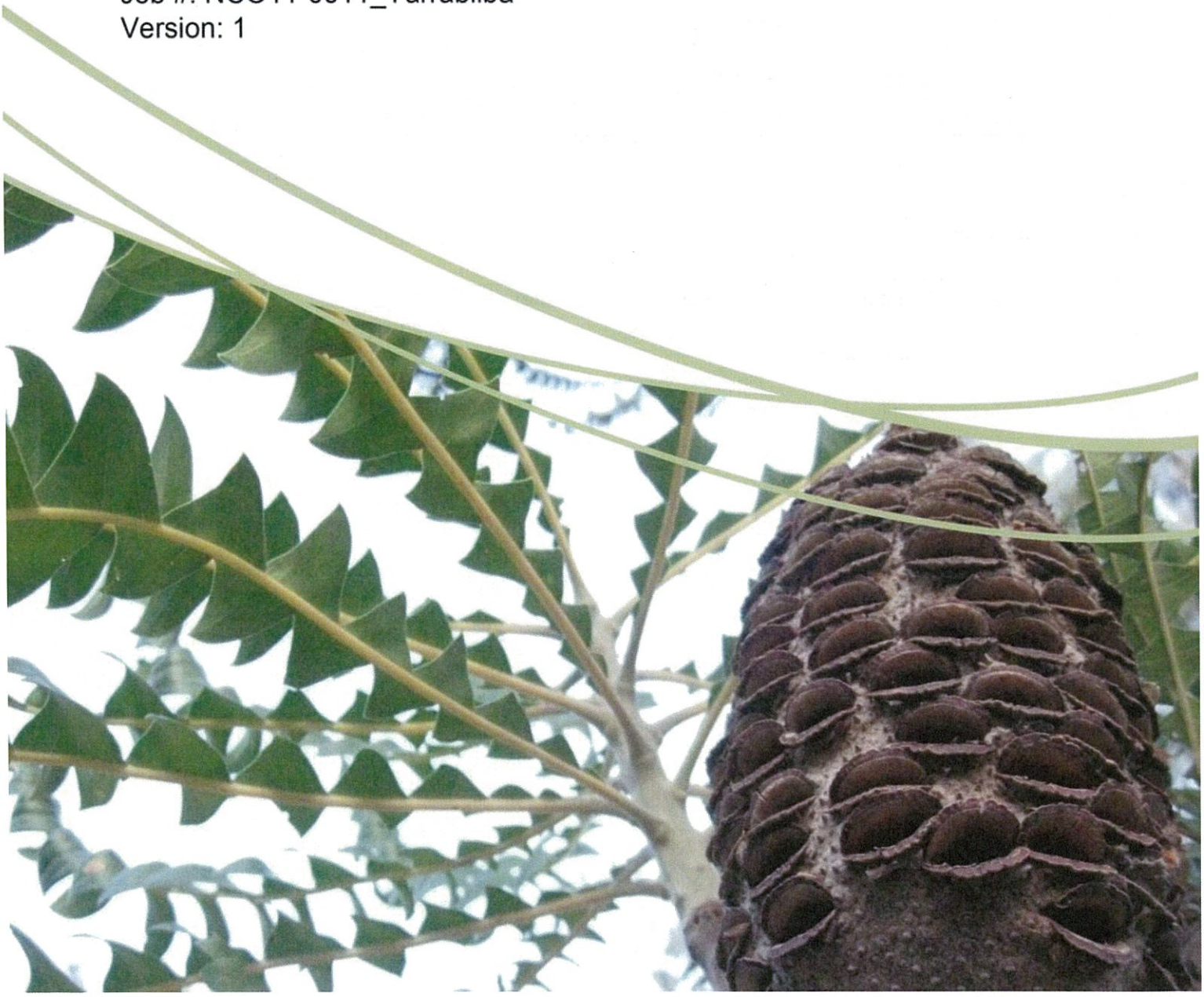
Vegetation Management Plan
Village 3 - EPBC Approval Area

Prepared for: Lend Lease
Prepared by: M. Brett, K. Richardt
Date: 3 September 2015
Job #: NCO11-0011_Yarrabilba
Version: 1



Document control sheet

Yarrabilba – Village 3, Balance

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Revision History

Version:	Purpose:	Reviewer:	Date:	Issued by:	Date
1	Self Certification	Kieran Richardt	3/09/15	Kieran Richardt	3/09/15
2	Self Certification	Kieran Richardt	11/09/15	Kieran Richardt	11/09/15

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1. Survey Methods

Natura Consulting ecologists carried out a number of flora and fauna survey from 14 May, 2014 to 12 August 2014. The surveys were located at the end of Yarrabilba Drive, within Village 3 of the Yarrabilba site within areas that have been approved for clearing under EPBC Approval 2013/6791. A number of steps were undertaken during this assessment, including:

1. Identifying species, characteristics and mapping trees to be removed and those in close proximity to earthworks that may be retained

2. Recording incidental fauna sightings and observations as well as undertaking camera trapping during the assessment period

3. Providing input into potential design, location of earthworks and suggested improvements to conserve ecological values

4. Providing recommendations and mitigation measures to minimise impacts of development on flora and fauna

The assessment was undertaken within the approved Village 3 site footprint and the following information was captured:

- GPS locations of native trees within the survey area

- The significance of the vegetation was determined, with regards to presence of habitat, hollows, mature trees etc

- Dominant species were identified in each of the upper, mid and lower stratum (where present)

- Average height, Diameter at Breast Height (DBH) and trunk spacing for each stratum was ascertained

- Identification of fauna species through direct sightings, vocalisation, scats, tracks and approximately 1,500 trap-hours from Infra Red (IR) cameras.

During the survey, locations of trees were recorded using a GPS. Information was captured including species, height, spread, health, and habitat values (hollows, scratching, arboreal termite nests, scats, bird nests etc).

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2. Regional Ecosystem Mapping

The Queensland Herbarium Regional Ecosystem (RE) GIS mapping shows that vegetation in the north-western section of Village 3 predominately contains:

Table 1: Regional Ecosystems

Regional Ecosystem	Vegetation Description	VMA Class	Biodiversity Status
12.3.11	*Eucalyptus siderophloia, E. tereticornis, Corymbia intermedia* open forest on alluvial plains usually near coast	Of concern	Of concern
12.3.7	*Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca spp.* fringing woodland	Least concern	Not of concern at present

The vegetation within the Village 3 EPBC Approval Area vegetation that is of a height and cover to be considered Regional Ecosystem (RE) vegetation 'Not of concern at present' Regional Ecosystem 12.3.7. The area of vegetation is currently shown on the RE mapping as 'category x'.

With regards to clearing approvals, the Vegetation Management Act is not applicable and the Natural Environment Overarching Site Strategy (OSS) is applicable. Therefore, for Lend Lease to clear this vegetation there will be no impediment other than the conditions set out in the OSS, which include:

- Undertaking a site assessment, using appropriate survey methodology, and providing a Vegetation Management Plan (this report), which includes details on habitat values, tree protection measures, protection of significant flora, clearing requirements, direction of clearing, fauna management, waste disposal etc and mapping of these criteria.

This VMP has been prepared in accordance with the endorsed OSS (7 March 2014) for Yarrabilba, particularly Section 3 of the OSS, which are outlined in Section 1and Section 11 of this report, and the recommendations for achieving the outcomes sought within the OSS are listed in Section 6, 7 and 8 of this report.

3. Individual and Significant Trees

Assessment for extant significant native trees was undertaken within the survey area. A number of semi-mature native canopy trees were identified within the earthworks footprint and numerous large introduced pines' (*Pinus elliottii*) were observed.

