DRIVE AND SOUTH

Based on the development plan, it is proposed that areas are to be constructed for the purpose of residential south of Berrigan Drive, and Commercial for the section to the north of Berrigan Drive. As per Figure 5.4 the areas exceed the 55 dB(A) noise Target, however only marginally and likely at only the façade Lots.

Given the noise levels, the façade lots would require quiet house design in the form of Package A for ground floor locations. Appendix F contains the quiet house design requirements and an area plan outlining the effected Lots. It is noted that for upper levels, it is likely Package B would be applied, however specialist acoustic advice will be detailed at subdivision staging.

Additionally, as they are over the Target noise level, the lots in this area would require notification on titles of the Freeway and Berrigan Drive noise impact.

FIGURE 5.4 – FUTURE ROAD TRAFFIC NOISE LEVELS, AREA C - SOUTH

5.2 RAIL TRAFFIC

Under the WAPC State Planning Policy 5.4, for this development, the appropriate "Noise Targets" to be achieved under SPP 5.4, external to a residence are:

External

Day	Maximum of 55 dB(A) L_{Aeq}
Night	Maximum of 50 dB(A) L_{Aeq}

The policy states that the "outdoor targets are to be met at all outdoor areas as far as reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines". The Policy also states, under Section 6 – Policy Measures that "a reasonable degree of acoustic amenity for living areas on each residential lot". The policy recognises that "it may not be practicable to meet the outdoor noise targets".
The Policy states the following acceptable internal noise levels:

Internal

Living and Work Areas	$L_{Aeq(Day)}$ of 40 dB(A)
Bedrooms	$L_{Aeq(Night)}$ of 35 dB(A)

For this development, compliance with the requirements of SPP 5.4, noise modelling and assessment are based on the night period.

The results of the acoustic assessment indicate that noise received at the proposed residential development would comply with the "Noise Targets" as outlined in SPP 5.4. The resultant noise level for the future night period, considering one train movement per hour is shown below in Figure 5.5.

FIGURE 5.5 – FUTURE FREIGHT RAIL NOISE LEVELS

It is noted that the existing freight rail as per Section 4.2.1, has been undertaken and calibrated to existing noise levels. These noise levels have been increased for future rail freight movements of one per hour. This is based on the current built form, including the noise wall located along the existing residence boarding the rail line. If the proposed passenger rail development goes ahead, the noise mitigation requirements would incorporate the freight rail, hence noise levels would be less than those considered in this assessment. This provides as conservative acoustic assessment for the proposed development, where the future freight rail increases, and no further noise attenuation works are carried out.

5.3 AIRCRAFT NOISE

Based on guidance from SPP 5.3, the majority of the northern section of the proposed development site is acceptable for residential development, as indicated in Figure 5.6.

The blue area (ANEF 20 to 25) is also acceptable for residential development, although it requires conditions. These conditions are such that the internal noise level (for aircraft noise events) is to meet the criteria contained in AS2021. The affected lots within this development are those within the blue contour as noted in Figure 5.6.

Whilst at this stage of the development the lot configuration and layout are not known, a preliminary "deemed to satisfy construction" has been provided below for development within the ANEF 20-25 contour. This can form the basis of future concept designs and can be refined at subdivision staging.

Glazing:

Bedrooms:

- Total external door and window system area up to 40% of room floor area: Sliding or double hung with minimum 10mm single or 6mm-12mm-10mm double insulated glazing (R_w+C_{tr} 28 dB). Sealed awning or casement windows may use 6 mm glazing instead.
- Up to 60% floor area: as per above but must be sealed awning or casement type windows (R_w+C_{tr} 31dB).

Indoor living and work areas:

- Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulated glazing (R_w+C_{tr} 25dB).
- Up to 60% floor area: As per Bedrooms at up to 40% area (R_w+C_{tr} 28 dB).
- Up to 80% floor area: As per Bedrooms at up to 60% area (R_w+C_{tr} 31dB).

Walls:

Bedroom and indoor living and work areas to R_w+C_{tr} 45dB:

- One row of 92mm studs at 600mm centres with:
  - Resilient steel channels fixed to the outside of the studs; and
  - 9.5mm hardboard or 9mm fibre cement sheeting or 11mm fibre cement weatherboards or one layer of 19mm board cladding fixed to the outside of the channels; and
  - 75mm glass wool (11kg/m3) or 75mm polyester (14kg/m3) insulation, positioned between the studs; and
  - Two layers of 16mm fire-protective grade plasterboard fixed to the inside face of the studs.
  - Single leaf of 150mm brick masonry with 13mm cement render on each face.
  - Double brick: two leaves of 90mm clay brick masonry with a 20mm cavity between leaves.

Roof and Ceiling:

Tiled or colorbond roof with sarking and 10mm plasterboard ceiling R_w+C_{tr} 35.

Additional to the above there is a requirement where the lots within the ANEF 20 noise contour require notifications on titles for aircraft noise. The wording for the notification on title is as follows:

Notification:

"This lot is situated in the vicinity of Jandakot Airport, and is currently affected, or may in the future, be affected by aircraft noise. Noise exposure levels are likely to increase in the future as a result of increases in numbers of aircraft using the airport, changes in aircraft type or other operational changes. Further information about aircraft noise, including development restrictions and noise insulation requirements for noise-affected properties, are available on request from the relevant local government offices."

Further to the criteria contained in SPP 5.3, the City of Cockburn LPP 1.12 contains advice as follows:

> *Consideration should be given to noise attenuation for noise sensitive premises within the Frame area corresponding to the requirements of Western Australian Planning Commission publication "Aircraft Noise Insulation for Residential Development in the Vicinity of Perth Airport" 2004 (such as the installation of 6.38mm laminated glazing), in order to ensure that residential amenity is adequately protected within noise sensitive developments.*

Therefore, development outside of the ANEF 20-25 contour, but within the Frame Area would require upgraded glazing in the form of 6.38 laminate.