Table 3: Native Trees Identified the Survey Area:

Tree #	*Species*	Height	Spread	DBH	Habitat	Health
Tree #	***Species***	**Height**	**Spread**	**DBH**	**Habitat**	**Health**
1	*Lophostemon suaveolens*	10	3	12	Nil	Good
2	*Lophostemon suaveolens*	6	2	10	Nil	Good

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Tree #	*Species*	Height	Spread	DBH	Habitat	Health
3	*Corymbia citriodora*	12	2	12	Nil	Good
4	*Eucalyptus propinqua*	12	2	15	Nil	Good
5	*Corymbia citriodora*	10	2	12	Nil	Good
6	*Lophostemon suaveolens*	10	3	12	Nil	Good
7	*Allocasuarina littoralis*	10	3	10	Nil	Dieback
8	*Eucalyptus tereticornis*	12	3	20	Nil	Good
9	*Lophostemon suaveolens*	10	2	12	Nil	Good
10	*Allocasuarina littoralis*	10	5	12	Nil	Good
11	*Allocasuarina littoralis*	10	5	15	Nil	Good
12	*Corymbia intermedia*	15	5	15	Nil	Good
13	*Allocasuarina littoralis*	12	3	10	Nil	Good
14	*Corymbia citriodora*	15	4	20	Nil	Good
15	*Lophostemon suaveolens*	8	3	20	Nil	Good
16	*Allocasuarina littoralis*	12	4	15	Nil	Good
17	*Allocasuarina littoralis*	15	3	12	Nil	Good
18	*Allocasuarina littoralis*	10	5	15	Nil	Good
19	*Allocasuarina littoralis*	15	3	15	Nil	Good
20	*Melaleuca decora*	8	2	10	Nil	Good
21	*Eucalyptus tereticornis*	10	3	12	Nil	Good
22	*Melaleuca decora*	6	1	10	Nil	Good
23	*Melaleuca decora*	6	2	12	Nil	Good
24	*Eucalyptus tereticornis*	18	6	20	Nil	Good
25	*Melaleuca decora*	8	3	12	Nil	Dieback
26	*Lophostemon suaveolens*	10	5	25	Nil	Good
27	*Melaleuca decora*	8	3	10	Nil	Good
28	*Melaleuca decora*	8	3	10	Nil	Dieback
29	*Melaleuca decora*	8	3	10	Nil	Good
30	*Eucalyptus tereticornis*	15	8	30	Nil	Good
31	*Eucalyptus tereticornis*	15	5	20	Nil	Good
32	*Melaleuca decora*	8	2	10	Nil	Good
33	*Melaleuca decora*	10	2	12	Nil	Good
34	*Melaleuca decora*	10	2	10	Nil	Good
35	*Melaleuca decora*	10	4	15	Nil	Good
36	*Melaleuca decora*	8	3	12	Nil	Good
37	*Melaleuca decora*	6	2	10	Nil	Good
38	*Melaleuca decora*	8	3	12x2	Nil	Good
39	*Melaleuca decora*	8	3	12	Nil	Good
40	*Melaleuca decora*	8	3	10	Nil	Good
41	*Melaleuca decora*	8	2	12	Nil	Good
42	*Melaleuca decora*	8	2	12	Nil	Good
43	*Eucalyptus tereticornis*	10	5	20	Nil	Good
44	*Eucalyptus tereticornis*	10	5	12x2	Nil	Dieback
45	*Eucalyptus tereticornis*	8	2	12	Nil	Good
46	*Melaleuca decora*	8	2	12	Nil	Good
47	*Melaleuca decora*	8	2	12	Nil	Good

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Tree #	Species	Height	Spread	DBH	Habitat	Health
48	*Melaleuca decora*	8	2	12	Nil	Good
49	*Melaleuca decora*	8	2	12	Nil	Good
50	*Melaleuca decora*	8	2	12	Nil	Dieback
51	*Eucalyptus tereticornis*	10	3	12	Nil	Good
52	*Eucalyptus tereticornis*	10	3	12	Nil	Good
53	*Melaleuca decora*	8	3	12	Nil	Good
54	*Melaleuca decora*	8	3	12	Nil	Good
55	*Melaleuca decora*	8	3	12	Nil	Good
56	*Melaleuca decora*	8	3	12	Nil	Good
57	*Melaleuca decora*	8	2	12	Nil	Good
58	*Melaleuca decora*	6	2	10	Nil	Good
59	*Melaleuca decora*	8	5	20	Nil	Good
60	*Lophostemon suaveolens*	6	2	10	Nil	Good
61	*Melaleuca decora*	6	2	10	Nil	Good
62	*Melaleuca decora*	6	2	10	Nil	Good
63	*Melaleuca decora*	6	2	10	Nil	Good
64	*Melaleuca decora*	6	2	10	Nil	Good
65	*Melaleuca decora*	8	2	12	Nil	Good
66	*Melaleuca decora*	8	2	12	Nil	Good
67	*Melaleuca decora*	8	2	12	Nil	Good
68	*Melaleuca decora*	8	2	12	Nil	Good
69	*Melaleuca decora*	8	2	12	Nil	Good
70	*Melaleuca decora*	8	2	12	Nil	Good
71	*Melaleuca decora*	8	2	12	Nil	Good
72	*Melaleuca decora*	8	2	12	Nil	Good
73	*Melaleuca decora*	8	2	12	Nil	Good
74	*Melaleuca decora*	8	2	12	Nil	Good
75	*Melaleuca decora*	8	2	12	Nil	Good
76	*Melaleuca decora*	8	2	12	Nil	Good
77	*Eucalyptus tereticornis*	10	2	10	Nil	Good
78	*Melaleuca quinquenervia*	6	2	10	Nil	Good
79	*Melaleuca decora*	10	6	15	Nil	Good
80	*Melaleuca decora*	10	6	15	Nil	Good
81	*Melaleuca decora*	10	6	15	Nil	Good
82	*Melaleuca decora*	10	6	15	Nil	Good
83	*Melaleuca decora*	10	6	15	Nil	Good
84	*Melaleuca quinquenervia*	6	1	12	Nil	Good
85	*Lophostemon suaveolens*	10	2	12	Nil	Good
86	*Eucalyptus tereticornis*	12	3	20	Nil	Good
87	*Melaleuca decora*	8	4	12	Nil	Good
88	*Melaleuca decora*	8	4	12	Nil	Good
89	*Melaleuca decora*	8	4	12	Nil	Good
90	*Melaleuca decora*	10	5	25	Nil	Good
91	*Lophostemon suaveolens*	10	5	25	Nil	Good
92	*Melaleuca decora*	10	8	40	Nil	Good

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Tree #	*Species*	Height	Spread	DBH	Habitat	Health
93	*Melaleuca decora*	8	6	20	Nil	Good
94	*Melaleuca decora*	8	3	12	Nil	Good
95	*Melaleuca decora*	8	3	12	Nil	Good
96	*Lophostemon suaveolens*	8	3	20	Nil	Good
97	*Lophostemon suaveolens*	12	4	20	Nil	Good
98	*Lophostemon suaveolens*	12	3	15	Nil	Good
99	*Lophostemon suaveolens*	12	3	15	Nil	Good
100	*Lophostemon suaveolens*	12	3	15	Nil	Good
101	*Eucalyptus tereticornis*	15	5	20	Nil	Good
102	*Lophostemon suaveolens*	8	5	15	Nil	Good
103	*Lophostemon suaveolens*	8	2	12	Nil	Good
104	*Corymbia citriodora*	8	3	12	Nil	Good
105	*Lophostemon suaveolens*	10	3	15	Nil	Good
106	*Corymbia citriodora*	12	4	15	Nil	Good
107	*Lophostemon suaveolens*	8	2	10	Nil	Good
108	*Lophostemon suaveolens*	8	2	10	Nil	Good
109	*Lophostemon suaveolens*	8	2	10	Nil	Good
110	*Lophostemon suaveolens*	10	4	20	Nil	Good
111	*Lophostemon suaveolens*	10	4	20	Nil	Dieback
112	*Corymbia citriodora*	15	4	15	Nil	Good
113	*Eucalyptus tereticornis*	5	4	15	Nil	Good
114	*Corymbia citriodora*	10	2	10	Nil	Good
115	*Corymbia citriodora*	10	2	10	Nil	Good
116	*Melaleuca decora*	8	3	10	Nil	Good
117	*Melaleuca decora*	8	3	10	Nil	Good
118	*Melaleuca decora*	8	3	10	Nil	Good
119	*Eucalyptus tereticornis*	15	8	30	Nil	Good
120	*Eucalyptus tereticornis*	15	5	20	Nil	Good
121	*Lophostemon suaveolens*	8	3	12	Nil	Good
122	*Lophostemon suaveolens*	10	3	12	Nil	Good
123	*Lophostemon suaveolens*	10	3	12	Nil	Good
124	*Eucalyptus tereticornis*	12	4	20	Nil	Good
125	*Melaleuca decora*	8	3	12	Nil	Good
126	*Melaleuca decora*	8	3	12	Nil	Good
127	*Melaleuca decora*	8	3	12	Nil	Good
128	*Melaleuca decora*	8	3	12	Nil	Good
129	*Melaleuca decora*	8	3	12	Nil	Good
130	*Melaleuca decora*	8	3	12	Nil	Good
131	*Melaleuca decora*	8	3	12	Nil	Good
132	*Melaleuca decora*	8	3	12	Nil	Good
133	*Melaleuca decora*	8	3	12	Nil	Good
134	*Melaleuca decora*	8	3	12	Nil	Good
135	*Melaleuca decora*	8	3	12	Nil	Good
136	*Melaleuca decora*	8	5	20	Nil	Good
137	*Lophostemon suaveolens*	8	3	12	Nil	Good