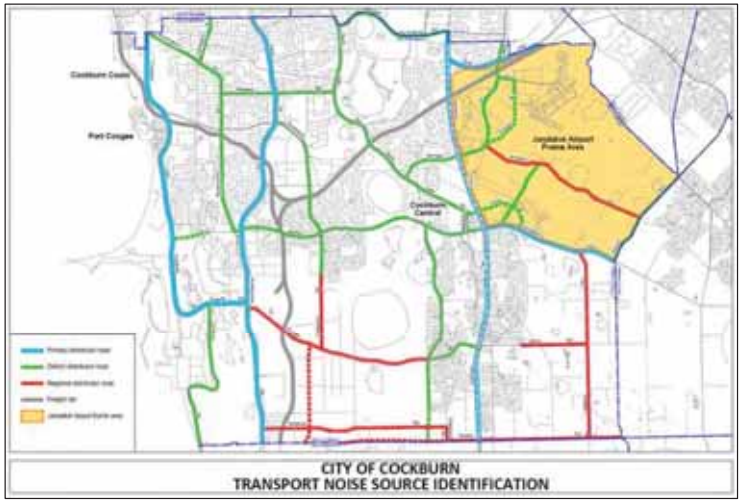


FIGURE 5.6 – JANDAKOT AIRPORT FRAME AREA NOISE CONSIDERATIONS

5.4 INDUSTRY NOISE

Based on the City of Cockburn Intramaps, there is industrial zoned land use to the south of the proposed residential development, as shown in Figure 5.7.

As there are existing residential premises located on Imlah Court, located at a closer distance to the industrial premises than the proposed development, expectations are that compliance with Regulatory criterial contained in the *Environmental Protection (Noise) Regulations 1997* would be achieved for the existing situation at these locations. However, consideration of the potential for noise impact from this area has been undertaken for the proposed residential development.

Three forms of noise amelioration have been considered for the future residence located on the southern end of the Glen Iris development, with these being as follows:

1. Noise Wall

   A solid, masonry barrier has been allowed for on the eastern boundary of the development, bounding Prinsep Road. The height of the wall has been set at 1.8m. As the proposed Lots are to back onto Prinsep Road, this will provide protection od outdoor living areas for noise associated with surrounding land use.

2. Upgrade Building Design

   As the proposed Lots for the southern section of the development lay within the Frame Area / ANEF 20/25 for Jandakot Airport, these residential dwellings will be required to meet the upgrade design as per SPP 5.4 / LPP 1.12. This will provide attenuation for other noise sources, such as industrial noise within the surrounding area.

3. Setback

As per the development plan attached in Appendix A, there is a 50m setback of lots from the southern boundary of the development. This will provide further amelioration in the form of distance attenuation.

FIGURE 5.7 – PLANNING LAND USE MAP

6.0 CONCLUSION

ROAD NOISE

Based on the development plan, it is proposed that areas are to be constructed for the purpose of residential with some commercial usage for the section to the north of Berrigan Drive. Noise levels for the future road traffic are such, that at some of the lot façades, the noise could exceed the 55 dB(A) noise Target. Therefore, amelioration in the form of Quiet House Design is required. These areas have been identified and general "deemed to satisfy packages" as per the SPP 5.4 guidelines applied. Detailed design for these requirements can be applied at subdivision staging once further information is available.

Given the noise levels, the lot façades would require Quiet House Design in the form of Package A. Appendix F contains the deemed to satisfy packages or Quiet House Design requirements and an area plan outlining the effected Lots.

Additionally, as they are over the "Target" noise level, the lots in this area would require notification on titles of the Freeway and Berrigan Drive noise impact.

RAIL NOISE

For train noise associated with the Yangebup Freight Line, due to the topography (line being in a cutting) and the noise wall and residential housing between the rail line and the development, the noise levels for the worst-case future scenario of one train per hour have been assessed as being below the night time noise Target criteria at the façade lots of the development boundary, hence there are no acoustic requirements.

Information was sought from the Metronet and the EPA as to the proposed design and impact of noise levels from the proposed future passenger rail and freight rail lines.

As there are existing residential premises located on the proposed rail line, development of the future rail line operations needs to consider these highly noise sensitive premises.

Review of the preliminary design noise levels, as provided in the *Thornnlie-Cockburn Link Noise and Vibration Assessment Report Number 675.10409.00100-R01* shows that noise levels to these existing residential premises will be designed such that the target noise levels (as per SPP 5.4) will be met.

As the Glen Iris development is set back behind these residential premises, noise levels would be less than those at the lot façades, hence compliance with the requirements of SPP 5.4 would be achieved. Therefore, noise modelling of the future proposed Freight / Passenger Rail would not be required for this development as the infrastructure provide will meet the requirements of SPP 5.4 for existing residential premises closer to the rail line.

Notwithstanding the above, confirmation assessment of the freight rail has been undertaken and calibrated to existing noise levels. These noise levels have been increased for future rail freight movements of one per hour. This is based on the current built form, including the noise wall located along the existing residence boarding the rail line. When the proposed passenger rail development is constructed, the noise mitigation requirements would incorporate the freight rail, hence noise levels would be less than those considered in this assessment. This provides a conservative acoustic assessment for the proposed development, where the future freight rail increases, and no further noise attenuation works are carried out.

AIRCRAFT NOISE

Based on guidance from SPP 5.3, the majority of the northern section of the proposed development site is acceptable for residential development, as indicated in Figure 5.3.

The blue area (ANEF 20 to 25) is also acceptable for residential development, although it requires conditions. These conditions are such that the internal noise level (for aircraft noise events) are to meet the criteria contained in AS2021. The affected lots within this development are those within the blue contour as noted in Figure 5.3.

Further to the criteria contained in SPP 5.3, the City of Cockburn LPP 1.12 contains advice as follows:

> *Consideration should be given to noise attenuation for noise sensitive premises within the Frame area corresponding to the requirements of Western Australian Planning Commission publication "Aircraft Noise Insulation for Residential Development in the Vicinity of Perth Airport" 2004 (such as the installation of 6.38mm laminated glazing), in order to ensure that residential amenity is adequately protected within noise sensitive developments.*

Therefore, whilst at this stage of the development the lot configuration and layout are not known, a preliminary "deemed to satisfy construction" has been provided within this report for areas within the ANEF 20-25 noise contour. This can form the basis of future concept designs and can be refined at subdivision staging. For area outside the ANEF 20 but contained within the Frame Area upgraded glazing would be required (as per LPP 1.12).

INDUSTRY NOISE

Based on the City of Cockburn Intramaps, there is industrial zoned land use to the south of the proposed residential development, as shown in Figure 5.4.

As there are existing residential premises located on Imlah Court, located at a closer distance to the industrial premises than the proposed development, expectations are that compliance with Regulatory criterial contained in the *Environmental Protection (Noise) Regulations 1997* would be achieved for the existing situation at these locations. However, consideration of the potential for noise impact from this area has been undertaken for the proposed residential development.