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Tree #	Species	Height	Spread	DBH	Habitat	Health
138	*Lophostemon suaveolens*	8	3	12	Nil	Good
139	*Melaleuca decora*	8	5	20	Nil	Good
140	*Lophostemon suaveolens*	8	3	12	Nil	Good
141	*Lophostemon suaveolens*	8	3	12	Nil	Good
142	*Lophostemon suaveolens*	8	3	12	Nil	Good
143	*Lophostemon suaveolens*	8	3	12	Nil	Good
144	*Melaleuca decora*	8	3	12	Nil	Dieback
145	*Melaleuca decora*	8	3	12	Nil	Good
146	*Melaleuca decora*	8	3	12	Nil	Good
147	*Melaleuca decora*	8	3	12	Nil	Dieback
148	*Eucalyptus tereticornis*	12	3	12	Nil	Good
149	*Lophostemon suaveolens*	10	3	12	Nil	Good
150	*Melaleuca decora*	8	3	12	Nil	Good
151	*Melaleuca decora*	8	3	12	Nil	Dieback
152	*Melaleuca decora*	8	3	12	Nil	Good
153	*Melaleuca decora*	8	3	12	Nil	Good
154	*Melaleuca decora*	8	3	12	Nil	Good
155	*Melaleuca decora*	8	4	15	Nil	Good
156	*Acacia disparrima*	8	4	20	Nil	Good
157	*Acacia disparrima*	8	2	14	Nil	Good
158	*Acacia disparrima*	9	4	23	Nil	Good
159	*Acacia disparrima*	10	7	21x3	Nil	Good
160	*Melaleuca decora*	8	4	15	Nil	Good
161	*Melaleuca decora*	8	4	15	Nil	Good
162	*Melaleuca decora*	8	4	15	Nil	Good
163	*Melaleuca decora*	8	4	15	Nil	Good
164	*Melaleuca decora*	8	4	15	Nil	Good
165	*Melaleuca decora*	8	4	15	Nil	Good
166	*Melaleuca decora*	8	4	15	Nil	Good
167	*Melaleuca decora*	8	4	15	Nil	Good
168	*Melaleuca decora*	8	4	15	Nil	Good
169	*Melaleuca decora*	8	4	15	Nil	Dieback
170	*Melaleuca decora*	8	4	15	Nil	Good
171	*Eucalyptus tereticornis*	20	8	30	Nil	Good
172	*Melaleuca decora*	8	4	15	Nil	Good
173	*Melaleuca decora*	8	4	15	Nil	Good
174	*Melaleuca decora*	8	4	15	Nil	Good
175	*Melaleuca decora*	8	4	15	Nil	Good
176	*Melaleuca decora*	8	4	15	Nil	Good
177	*Eucalyptus tereticornis*	20	8	30	Nil	Good
178	*Melaleuca decora*	8	4	15	Nil	Good
179	*Melaleuca decora*	8	4	15	Nil	Good
180	*Melaleuca decora*	8	4	15	Nil	Good
181	*Melaleuca decora*	8	4	15	Nil	Good
182	*Melaleuca decora*	8	4	15	Nil	Good

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Tree #	*Species*	Height	Spread	DBH	Habitat	Health
183	*Melaleuca decora*	8	3	12	Nil	Good
184	*Melaleuca decora*	8	3	12	Nil	Good
185	*Melaleuca decora*	8	3	12	Nil	Dieback
186	*Melaleuca decora*	8	3	12	Nil	Good
187	*Melaleuca decora*	8	3	12	Nil	Good
188	*Melaleuca decora*	8	3	12	Nil	Good
189	*Melaleuca decora*	8	3	12	Nil	Dieback
190	*Melaleuca decora*	8	3	12	Nil	Good
191	*Melaleuca decora*	8	3	12	Nil	Good
192	*Melaleuca decora*	8	3	12	Nil	Good
193	*Melaleuca decora*	8	3	12	Nil	Good
194	*Melaleuca decora*	8	3	12	Nil	Good
195	*Melaleuca decora*	8	3	12	Nil	Good
196	*Melaleuca decora*	8	3	12	Nil	Good
197	*Melaleuca decora*	8	3	12	Nil	Good
198	*Melaleuca decora*	8	3	12	Nil	Good
199	*Melaleuca decora*	8	3	12	Nil	Good
200	*Melaleuca decora*	8	3	12	Nil	Good
201	*Melaleuca decora*	8	3	12	Nil	Good
202	*Melaleuca decora*	8	3	12	Nil	Good
203	*Melaleuca decora*	8	3	12	Nil	Good
204	*Melaleuca decora*	8	3	12	Nil	Good
205	*Melaleuca decora*	8	3	12	Nil	Good
206	*Melaleuca decora*	8	3	12	Nil	Good
207	*Melaleuca decora*	8	3	12	Nil	Good
208	*Melaleuca decora*	8	3	12	Nil	Good
209	*Melaleuca decora*	8	3	12	Nil	Good
210	*Melaleuca decora*	8	3	12	Nil	Good
211	*Melaleuca decora*	8	3	12	Nil	Good
212	*Lophostemon suaveolens*	6	3	12	Nil	Good
213	*Eucalyptus tereticornis*	10	3	12	Nil	Good
214	*Eucalyptus tereticornis*	10	3	12	Nil	Good
215	*Eucalyptus tereticornis*	10	3	12	Nil	Good
216	*Eucalyptus tereticornis*	10	3	12	Nil	Good
217	*Eucalyptus tereticornis*	10	3	12	Nil	Good
218	*Eucalyptus tereticornis*	10	3	12	Nil	Good
219	*Melaleuca decora*	8	3	12	Nil	Good
220	*Melaleuca decora*	8	3	12	Nil	Good
221	*Melaleuca decora*	8	3	12	Nil	Good
222	*Melaleuca decora*	8	3	12	Nil	Good
223	*Melaleuca decora*	8	3	12	Nil	Good
224	*Melaleuca decora*	8	4	15	Nil	Good
225	*Melaleuca decora*	8	2	12	Nil	Dieback
226	*Melaleuca decora*	8	2	12	Nil	Good
227	*Melaleuca decora*	8	2	12	Nil	Good