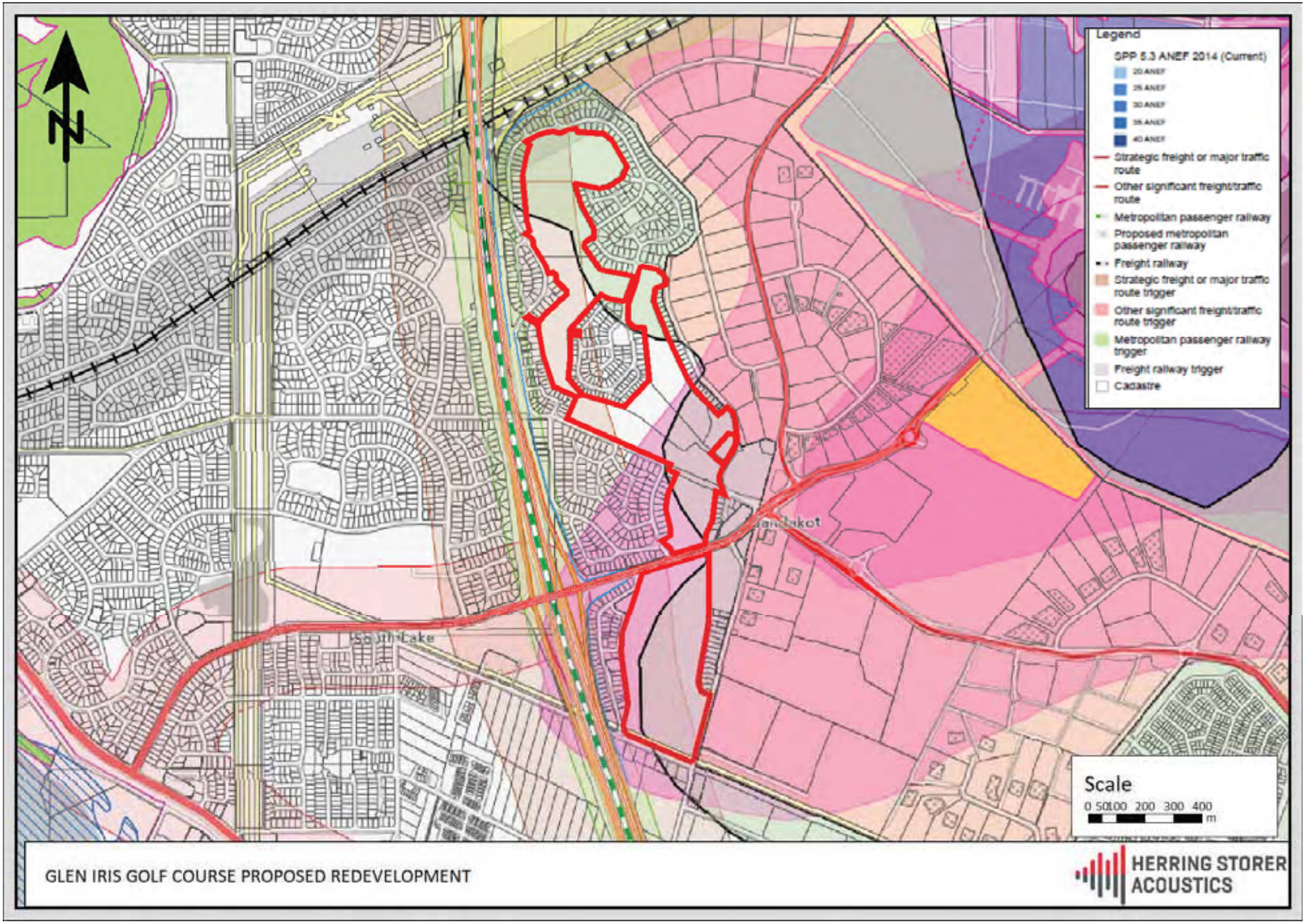
Three forms of noise amelioration have been considered for the future residence located on the southern end of the Glen Iris development, with these being as follows:

1. Noise Wall (Prinsep Road)
2. Upgrade Building Design (As per SPP 5.3)
3. Setback

Given the implementation of the above, noise levels can be managed, regardless of compliance with the regulatory criteria.