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Tree #	*Species*	Height	Spread	DBH	Habitat	Health
228	*Melaleuca decora*	8	2	12	Nil	Dieback
229	*Melaleuca decora*	8	2	12	Nil	Good
230	*Melaleuca decora*	8	2	12	Nil	Good
231	*Melaleuca decora*	8	2	12	Nil	Good
232	*Melaleuca decora*	8	2	12	Nil	Good
233	*Melaleuca decora*	8	2	12	Nil	Good
234	*Melaleuca decora*	8	4	15	Nil	Good
235	*Melaleuca decora*	8	2	12	Nil	Good
236	*Melaleuca decora*	8	2	12	Nil	Good
237	*Melaleuca decora*	8	2	12	Nil	Dieback
238	*Melaleuca decora*	8	2	12	Nil	Good
239	*Melaleuca decora*	8	2	12	Nil	Good
240	*Melaleuca decora*	8	2	12	Nil	Dieback
241	*Melaleuca decora*	8	2	12	Nil	Good
242	*Melaleuca decora*	8	2	12	Nil	Good
243	*Melaleuca decora*	8	2	12	Nil	Good
244	*Melaleuca decora*	8	2	12	Nil	Good
245	*Melaleuca decora*	8	5	20	Nil	Good
246	*Melaleuca decora*	8	3	15	Nil	Good
247	*Melaleuca decora*	8	2	12	Nil	Good
248	*Melaleuca decora*	8	2	12	Nil	Good
249	*Melaleuca decora*	8	2	12	Nil	Good
250	*Melaleuca decora*	8	2	12	Nil	Good
251	*Melaleuca decora*	8	2	12	Nil	Good
252	*Melaleuca decora*	8	2	12	Nil	Good
253	*Melaleuca decora*	8	2	12	Nil	Dieback
254	*Melaleuca decora*	8	2	12	Nil	Good
255	*Melaleuca decora*	8	2	12	Nil	Good
256	*Melaleuca decora*	8	2	12	Nil	Good
257	*Melaleuca decora*	8	2	12	Nil	Good
258	*Eucalyptus tereticornis*	10	3	12	Nil	Good
259	*Eucalyptus tereticornis*	10	3	12	Nil	Good
260	*Melaleuca decora*	8	3	12	Nil	Good
261	*Melaleuca decora*	8	3	12	Nil	Good
262	*Melaleuca decora*	8	3	12	Nil	Good
263	*Melaleuca decora*	8	3	12	Nil	Good
264	*Melaleuca decora*	6	2	10	Nil	Dieback
265	*Melaleuca decora*	6	2	10	Nil	Good
266	*Melaleuca decora*	6	2	10	Nil	Good
267	*Melaleuca decora*	6	2	10	Nil	Dieback
268	*Melaleuca decora*	6	2	10	Nil	Good
269	*Melaleuca decora*	6	2	10	Nil	Good
270	*Melaleuca decora*	8	3	12	Nil	Dieback
271	*Melaleuca decora*	8	3	12	Nil	Good
272	*Melaleuca decora*	8	3	12	Nil	Good

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Tree #	*Species*	Height	Spread	DBH	Habitat	Health
273	*Melaleuca decora*	8	3	12	Nil	Good
274	*Melaleuca decora*	8	5	20	Nil	Good
275	*Melaleuca decora*	8	5	20	Nil	Good
276	*Lophostemon suaveolens*	8	3	12	Nil	Good
277	*Lophostemon suaveolens*	8	3	12	Nil	Good
278	*Lophostemon suaveolens*	8	3	12	Nil	Good
279	*Lophostemon suaveolens*	8	3	12	Nil	Dead
280	*Eucalyptus tereticornis*	12	4	15	Nil	Dead
281	*Eucalyptus tereticornis*	12	4	15	Nil	Dead
282	*Eucalyptus tereticornis*	12	4	15	Nil	Good
283	*Eucalyptus tereticornis*	12	4	15	Nil	Good
284	*Eucalyptus tereticornis*	12	4	15	Nil	Good
285	*Eucalyptus tereticornis*	12	4	15	Nil	Good
286	*Melaleuca decora*	8	3	12	Nil	Good
287	*Melaleuca decora*	8	3	12	Nil	Dead
288	*Melaleuca decora*	8	3	12	Nil	Good
289	*Melaleuca decora*	8	3	12	Nil	Good
290	*Melaleuca decora*	8	3	12	Nil	Good
291	*Melaleuca decora*	8	3	12	Nil	Good
292	*Melaleuca decora*	8	3	12	Nil	Good
293	*Melaleuca decora*	8	5	20	Nil	Good
294	*Melaleuca decora*	8	5	20	Nil	Good
295	*Melaleuca decora*	6	2	10	Nil	Good
296	*Melaleuca decora*	6	2	10	Nil	Good
297	*Melaleuca decora*	6	2	10	Nil	Good
298	*Melaleuca decora*	6	2	10	Nil	Good
299	*Melaleuca decora*	6	2	10	Nil	Good
300	*Melaleuca decora*	6	2	10	Nil	Good
301	*Melaleuca decora*	8	3	12	Nil	Good
302	*Melaleuca decora*	8	3	12	Nil	Good
303	*Melaleuca decora*	8	3	12	Nil	Good
304	*Melaleuca decora*	8	3	12	Nil	Good
305	*Melaleuca decora*	8	3	12	Nil	Good
306	*Melaleuca decora*	8	3	12	Nil	Good
307	*Eucalyptus tereticornis*	10	3	12	Nil	Good
308	*Eucalyptus tereticornis*	10	3	12	Nil	Good
309	*Eucalyptus tereticornis*	10	3	12	Nil	Dieback
310	*Eucalyptus tereticornis*	15	8	25	Nil	Good
311	*Eucalyptus tereticornis*	15	8	25	Nil	Good
312	*Lophostemon suaveolens*	9	3	15	Nil	Good
313	*Lophostemon suaveolens*	9	3	15	Nil	Good
314	*Lophostemon suaveolens*	10	3	15x2	Nil	Good
315	*Lophostemon suaveolens*	9	3	15	Nil	Good
316	*Lophostemon suaveolens*	10	4	15	Nil	Good
317	*Lophostemon suaveolens*	10	3	20	Nil	Good

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Tree #	*Species*	Height	Spread	DBH	Habitat	Health
318	*Lophostemon suaveolens*	10	4	20	Nil	Good
319	*Lophostemon suaveolens*	8	2	15	Nil	Good
320	*Lophostemon suaveolens*	8	2	15	Nil	Good
321	*Lophostemon suaveolens*	8	2	15	Nil	Good
322	*Lophostemon suaveolens*	8	2	15	Nil	Good
323	*Lophostemon suaveolens*	8	2	15	Nil	Good
324	*Lophostemon suaveolens*	8	2	15	Nil	Good
325	*Lophostemon suaveolens*	8	2	15	Nil	Good
326	*Lophostemon suaveolens*	8	2	15	Nil	Good
327	*Lophostemon suaveolens*	8	2	15	Nil	Good
328	*Lophostemon suaveolens*	8	2	15	Nil	Good
329	*Lophostemon suaveolens*	8	2	15	Nil	Good
330	*Lophostemon suaveolens*	6	2	10	Nil	Good
331	*Eucalyptus tereticornis*	11	2	20	Nil	Good
332	*Lophostemon suaveolens*	8	2	15	Nil	Good
333	*Lophostemon suaveolens*	8	2	15	Nil	Good
334	*Lophostemon suaveolens*	8	2	15	Nil	Good
335	*Lophostemon suaveolens*	8	2	15	Nil	Good
336	*Lophostemon suaveolens*	8	2	15	Nil	Good
337	*Lophostemon suaveolens*	10	3	20	Nil	Good
338	*Lophostemon suaveolens*	10	3	20	Nil	Good
339	*Lophostemon suaveolens*	6	1	15	Nil	Good
340	*Lophostemon suaveolens*	6	1	10	Nil	Good
341	*Lophostemon suaveolens*	10	3	20	Nil	Good
342	*Lophostemon suaveolens*	10	3	20	Nil	Good
343	*Lophostemon suaveolens*	6	1	15	Nil	Good
344	*Lophostemon suaveolens*	6	1	10	Nil	Good
345	*Lophostemon suaveolens*	6	1	10	Nil	Good
346	*Lophostemon suaveolens*	10	3	20	Nil	Good
347	*Lophostemon suaveolens*	10	3	20	Nil	Basal Damage
348	*Lophostemon suaveolens*	6	1	15	Nil	Good
349	*Lophostemon suaveolens*	6	1	10	Nil	Good
350	*Lophostemon suaveolens*	6	1	10	Nil	Good
351	*Lophostemon suaveolens*	6	1	10	Nil	Good
352	*Eucalyptus tereticornis*	14	8	45	Nil	Good
353	*Lophostemon suaveolens*	5	3	15x3	Nil	Good
354	*Lophostemon suaveolens*	5	3	15	Nil	Good
355	*Melaleuca decora*	8	3	12	Nil	Basal Damage
356	*Melaleuca decora*	8	3	12	Nil	Good
357	*Melaleuca decora*	8	3	12	Nil	Good
358	*Melaleuca decora*	8	3	12	Nil	Good
359	*Melaleuca decora*	8	3	12	Nil	Good
360	*Melaleuca decora*	8	3	12	Nil	Good
361	*Melaleuca decora*	8	3	12	Nil	Good
362	*Melaleuca decora*	8	3	12	Nil	Good

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Tree #	*Species*	Height	Spread	DBH	Habitat	Health
363	*Melaleuca decora*	8	3	12	Nil	Good
364	*Melaleuca decora*	8	3	12	Nil	Good
365	*Melaleuca decora*	8	3	12	Nil	Good
366	*Melaleuca decora*	8	3	12	Nil	Good
367	*Melaleuca decora*	8	3	12	Nil	Good
368	*Melaleuca decora*	8	3	12	Nil	Good
369	*Melaleuca decora*	8	3	12	Nil	Good
370	*Melaleuca decora*	8	3	12	Nil	Good
371	*Melaleuca decora*	8	3	12	Nil	Good
372	*Melaleuca decora*	8	3	12	Nil	Good
373	*Melaleuca decora*	8	3	12	Nil	Good
374	*Eucalyptus tereticornis*	12	4	15	Nil	Good
375	*Melaleuca decora*	8	3	12	Nil	Good
376	*Melaleuca decora*	8	3	12	Nil	Good
377	*Melaleuca decora*	8	3	12	Nil	Good
378	*Melaleuca decora*	8	3	12	Nil	Good
379	*Melaleuca decora*	8	3	12	Nil	Good
380	*Melaleuca decora*	8	3	12	Nil	Good
381	*Melaleuca decora*	8	3	12	Nil	Good
382	*Melaleuca decora*	8	3	12	Nil	Good
383	*Eucalyptus tereticornis*	12	4	15	Nil	Good
384	*Melaleuca decora*	8	3	12	Nil	Good
385	*Melaleuca decora*	8	3	12	Nil	Good
386	*Melaleuca decora*	8	3	12	Nil	Good
387	*Melaleuca decora*	8	3	12	Nil	Good
388	*Melaleuca decora*	8	3	12	Nil	Good
389	*Melaleuca decora*	8	3	12	Nil	Good
390	*Melaleuca decora*	8	3	12	Nil	Good
391	*Melaleuca decora*	8	3	12	Nil	Good
392	*Melaleuca decora*	8	3	12	Nil	Good
393	*Melaleuca decora*	8	3	12	Nil	Good
394	*Eucalyptus tereticornis*	12	3	12	Nil	Good
395	*Lophostemon suaveolens*	10	3	12	Nil	Good
396	*Melaleuca decora*	8	3	12	Nil	Good
397	*Eucalyptus tereticornis*	12	4	15	Nil	Good
398	*Melaleuca decora*	8	3	12	Nil	Good
399	*Melaleuca decora*	8	3	12	Nil	Good
400	*Eucalyptus tereticornis*	12	4	15	Nil	Good
401	*Melaleuca decora*	8	3	12	Nil	Good
402	*Melaleuca decora*	8	3	12	Nil	Good
403	*Melaleuca decora*	8	3	12	Nil	Good
404	*Melaleuca decora*	8	3	12	Nil	Good
405	*Melaleuca decora*	8	3	12	Nil	Good
406	*Melaleuca decora*	8	3	12	Nil	Good
407	*Melaleuca decora*	8	3	12	Nil	Good

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Tree #	Species	Height	Spread	DBH	Habitat	Health
408	*Melaleuca decora*	8	3	12	Nil	Good
409	*Eucalyptus tereticornis*	12	4	15	Nil	Good
410	*Melaleuca decora*	8	3	12	Nil	Good
411	*Melaleuca decora*	8	3	12	Nil	Good
412	*Melaleuca decora*	8	3	12	Nil	Good
413	*Lophostemon suaveolens*	8	2	15	Nil	Good
414	*Lophostemon suaveolens*	8	2	15	Nil	Good
415	*Lophostemon suaveolens*	8	2	15	Nil	Good
416	*Lophostemon suaveolens*	8	2	15	Nil	Good
417	*Lophostemon suaveolens*	8	2	15	Nil	Good
418	*Lophostemon suaveolens*	10	3	20	Nil	Good
419	*Lophostemon suaveolens*	10	3	20	Nil	Good
420	*Lophostemon suaveolens*	6	1	15	Nil	Good
421	*Lophostemon suaveolens*	6	1	10	Nil	Good
422	*Lophostemon suaveolens*	10	3	20	Nil	Good
423	*Lophostemon suaveolens*	10	3	20	Nil	Good
424	*Melaleuca decora*	6	2	10	Nil	Good
425	*Melaleuca decora*	6	2	10	Nil	Good
426	*Melaleuca decora*	6	2	10	Nil	Good
427	*Melaleuca decora*	8	3	12	Nil	Good
428	*Melaleuca decora*	8	3	12	Nil	Good
429	*Melaleuca decora*	8	3	12	Nil	Good
430	*Melaleuca decora*	8	3	12	Nil	Good
431	*Melaleuca decora*	8	3	12	Nil	Good
432	*Melaleuca decora*	8	3	12	Nil	Good
433	*Eucalyptus tereticornis*	10	3	12	Nil	Good
434	*Eucalyptus tereticornis*	10	3	12	Nil	Good
435	*Eucalyptus tereticornis*	10	3	12	Nil	Dieback
436	*Eucalyptus tereticornis*	15	8	25	Nil	Good
437	*Eucalyptus tereticornis*	15	8	25	Nil	Good
438	*Melaleuca decora*	8	2	12	Nil	Good
439	*Melaleuca decora*	8	2	12	Nil	Good
440	*Melaleuca decora*	8	2	12	Nil	Dieback
441	*Melaleuca decora*	8	2	12	Nil	Good
442	*Melaleuca decora*	8	2	12	Nil	Good
443	*Melaleuca decora*	8	2	12	Nil	Dieback
444	*Melaleuca decora*	8	2	12	Nil	Good
445	*Melaleuca decora*	8	2	12	Nil	Good
446	*Melaleuca decora*	8	2	12	Nil	Good
447	*Melaleuca decora*	8	2	12	Nil	Good
448	*Melaleuca decora*	8	5	20	Nil	Good
449	*Melaleuca decora*	8	3	15	Nil	Good
450	*Melaleuca decora*	8	2	12	Nil	Good
451	*Melaleuca decora*	8	2	12	Nil	Good
452	*Melaleuca decora*	8	2	12	Nil	Good

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4. Habitat Values

All trees were assessed for habitat values which included collecting data on observations of hollows, scratch marks, pock marks, arboreal termite's nests, bird's nests and animal scats. Some of the assessed vegetation did display evidence of recent arboreal faunal activity, particularly from possums and goanna.

5. Weed Species

High densities of weeds were identified within the subject area, particularly where additional sunlight and nutrients provide ideal conditions for growth. Historical clearing of the ground stratum and historic changes in land use have encouraged the colonisation of exotic ground layer species. Minimal understorey and ground layer weed species are present amongst the Pine dominated areas.

Table 2: Common Weeds Identified Within the Survey Area:

Botanical Name	Common Name	State Legislation Class
Ageratum houstonianum	Blue billy-goat weed	
Andropogen virginicus	Whiskey grass	
Bidens pilosa	Cobblers pegs	
Lantana camara	Lantana	Class 3
Melinus minutiflora	Molasses grass	
Panicum maximum	Guinea Grass	
Paspalum spp.	Paspalum	
Passiflora subpeltata	White passionflower	
Pinus elliottii	Slash Pine	
Senna pendula	Easter Cassia	
Solanum mauritianum	Wild tobacco	
Solanum chrysotrichum	Giant devil's fig	
Sphagneticola trilobata	Singapore daisy	Class 3

Pest plant management is legislated by the Queensland State Government under *the Land Protection (Pest and Stock Route) Management Act 2002*. This State legislation directly determines pest plants and regulates their possession, cultivation, sale, and spread.

Pest plants are classified under 3 classes:

- **Class 1 Pest plants** are serious weeds that are either not present or not generally established in Queensland and have the potential to cause extreme damage to economy, social well-being and environment. All landholders are required by law to keep their land free of Class 1 pests.
- **Class 2 Pest plants** are generally established in Queensland and are responsible for the majority of economic and social impacts caused by weeds. Landholders are responsible for treating infestations to prevent spread to other properties and working towards removing the infestation.