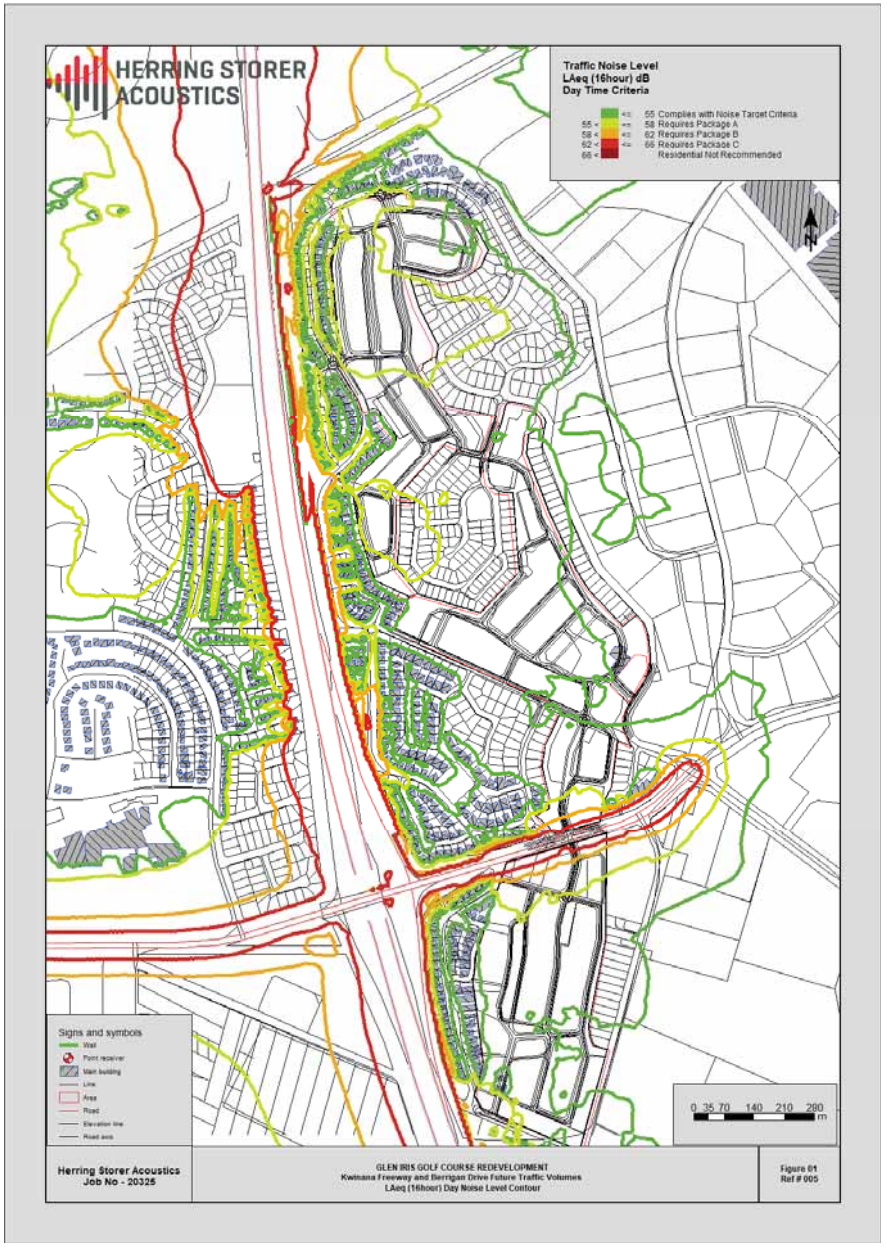
APPENDIX A

Area Plan



APPENDIX B

$L_{Aeq(16hr)}$ DAY
NOISE CONTOURS FOR FUTURE KWINANA FREEWAY and BERRIGAN DRIVE



APPENDIX C

$L_{Aeq(8hr)}$ NIGHT
NOISE CONTOURS FOR FUTURE YANGEBUP FREIGHT LINE

APPENDIX D

TRAFFIC FLOW VOLUMES – KWINANA FREEWAY and BERRIGAN DRIVE

mainroads

SITE 8450

Hourly Volume

2017/18
Monday to Friday

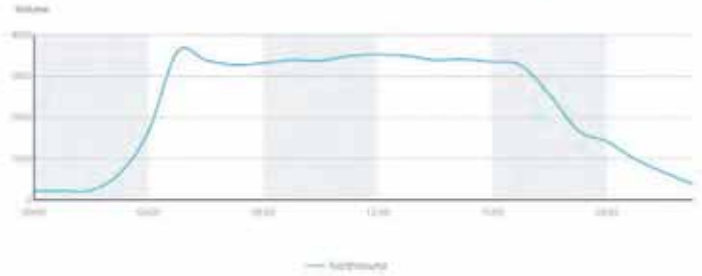
Kwinana Fwy (H015)

NB At Bridge Under Berrigan Dr (SLK 16.89)

All Vehicles

NB

Peak Statistics



mainroads

SITE 8437

Hourly Volume

2017/18
Monday to Friday

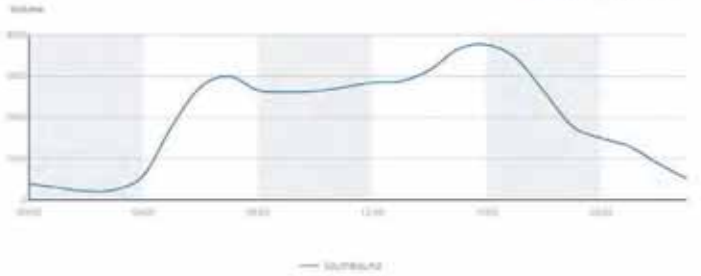
Kwinana Fwy (H015)

SB At Bridge Under Berrigan Dr (SLK 16.90)

All Vehicles

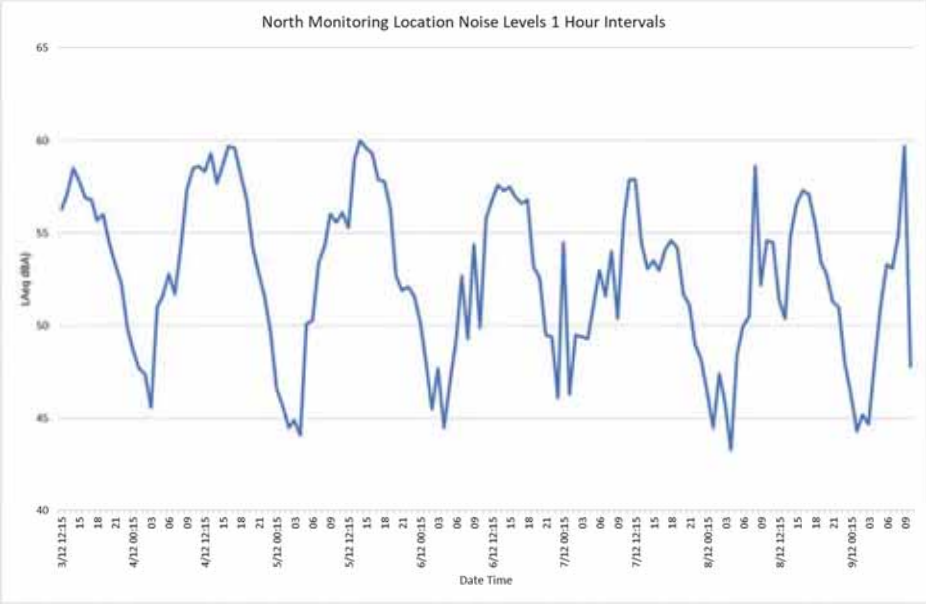
SB

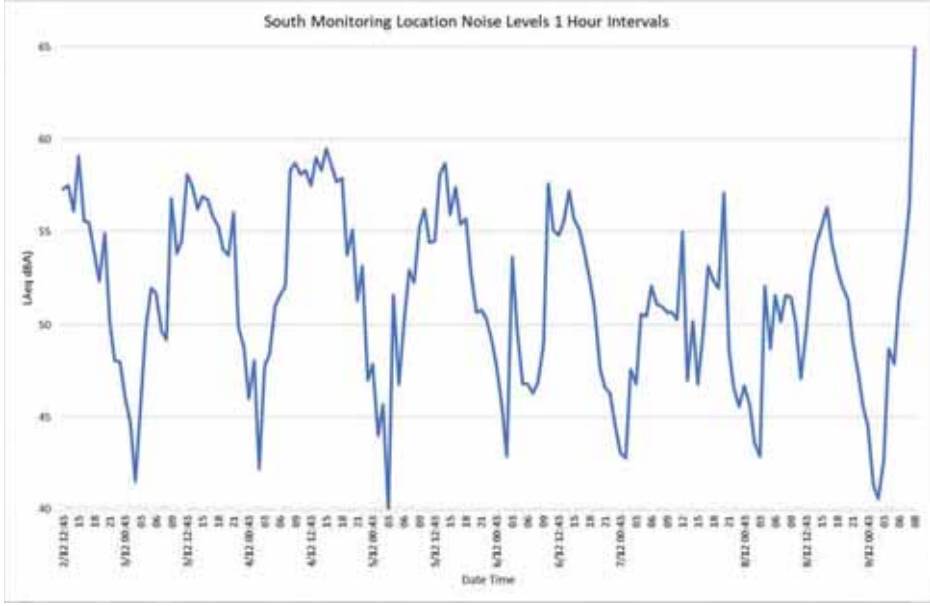
Peak Statistics



APPENDIX E

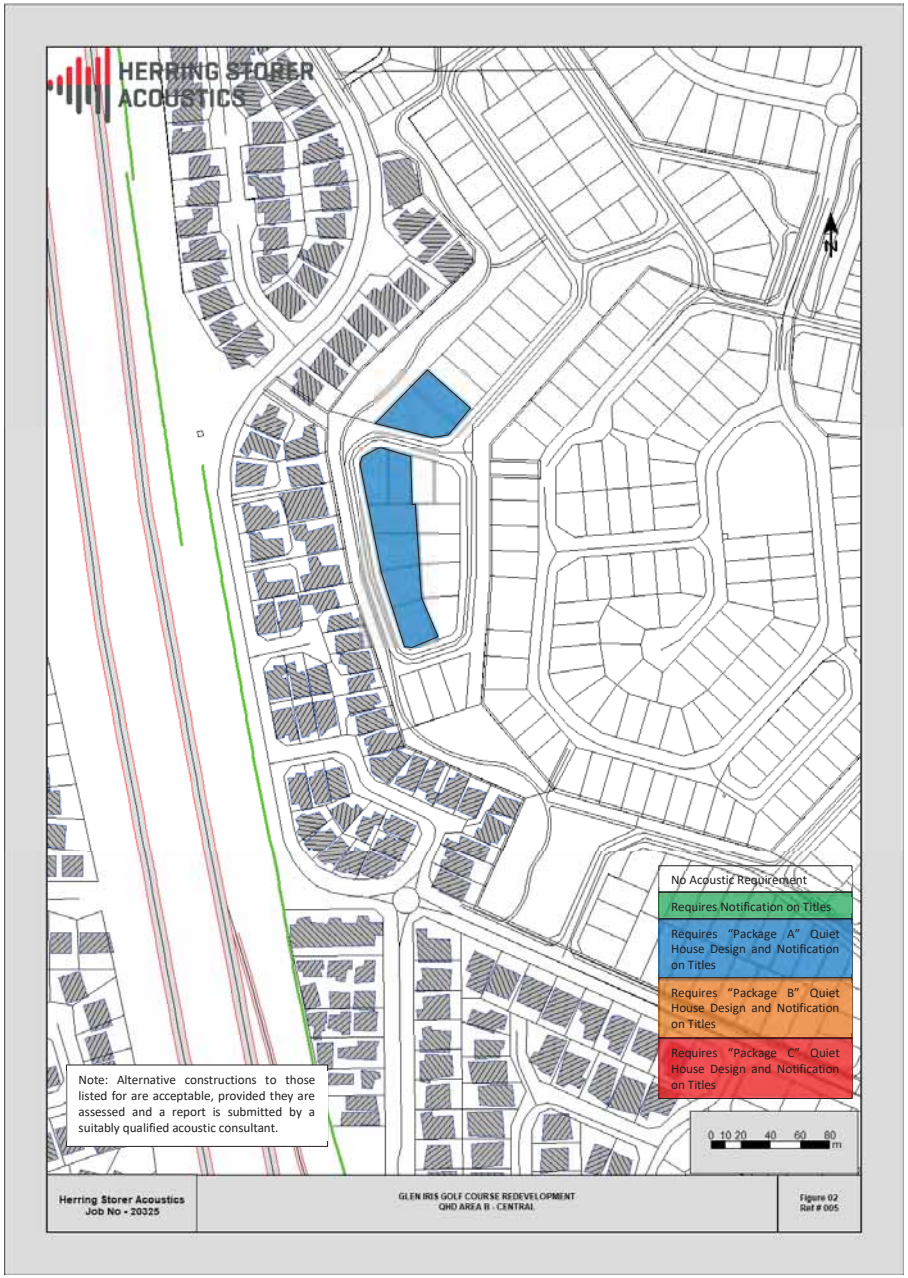
MONITORING DATA





APPENDIX F

QUIET HOUSE DESIGN REQUIREMENTS



Road Traffic and Passenger Rail
Quiet House Requirements
(*Based on Table 3 of State Planning Policy 5.4 2019*)

Exposure Category	Orientation to corridor	Acoustic rating and example constructions					Mechanical ventilation/air conditioning considerations
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	
A **Quiet House A**	**Facing**	**Bedroom and Indoor Living and work areas to Rw + Ctr 45dB** **Stud Frame Walls** ➢ One row of 92mm studs at 60mm centres with: ➢ Resilient steel channels fixed to the outside of the studs; and ➢ 9.5mm hardboard or 9mm fibre cement weatherboards or one layer of 19mm board cladding fixed to the outside of the channels; and ➢ 75mm glass wool (11kg/m3) or 75mm polyester (14kg/m3) insulation, positioned between the studs; and ➢ -Two layers of 16mm fire-protective grade plasterboard fixed to the inside face of the studs. **Brick Walls** ➢ Single leaf of 150mm brick masonry with 13mm cement render on each face: **OR** ➢ Double brick: two leaves of 90 mm clay brick masonry with a 20mm cavity between leaves.	**Bedrooms**: ➢ Fully glazed hinged door with certified **R_w+C_{tr} 28dB** rated door and frame including seals and 6mm glass **Indoor Living and work areas:** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ Total external door and window system area up to 40% of room floor area: Sliding or double hung with minimum 10 mm single or 6mm-12mm-10mm double insulted glazing (**R_w+C_{tr} 28 dB**). Sealed awning or casement windows may use 6 mm glazing instead**: OR** ➢ Up to 60% floor area: as per above but must be sealed awning or casement type windows (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 25dB**)**: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr28 dB : OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 31 dB**).	**To R_w+C_{tr} 35dB** ➢ Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard ceiling	➢ At least one outdoor living area located on the opposite side of the building from the transport corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum **2 metres** height above ground level	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of **Rw 40dB** into sensitive spaces ➢ Evaporative systems require attenuated ceiling air vents to allow closed windows ➢ Refrigerant-based systems need to be designed to achieve National Construction Code fresh air ventilation requirements ➢ Openings such as eaves, vents and air inlets must be acoustically treated, closed or relocated to building sides facing away from the corridor where practicable
	Side On		As per "Facing" above, except R_w+C_{tr} values may be 3dB less, e.g. glazed sliding door with 10 mm glass and weather seals for bedrooms	As above, except R_w+C_{tr} values may be 3dB less, or max % area increased by 20%			
	Opposite		No specific requirements	No specific requirements			