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- **Class 3 Pest plants** are environmental weeds generally well established in Queensland and are responsible for the majority of environmental impacts caused by weeds. The management objective of all C3 weeds is containment and reduction in and adjacent to Environmentally Significant Areas (ESAs) (*The LP Act 2002* provides a list of criteria by which an ESA is determined).

All weeds will be removed during clearing and civil earthworks.

6. General Vegetation Protection

During construction on site, disturbance to areas of retained vegetation is prohibited. Whereby disturbance includes the following:

- Earthworks, cut, fill and erosion
- Movement and/or storage of machinery and equipment
- Dumping of site waste, including vegetation waste and soil
- Native vegetation removal (directly or indirectly by mechanical removal or herbicide application)
- Introduction of non-native species (weeds).

Retained vegetation is to be marked with flagging tape or will be located behind vegetation protection/safety fencing as delineated in this plan (refer to Figure 2 for details).

Trees require protection from earth works and construction activities on the site. Adequate protection measures should include, but are not limited to, the following:

- Fenced tree protection zone (TPZ)
- Maintenance of adequate soil moisture levels within root protection zones
- Where required, stem wraps or other devices to protect trunk and branches from damage during specific construction activities
- Compaction bridging to protect tree roots from soil compaction and compression damage
- Correct treatment, under arboricultural supervision, of any roots that may be exposed
- Correct treatment, under arboricultural supervision, of any other damage that may occur.

Tree protection measures and TPZ fencing should be installed before any earthworks or construction activities begin. A pre-start inspection shall be carried out to ensure adequate protection measures are in place.

7. Tree Protection Zone (TPZ)/Safety Fencing

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Vegetation protection/safety fencing or similar is to be erected around areas of retained vegetation and individual retained trees, to the outer drip line (or in instances where the drip line will be impacted, to the edge of proposed works). It shall remain in place before and during construction to prevent disturbance of or damage to the retained vegetation, understorey and root zones. Refer to Figure 2 for the location of required tree protection fencing. Fencing must be installed by the civil works contractor and inspected prior to commencement of any works on the subject site. In summary:

- Tree protection/safety fencing must be installed prior to all construction works and must be retained in place during the construction period

- Tree protection/safety fencing will ideally consist of 2-metre high weldmesh temporary builders' fence (relocatable panels) or other approved fencing (refer to Figure 2) to the limit of the canopy drip-line or the edge of proposed works (or as per Australian Standard 4970:2009, where applicable). Alternative fencing materials will be utilised where specific site conditions (such as sloping, boggy or unstable ground) exist.

- When required, fences may be erected around distinct groups of trees or at the limit of works (Fencing trees in groups ensures that the maximum volume of soil shared by forest grown trees is protected during the construction)

- Signs should be erected on the exterior of the fence that clearly indicate the tree protection zone and that no entry is permitted inside the fence

- With few exceptions, work is not permitted within the drip zones of protected vegetation to reduce impacts on surface and feeder roots

- A 'duty of care' is applied to all contractors and sub-contractors in regard to the protection and retention of indicated trees as noted within this plan

- No removal of trees can occur until Operational Works - Tree Clearing Approval is given

- The Civil Contractor is to obtain a copy of approval prior to any construction

- Tree removals will be carried out in such a way as to prevent damage to above and below-ground parts of any adjacent trees that are to be retained.

8. Protection of Significant Flora

No significant EVNT species as listed under either the *Nature Conservation Act 1992* or *Environmental Protection (and Biodiversity) Act 1999* were observed within the proposed development footprint.

9. Fauna Assessment and Management

9.1 Desktop assessment

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The Queensland Governments wildlife database (Wildlife Online) contains recorded wildlife sighting and listings of flora and fauna in Queensland, and can serve as an indication of what flora and fauna is expected to occur within a defined area. The Wildlife Online search also indicates the Queensland and Australian Conservation status of each taxon under the Qld *Nature Conservation Act 1999* (NC Act) and the Commonwealth *Environment Protection and Biodiversity Act 1999* (EPBC Act) respectively.

A Wildlife Online search of a 5 km radius of the study site for all species, type, status, records and dates was conducted. The full Wildlife Online report is included in Appendix A. An assessment for fauna was carried out during the field assessment for the vegetation survey. Specifically this included:

- Observations for evidence of koala
- Observations for native bee hives at the base of suitable habitat trees
- 1,500 hours of IR camera trapping
- Searches for and recordings of arboreal fauna activity, during tree canopy measurements, including:
    - Stick and mud nests
    - Termitariums
    - Rooting sites
    - Scratch marks
    - Chewings of seed casings from Allocasuarina (indicative of glossy black cockatoo)

9.2 Site Assessment

The site provides fauna habitat value with existing nesting and roosting opportunities for birds and some arboreal mammals. There is scrub and native undergrowth which may support reptiles or small terrestrial mammals with loose debris and relatively low numbers of fallen logs. This shrub and ground layer vegetation is likely to support numerous habitats for insects and invertebrates. This in turn provides a feed resource for insectivorous birds such as flycatchers, bee eaters and other omnivorous species. The following table presents species identified during the survey period and the method of identification.

Table 4: Fauna Species Identified the Survey Area:

FAMILY	Genus and Species	Common Name	Method**	NCA1*	EPBC2*
AVES					
Artamidae	*Gymnorhina tibicen*	Australian Magpie	O	C	C
Artamidae	*Cracticus torquatus*	Grey Butcherbird	O	C	C
Artamidae	*Cracticus nigrogularis*	Pied Butcherbird	O	C	C
Artamidae	*Strepera graculina*	Pied Currawong	O	C	C
Columbidae	*Phaps chalcoptera*	Common Bronzewing	O	C	C
Columbidae	*Ocyphaps lophotes*	Crested Pigeon	O	C	C
Corvidae	*Corvus orru*	Torresian Crow	O	C	C
Dicruridae	*Rhipidura fuliginosa*	Grey Fantail	O	C	C
Dicruridae	*Grallina cyanoleuca*	Magpie-Lark	O	C	C

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FAMILY	Genus and Species	Common Name	Method**	NCA1*	EPBC2*
Dicruridae	*Rhipidura leucophrys*	Willie Wagtail	O	C	C
Halcyonidae	*Dacelo novaeguineae*	Laughing Kookaburra	O	C	C
Hirundinidae	*Hirundo neoxena*	Welcome Swallow	O	C	C
Maluridae	*Malurus melanocephalus*	Red-backed Fairy-wren	O	C	C
Meliphagidae	*Lichmera indistincta*	Brown Honeyeater	O	C	C
Meliphagidae	*Manorina melanocephala*	Noisy Miner	O	C	C
Pardalotidae	*Pardalotus striatus*	Striated Pardalote	V	C	C
Meropidae	*Merops ornatus*	Rainbow Bee-eater	O	C	C
Psittacidae	*Trichoglossus haematodus haematodus*	Rainbow Lorikeet	O	C	C
Zosteropidae	*Zosterops lateralis*	Silvereye	O	C	C
MAMMALS					
Phalangeridae	*Trichosurus vulpecula*	Common Brushtail Possum	C	C	C
Peramelidae	*Perameles nasuta*	Long-Nosed Bandicoot	O	C	C
Macropodidae	*Macropus giganteus*	Eastern Grey Kangaroo	O	C	C
Macropodidae	*Macropus rufogriseus*	Red-Necked Wallaby	O	C	C
Canidae	*Vulpes vulpes*	Red Fox	O	C	C
Canidae	*Canis familiaris*	Dog (wild)	O	C	C
REPTILES					
Scincidae	*Lampropholis delicata*	Grass Skink	O	C	C
Varanidae	*Varanus sp.*	Goanna	O	C	C
Agamidae	*Physignathus lesueurii*	Eastern Water Dragon	O	C	C
AMPHIBIANS					
Bufonidae	*Rhinella marina*	Cane Toad	O	C	C

** V= Vocalisations, O= Observed, C= Evidence such as scats, tracks or scratches

Although no EVNT fauna species were observed, the following recommendations shall be adhered to:

- Vegetation is to be removed gradually in a west to east direction (refer to Figure 1) to allow fauna time to relocate and to allow an uninterrupted path of exit from the site:

  - The clearing of the site will occur in a controlled and precise manner to reduce the direct impacts on any fauna populations within the region
  - Clearing shall occur from developed areas towards areas of vegetation to be retained or bordering the site, using a staged clearing method
  - Due to the location of housing to the west and a cleared electricity easement to the south, clearing shall be conducted in such a manner that fauna is flushed in an eastward direction. Care must be taken along the boundary to the south and west of the site to ensure clearing is conducted in the correct direction
  - Flushing animals towards roads, housing or populated areas shall be avoided
  - Staged clearing is a method of removing trees where operational works are conducted in discrete sections which ensures fauna are provided with sufficient

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time and space to move from the clearing site of their own accord, without their physical removal by a spotter catcher. This will reduce stress and ensure that fauna is not flushed out into an exposed area or disturbed needlessly
- A qualified spotter catcher is assigned to each piece of machinery
- A qualified spotter catcher must be employed to inspect felled trees for arboreal mammals prior to mulching
- If a tree is identified containing fauna, it must be either allowed to move from the site on its own accord or be removed and relocated by the spotter catcher
- To improve chances of survival, animals must not be relocated long distances
- Koalas cannot be physically removed, but must be left to move of their own accord.