Freight Rail
Quiet House Requirements
(*Based on Table 3 of State Planning Policy 5.4 2019*)

Exposure Category	Orientation to corridor	Acoustic rating and example constructions					Mechanical ventilation/air conditioning considerations
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	
A+ **Quiet House A+**	**All Facades**	**Brick Walls Only** ➢ Double brick: two leaves of 90 mm clay brick masonry with a 20mm cavity between leaves.	**Bedrooms**: ➢ No external doors for bedrooms with entry facing rail corridor and for other facades, fully glazed hinged door with certified **R_w+C_{tr} 28dB** rated door and frame including seals and 6mm glass **Indoor Living and work areas:** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ All windows comprise minimum 6mm thick laminated or toughened glass in sealed awning or casement type frames. Polymer (e.g. uPVC) window framing should be used (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 25dB**). **: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr28 dB**) **: OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 31 dB**).	**To R_w+C_{tr} 35dB** ➢ Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard ceiling	➢ At least one outdoor living area located on the opposite side of the building from the transport corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum **2 metres** height above ground level	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of **Rw 40dB** into sensitive spaces ➢ Evaporative systems not recommended ➢ Refrigerant-based systems need to be designed to achieve National Construction Code fresh air ventilation requirements ➢ Openings such as eaves, vents and air inlets must be acoustically treated, closed or relocated to building sides facing away from the corridor where practicable

Road Traffic and Passenger Rail
Quiet House Requirements
(*Based on Table 3 of State Planning Policy 5.4 2019*)

Exposure Category	Orientation to corridor	Acoustic rating and example constructions					Mechanical ventilation/air conditioning considerations
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	
B **Quiet House B**	**Facing**	**Bedroom and indoor living and work areas to R_w+C_{tr} 50dB** **Single leaf of 90 mm clay brick masonry with:** ➢ A row of 70 mm x 35 mm timber studs or 64 mm steel studs at 600 mm centres; ➢ A cavity of 25 mm between leaves; ➢ 50 mm glass wool or polyester cavity insulation (R2.0+) insulation between studs; and ➢ One layer of 10mm plasterboard fixed to the inside face ➢ Single leaf of 220mm brick masonry with 13mm cement render on each face ➢ 150mm thick unlined concrete panel or 200mm thick concrete panel with one layer of 13mm plasterboard or 13mm cement render on each face **Double brick: two leaves of 90mm clay brick masonry with:** ➢ A 50mm cavity between leaves ➢ 50mm glass wool or polyester cavity insulation (R2.0+) ➢ Resilient ties where required to connect leaves **Double brick: two leaves of 110mm clay brick masonry with** ➢ 50mm cavity between leaves and R2.0+ cavity insulation	**Bedrooms** ➢ Fully glazed hinged door with certified **R_w+C_{tr} 31dB** rated door and frame including seals and 10mm glass **Indoor Living and work areas** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ Total external door and window system area up to 40% of room floor areas: Fixed sash, awning or casement with minimum 6mm single or 6mm-12mm-6mm double insulted glazing (**Rw+Ctr 31dB**). ➢ Up to 60% floor area: as per above but must be minimum10mm single or 6mm-12mm-10mm double insulated glazing (**Rw+Ctr 34dB**) **Indoor Living and work areas** ➢ Up to 40% floor area; Sliding or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (R_w+C_{tr} 28dB). Sealed awning or casement windows may use 6mm glazing instead. **: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**R_w+C_{tr} 31dB**). **: OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 34dB).**	**To R_w+C_{tr} 35dB** ➢ Concrete or terracotta tile sarking and at least 10mm plasterboard ceiling, R3.0+ insulation **OR** ➢ Metal sheet roof, sarking and at least 10mm plasterboard ceiling, R3.0+ insulation	➢ At least one outdoor living area located on the opposite side of the building from the corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum **2.4 metres** height above ground level	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of **Rw 40dB** into sensitive spaces ➢ Evaporative systems require attenuated ceiling air vents to allow closed windows ➢ Refrigerant-based systems need to be designed to achieve National Construction Code fresh air ventilation requirements ➢ Openings such as eaves, vents and air inlets must be acoustically treated, closed or relocated to building sides facing away from the corridor where practicable
	Side-On		**Bedrooms**: ➢ Fully glazed hinged door with certified **R_w+C_{tr} 28dB** rated door and frame including seals and 6mm glass **Indoor Living and work areas:** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ Total external door and window system area up to 40% of room floor area: Sliding or double hung with minimum 10 mm single or 6mm-12mm-10mm double insulted glazing (**R_w+C_{tr} 28 dB**). Sealed awning or casement windows may use 6 mm glazing instead. **: OR** ➢ Up to 60% floor area: as per above but must be sealed awning or casement type windows (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 25dB**). **: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr28 dB**) **: OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 31 dB**).			
	Opposite		As above, except R_w+C_{tr} values may be 3dB less, or max % area increased by 20%	As above, except R_w+C_{tr} values may be 3dB less, or max % area increased by 20%			

Freight Rail
Quiet House Requirements

(*Based on Table 3 of State Planning Policy 5.4 2019*)							
Exposure Category	**Orientation to corridor**	**Acoustic rating and example constructions**					**Mechanical ventilation/air conditioning considerations**
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	
B+ **Quiet House B**	**All Facades**	**Double brick: two leaves of 90mm clay brick masonry with:** ➢ A 50mm cavity between leaves ➢ 50mm glass wool or polyester cavity insulation (R2.0+) ➢ Resilient ties where required to connect leaves **Double brick: two leaves of 110mm clay brick masonry with** ➢ 50mm cavity between leaves and R2.0+ cavity insulation	**Bedrooms** **Bedrooms**: ➢ No external doors for bedrooms with entry facing or side on to rail corridor and for other facades, fully glazed hinged door with certified **R_w+C_{tr} 31dB** rated door and frame including seals and 10mm glass **Indoor Living and work areas** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ All windows comprise minimum 6mm thick laminated or toughened glass in sealed awning or casement type frames. Polymer (e.g. uPVC) window framing should be used (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 28dB**) **: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr31 dB**) **: OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 34 dB**).	**To R_w+C_{tr} 40dB** ➢ To all bedrooms, 2 layers of 10mm plasterboard, or one layer 13mm high density sealed plasterboard (minimum surface density of 12.5 kg/m2), affixed using steel furring channels beneath ceiling rafters/supports**: and** ➢ R3.0+ insulation batts laid in cavity**: and** ➢ Concrete or terracotta tile roof with sarking, or metal sheet roof with foil backed R2.0+ fibre insulation between steel sheeting and roof battens	➢ At least one outdoor living area located on the opposite side of the building from the corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum **2.4 metres** height above ground level	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of **Rw 40dB** into sensitive spaces ➢ Evaporative systems not recommended ➢ Refrigerant-based systems need to be designed to achieve National Construction Code fresh air ventilation requirements ➢ Openings such as eaves, vents and air inlets must be acoustically treated, closed or relocated to building sides facing away from the corridor where practicable

Road Traffic and Passenger Rail
Quiet House Requirements
(*Based on Table 3 of State Planning Policy 5.4 2019*)

Exposure Category	Orientation to corridor	Acoustic rating and example constructions					
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	**Mechanical ventilation/air conditioning considerations**
C **Quiet House C**	**Facing**	**Bedroom and indoor living and work areas to R_w+C_{tr} 50dB** **Single leaf of 90 mm clay brick masonry with:** ➢ A row of 70 mm x 35 mm timber studs or 64 mm steel studs at 600 mm centres; ➢ A cavity of 25 mm between leaves; ➢ 50 mm glass wool or polyester cavity insulation (R2.0+) insulation between studs; and ➢ One layer of 10mm plasterboard fixed to the inside face ➢ Single leaf of 220mm brick masonry with 13mm cement render on each face ➢ 150mm thick unlined concrete panel or 200mm thick concrete panel with one layer of 13mm plasterboard or 13mm cement render on each face **Double brick: two leaves of 90mm clay brick masonry with:** ➢ A 50mm cavity between leaves ➢ 50mm glass wool or polyester cavity insulation (R2.0+) ➢ Resilient ties where required to connect leaves **Double brick: two leaves of 110mm clay brick masonry with** ➢ 50mm cavity between leaves and R2.0+ cavity insulation	**Bedrooms** ➢ External doors to bedrooms facing the corridor are not recommended. **Indoor Living and work areas** ➢ Fully glazed hinged door with certified **Rw+Ctr 31dB** rated door and frame including seals and 10mm glass**: OR** 40mm solid core timber frame and door (without glass or with glass inserts not less than 6mm), side hinged with certified **Rw 32dB** acoustically rated door and frame system including seals	**Bedrooms**: ➢ Total external door and window system area up to 20% of room floor area: Fixed sash, awning or casement with minimum 6mm single or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 31dB): OR** ➢ Up to 40% floor area; as per above but must be minimum 10mm single or 6mm-12mm-10mm double insulted glazing (**R_w+C_{tr} 34dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulated glazing (**R_w+C_{tr} 31dB**). Sealed awning or casement windows may use 6mm glazing instead**: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr 34dB)**	**To R_w+C_{tr} 40dB** ➢ To al bedrooms, 2 layers of 10mm plasterboard, or one layer 13mm high density sealed plasterboard (minimum surface density of 12.5 kg/m2), affixed using steel furring channels beneath ceiling rafters/supports**: and** ➢ R3.0+ insulation batts laid in cavity **: and** ➢ Concrete or terracotta tile roof with sarking, or metal sheet roof with foil backed R2.0+ fibre insulation between steel sheeting and roof battens	➢ At least one outdoor living area located on the opposite side of the building from the corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum **2.4 metres** height above ground level	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of Rw 40dB into sensitive spaces. ➢ Evaporative systems require attenuated ceiling air cents to allow closed windows. ➢ Refrigerant-based systems need to be designed to achieve National Construction Code fresh air ventilation requirements ➢ Openings such as eaves, vents and air inlets must be acoustically treated, close or relocated to building sides facing away from the corridor where practicable.
	Side-on		**Bedrooms** ➢ Fully glazed hinged door with certified **R_w+C_{tr} 31dB** rated door and frame including seals and 10mm glass **Indoor Living and work areas** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals				
	Opposite		**Bedrooms**: ➢ Fully glazed hinged door with certified **R_w+C_{tr} 28dB** rated door and frame including seals and 6mm glass **Indoor Living and work areas:** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ Total external door and window system area up to 40% of room floor area: Sliding or double hung with minimum 10 mm single or 6mm-12mm-10mm double insulted glazing (**R_w+C_{tr} 28 dB**). Sealed awning or casement windows may use 6 mm glazing instead**: OR** ➢ Up to 60% floor area: as per above but must be sealed awning or casement type windows (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 25dB): OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr28 dB : OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 31 dB**).			

Freight Rail
Quiet House Requirements

(*Based on Table 3 of State Planning Policy 5.4 2019*)							
Exposure Category	**Orientation to corridor**	**Acoustic rating and example constructions**					
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	**Mechanical ventilation/air conditioning considerations**
C+ **Quiet House C+**	**All Facades**	**Double brick: two leaves of 90mm clay brick masonry with:** ➢ A 50mm cavity between leaves ➢ 50mm glass wool or polyester cavity insulation (R2.0+) ➢ Resilient ties where required to connect leaves **Double brick: two leaves of 110mm clay brick masonry with** ➢ 50mm cavity between leaves and R2.0+ cavity insulation	**Bedrooms** ➢ External doors to bedrooms facing or side onto the corridor are not recommended. **Indoor Living and work areas** ➢ Fully glazed hinged door with certified **Rw+Ctr 31dB** rated door and frame including seals and 10mm glass**: OR** ➢ 40mm solid core timber frame and door (without glass or with glass inserts not less than 6mm), side hinged with certified **Rw 32dB** acoustically rated door and frame system including seals	**Bedrooms**: ➢ All windows comprise minimum 6mm thick laminated or toughened glass in sealed awning or casement type frames. Polymer (e.g. uPVC) window framing should be used (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 31dB**) **: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr34 dB**)	**To R_w+C_{tr} 45dB** ➢ To al bedrooms, 2 layers of 10mm plasterboard, affixed using steel furring channels beneath ceiling rafters/supports**: and** ➢ R3.0+ insulation batts laid in cavity **: and** ➢ Concrete or terracotta tile roof with sarking, (No metal sheet roofing)	➢ At least one outdoor living area located on the opposite side of the building from the corridor and/or at least one ground level outdoor living area screened using a solid continuous fence or other structure of minimum **2.4 metres** height above ground level	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of Rw 40dB into sensitive spaces. ➢ Evaporative systems require attenuated ceiling air cents to allow closed windows. ➢ Refrigerant-based systems need to be designed to achieve National Construction Code fresh air ventilation requirements ➢ Openings such as eaves, vents and air inlets must be acoustically treated, close or relocated to building sides facing away from the corridor where practicable.