- Clearing shall be undertaken in a sequential manner, with fauna management works planned prior to machinery arriving on site for the day

- Injured fauna to be placed in an adequately ventilated box in a quiet and shady location and taken to Queensland Parks and Wildlife Service (QPWS)/veterinary surgery or registered wildlife career for treatment

- If/where conflicts occur during clearing works, the requirements of the spotter-catcher will take precedence over clearing requirements

Refer to Figure 1 for direction of clearing. It is crucial that clearing be conducted as per Figure 1 as the site is adjacent to existing residential development and a cleared electrical easement. All staff must discuss clearing with the Spotter Catcher or Natura Consulting staff prior to commencing works. Appendix B provides a summary of Fauna Management Actions, which is to provide to site contractors prior to commencing works. For further details on Koala management, refer to the Yarrabilba Koala Management Plan by Austecology (2012).

10. Mulching of Felled Trees

Cleared trees to be felled should be mulched for use onsite in revegetation and landscape works. Mulch must be allowed to age for at least 6-8 weeks before use to allow the breakdown of the material and the leaching of tannins. Mulch should be stockpiled in an open area. However, the site project manager must ensure it is not stored not within 10 metres of the waterbody (gully) or within a fire risk area. The final location shall confirmed by the civil contractor's site project manager.

11. Certification

This report is consistent with relevant industry standards and clearly identifies a number of conditions relating to:

- Project coordination and prestart meetings
- Tree protection measures during works
- Requirements for vegetation removal
- Vegetation management post works
- Recycle and reuse of site material
- Mulch storage and use

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- Weed management
- Fauna management

These conditions must be adhered to pre, during and post construction works. I hope that the above meets with your satisfaction and if you have any queries please feel free to contact me at any time.

Yours Sincerely,

Kieran Richardt
Senior Environmental Scientist
Natura Consulting

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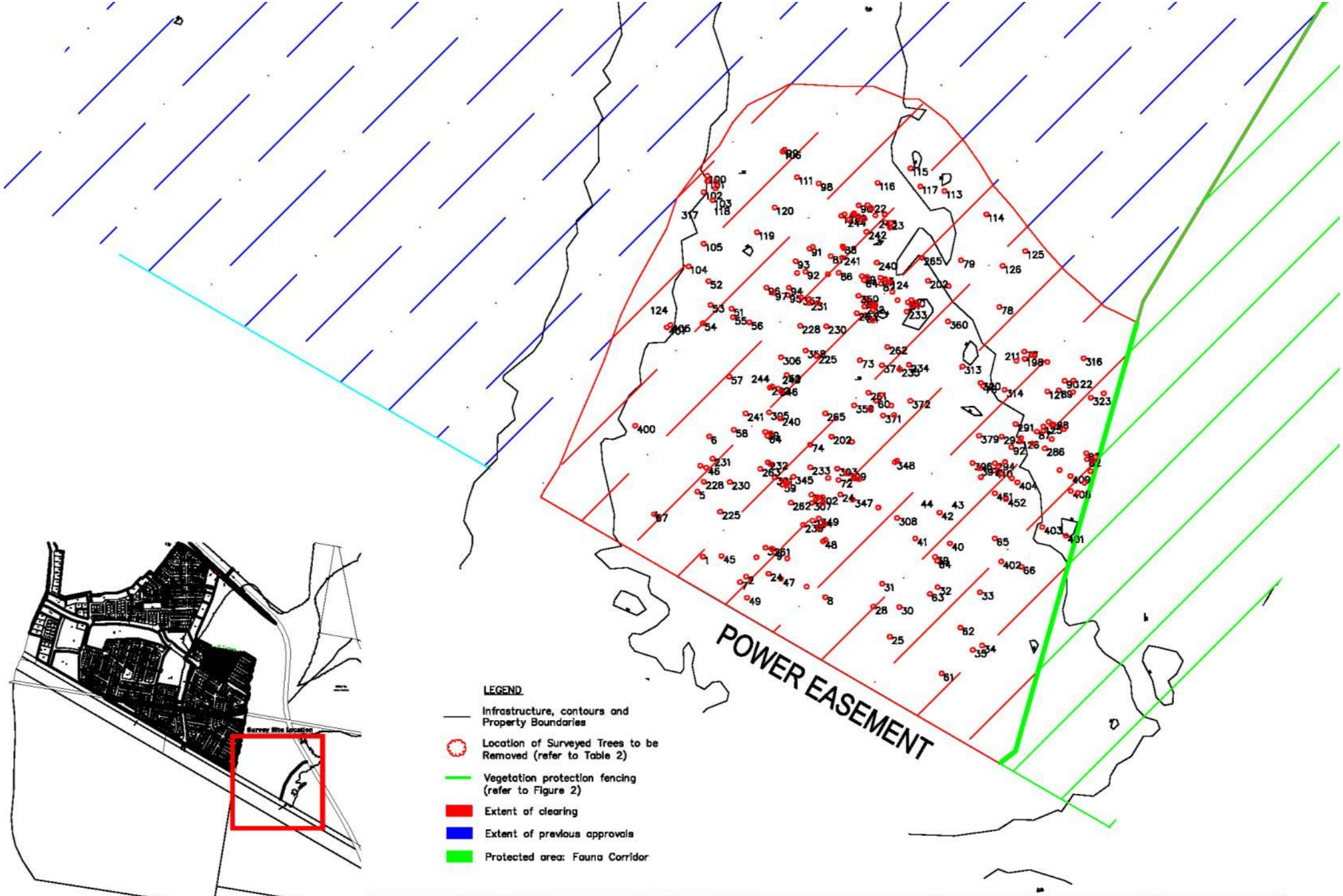

NATURA CONSULTING

Drawing Title: Vegetation Management Plan - EPBC Approval Area	Client: Land Lease		Associated Consultants:
Project Name: Yarrabilba - Logan Village	Location: Yarrabilba Drive	QA:	

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Drawing Title:	Client:		
Figure 2: Protection Fencing Cross Sections	Lend Lease		
Project Name:	**Location:**	**Associated Consultants:**	**QA:**
Yarrabilba	Waterford- Tamborine Rd		Drawn: MS Checked: NS Date: 16 May 2014 Drawing #: 3009-044 Amendment #: A

ROOT BARRIER AND PROTECTION FENCING DETAIL

(nts)