Appendix H

EPA Decision to Not Assess Scheme Amendment Under Section 48A(1)(a) EP Act

Mr Tony Brun
Chief Executive Officer
City of Cockburn
PO Box 1215
BIBRA LAKE DC WA 6965

Our Ref: *CMS 18123*
Enquiries: *Renee Blandin, 6364 7259*
Email: *Renee.Blandin@dwer.wa.gov.au*

Dear Mr Brun

DECISION UNDER SECTION 48A(1)(a)
Environmental Protection Act 1986

SCHEME	**City of Cockburn Town Planning Scheme 3 Amendment 152**
LOCATION	**Former Glen Iris Golf Course on Berrigan Drive, Jandakot (Lots 6 and 7 Glen Iris Drive, Lots 3, 509 and 512 Dean Road and Lot 139 Imlah Court in Jandakot)**
RESPONSIBLE AUTHORITY	**City of Cockburn**
DECISION	**Referral Examined, Preliminary Investigations and Inquiries Conducted. Scheme Amendment Not to be Assessed Under Part IV of the EP Act. Advice Given. (Not Appealable)**

Thank you for referring the above scheme to the Environmental Protection Authority (EPA).

After consideration of the information provided by you, the EPA considers that the proposed scheme should not be assessed under Part IV Division 3 of the *Environmental Protection Act 1986* (EP Act) but nevertheless provides the attached advice and recommendations. I have also attached a copy of the Chair's determination of the scheme.

Please note the following:

- For the purposes of Part IV of the EP Act, the scheme is defined as an assessed scheme. In relation to the implementation of the scheme, please note the requirements of Part IV Division 4 of the EP Act.

- There is no appeal right in respect of the EPA's decision to not assess the scheme.

A copy of the Chair's determination, this letter and the attached advice and recommendations will be made available to the public via the EPA website.

Yours sincerely

Dr Shaun Meredith
Delegate of the Environmental Protection Authority
Executive Director
EPA Services

20 April 2022

Encl. Chair's Determination
Scheme Advice and Recommendations

ADVICE UNDER SECTION 48A(1)(a)
ENVIRONMENTAL PROTECTION ACT 1986

City of Cockburn Town Planning Scheme (LPS) 3 Amendment 152

Location: Former Glen Iris Golf Course on Berrigan Drive, Jandakot (Lots 6 and 7 Glen Iris Drive, Lots 3, 509 and 512 Dean Road and Lot 139 Imlah Court in Jandakot)

Determination: Scheme Not Assessed – Advice Given (Not Appealable)

Determination Published: 26 April 2022

Summary

The scheme amendment proposes to rezone various landholdings comprising the former Glen Iris Golf Club on Berrigan Drive, Jandakot from 'Special Use' and 'Residential R40' to the 'Development' zone.

The Environmental Protection Authority (EPA) has considered the scheme amendment in accordance with the requirements of the *Environmental Protection Act 1986* (EP Act). The EPA considers that the scheme amendment, as set out, is unlikely to have a significant effect on the environment and does not warrant formal assessment under Part IV of the EP Act. The EPA has based its decision on the scheme amendment documentation provided by the City of Cockburn (the City), and having considered this matter, the following advice is provided.

Environmental Factors

The EPA has identified the following preliminary environmental factor relevant to this scheme:

- Flora and Vegetation
- Terrestrial Fauna
- Social Surroundings
- Inland Waters

Advice and Recommendations regarding Environmental Factors

Flora and Vegetation and Terrestrial Fauna

The amendment area contains scattered area of remnant native vegetation, including 1.9 hectares potentially representative of Banksia Woodlands of the Swan Coastal Plain threatened ecological community, and also contains scattered planted vegetation.

Preliminary Fauna Surveys and a Targeted Black Cockatoo Habitat Assessment conducted by Emerge Associates (Environmental Assessment Report (EAR) (Project No. EP20-009(08))02/12/2021) identified 11 significant black cockatoo habitat trees.

The EAR also identified 4.76 hectares and 4.88 hectares of foraging habitat within the amendment area for Carnaby's black cockatoo and forest red-tailed black cockatoo respectively.

Department of Biodiversity, Conservation and Attractions (DBCA) have provided advice that the vegetation within the amendment area is considered to have value as black cockatoo habitat. DBCA has also advised the habitat is considered potentially suitable for roosting by black cockatoos utilising potential foraging habitat to the east and south-east of the site, based on water present on the site.

The EPA supports 'Development Area No.45' within Table 9 of the Scheme with the provision that a structure plan is required to address environmental impacts that may arise within the proposed amendment area.

The EPA notes that the City have provided modified draft scheme text for Table 9 Development Areas to provide further protection of black cockatoo habitat values. It is noted Western Australian Planning Commission and the City have also liaised regarding the intent to modify the scheme text prior to advertising, and the EPA supports this approach.

In addition to structure planning provisions, it is recommended the scheme provisions are modified to include reference to future development being required to prioritise black cockatoo habitat for retention.

Consistent with DBCA advice, it is recommended that through future stages of planning, vegetation containing black cockatoo habitat is set aside in public open space and enhanced through the planting of black cockatoo habitat species to mitigate the impacts from the development. Planting should be designed to reduce the risk to fauna of vehicle strike.

Social Surroundings

There is 'Industrial' zoned land and industrial development/operations to the south of the site.

Future residential development associated with the amendment may be subject to dust, noise and odour impacts from industrial land use.

EPA's Guidance Statement No. 3 *Separation Distances between Industrial and Sensitive Land Uses* should be considered in managing potential impacts to surrounding land uses prior to progressing urban development.

Inland Waters

Parts of the amendment area are located within the 'Jandakot Underground Water Pollution Control Area', a Priority 3 (P3) Priority Drinking Water Source Area (PDWSA), and within Wellhead Protection Zones (WPZ).

Future stages of planning should consider Water Quality Protection Note (WQPN) 25 *Land use compatibility tables for public drinking water source areas* (DWER 2021) and State Planning Policy (SPP) 2.3 *Jandakot Groundwater Protection* (WAPC 2017).

Future development should demonstrate best practice water management, consistent with *Better Urban Water Management* (WAPC 2008). Future water management plans should be prepared in consultation with Department of Water and Environmental Regulation to support local structure planning and subdivision, and should ensure that pre development hydrology is maintained post development, and that post development water quality is consistent with or improved in comparison to the pre development baseline.

Conclusion

The EPA concludes that the amendment can be managed to meet the EPA's environmental objectives through the proposed scheme provisions and existing planning controls. In addition, future planning processes and management measures will also manage potential impacts. The EPA recommends its advice is implemented to mitigate potential impacts to the above environmental factors.