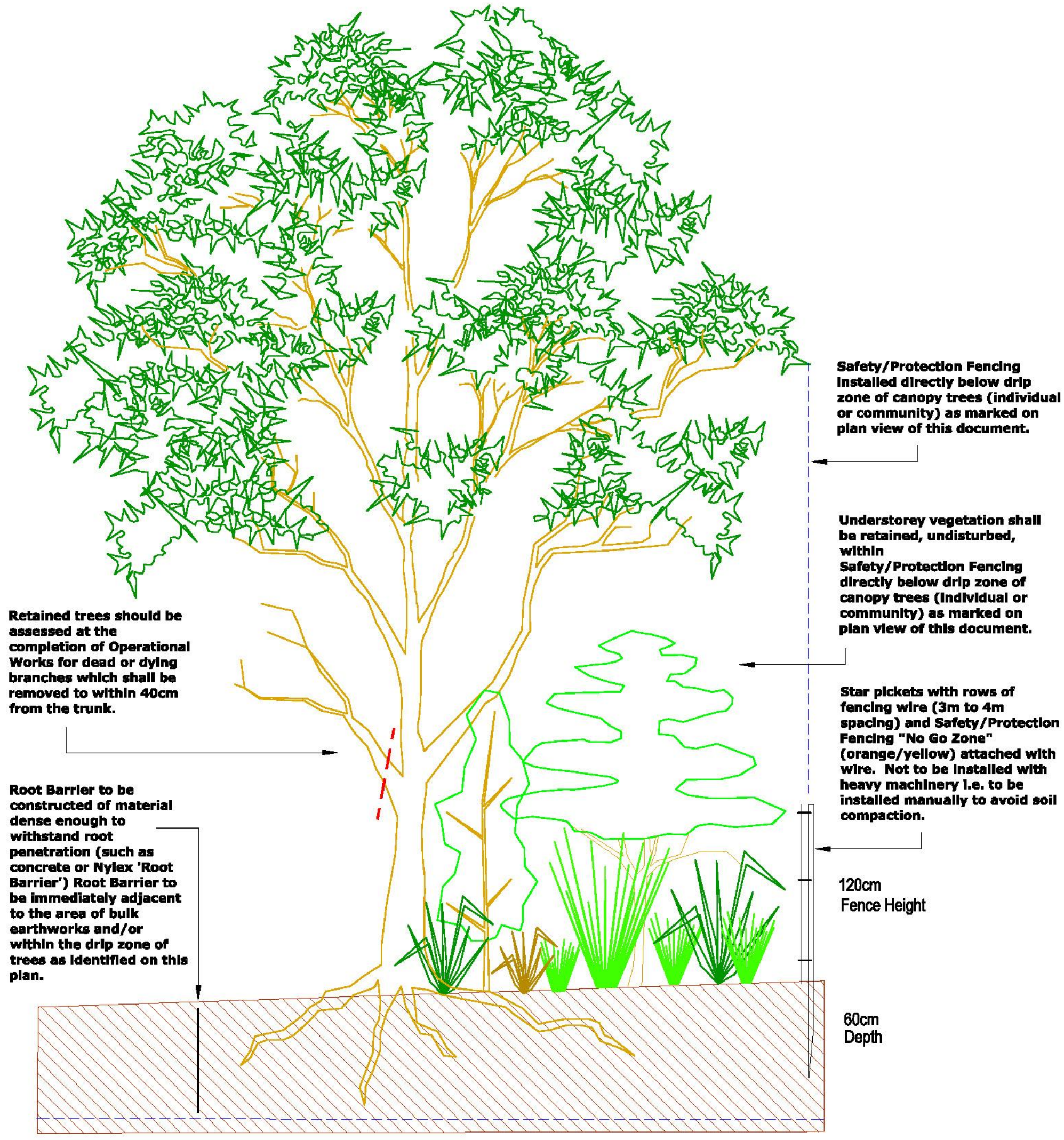

Figure 3: Site Photos

Open Pinus Elliotii community with weedy ground layer and Acacia regrowth

Mixed community of scattered native trees and exotic pine species

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Mixed community of scattered native trees and exotic pine species on rudimentary sandy soil

Macropus rufogriseus, Red-Necked Wallaby, foraging at night

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Macropus rufogriseus, Red-Necked Wallaby, foraging at night and eye glint from *Perameles nasut*, Long-Nosed Bandicoot in the centre of image

One of numerous wild dogs observed during the survey period

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Vulpes vulpes, Red Fox, foraging at night

Macropus giganteus, Eastern Grey Kangaroo, moving through the works are during day

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12. Appendix A – Wildlife online results

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13. Appendix B – Summary of Fauna Management Actions

Fauna Management Actions for Village 3, Balance Area, Yarrabilba	
Policy - To appropriately manage activities within the site to minimise impacts on fauna species.	
Performance Objectives/ Indicators	No injury of native fauna; • No destruction of habitat other than that designated for; and • Minimise impacts on fauna from the site activities through the implementation of environmental controls.
Control Measures	**Design** Identify clearly on plans areas to be protected from the development including: • Significant fauna areas • Location of services to minimise impacts on existing fauna habitat • Designation of transport routes during construction to minimise impacts to sensitive areas. **Construction** • The developer shall appoint a qualified ecologist (spotter catcher) to assess fauna habitat and clearly mark any habitat trees prior to any vegetation removal • The ecologist (spotter catcher) will identify and remove fauna from site before habitat disturbance • The developer shall ensure all contractors have a copy of this plan • The ecologist (spotter catcher) shall outline the contractors role and responsibilities to them prior to any vegetation removal • Clearing shall be undertaken in a sequential manner, with fauna management works planned prior to machinery arriving on site for the day • Injured fauna to be placed in an adequately ventilated box in a quiet and shady location and taken to Queensland Parks and Wildlife Service • (QPWS)/veterinary surgery or registered wildlife carer for treatment • No domestic pets (including dogs, cats) are allowed on the site during construction.
Monitoring	Daily inspection of the site and surrounding areas to ensure fauna has not re-established on the site: • Daily monitoring of clearing techniques • The ecologist (spotter catcher) shall supervise clearing works involving habitat tree removal until satisfied that native fauna have been suitably relocated • Inspection of retained fauna habitat in the area to ensure no

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	impacts from site activities during construction.
Reporting/ Responsibility	**Reporting** • Any injured fauna to be reported to DEHP (QPWS) • The ecologist (spotter catcher) shall instruct the developer when no further action is required in relation to fauna relocation • A Post Clearing Fauna Report is to be complied and forwarded to EDQ upon completion of clearing works. **Responsible Person** • The developer (or designated responsible person).
Contacts	• **DEHP/QPWS** • **Natura Consulting:** Kieran Richardt, 0415 413 408 • **Lend Lease:** David Wilson, 0477 754 217 • **Spotter Catcher:** Matt Hingley, 0457 350 820 • **Local Wildlife Carers (Wild Care):** (07) 5527 2444 • **Closest Veterinarian** Village Veterinary Care, Wharf Street, Logan Village, (07) 5546 3909

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14. References

Austecology (2012) Koala Management Plan Yarrabilba UDA.

DSEWPC (2011) *Protected Matters Search Tool*. Department of Sustainability, Environment, Water, Pollution and Communities, Canberra.

EHP. 2012. Regional Ecosystems Mapping. Department of Environment and Heritage Protection, Queensland Government, Brisbane, Queensland.

EHP. 2012. Wildlife Online. Department of Environment and Heritage Protection, Queensland Government, Brisbane, Queensland.

Batianoff, G. N., Butler, D. W. (2002). Assessment of invasive naturalised plants of southeast Queensland. *Plant Protection Quarterly* 17:1.

Big Scrub Rainforest Landcare Group. (2000) Common Weeds of Northern NSW Rainforest: A practical manual on their identification and control. Big Scrub Rainforest Landcare Group, Bangalow, NSW.

Big Scrub Rainforest Landcare Group. (2005) Subtropical Rainforest Restoration 2nd Edition. Big Scrub Rainforest Landcare Group, Bangalow, NSW.

Design Flow. (2012). Yarrabilba Stormwater Infrastructure Master Plan, for Lend Lease.

Lend Lease. (2011.) Yarrabilba Draft Land Management Plan.

McDonald, R. C., Isbell, R. F., Speight., J. G., Walker J., and Hopkins M. S. (2005). *Australian Soil and Land Survey Handbook*. Department of Agriculture, Fisheries and Forestry, Canberra.

Natura Consulting, (2011). Natural Environment Site Strategy.

Natura Consulting, (2011). Fauna Corridor Master Plan.

Transport and Main Roads (TMR). (2002). Fauna Sensitive Road Design. Volume 1, Past and Existing Practices. Queensland Department of Main Roads, Planning, Design and Environment Division.

Urban Land Development Authority. (2011). Draft ULDA Guideline 14 – Environment and Natural Resources Sustainability.

Urban Land Development Authority. (2011). ULDA Guideline 17 – Remnant Vegetation and Koala Habitat Obligations in Greater Flagstone and Yarrabilba UDA's.

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