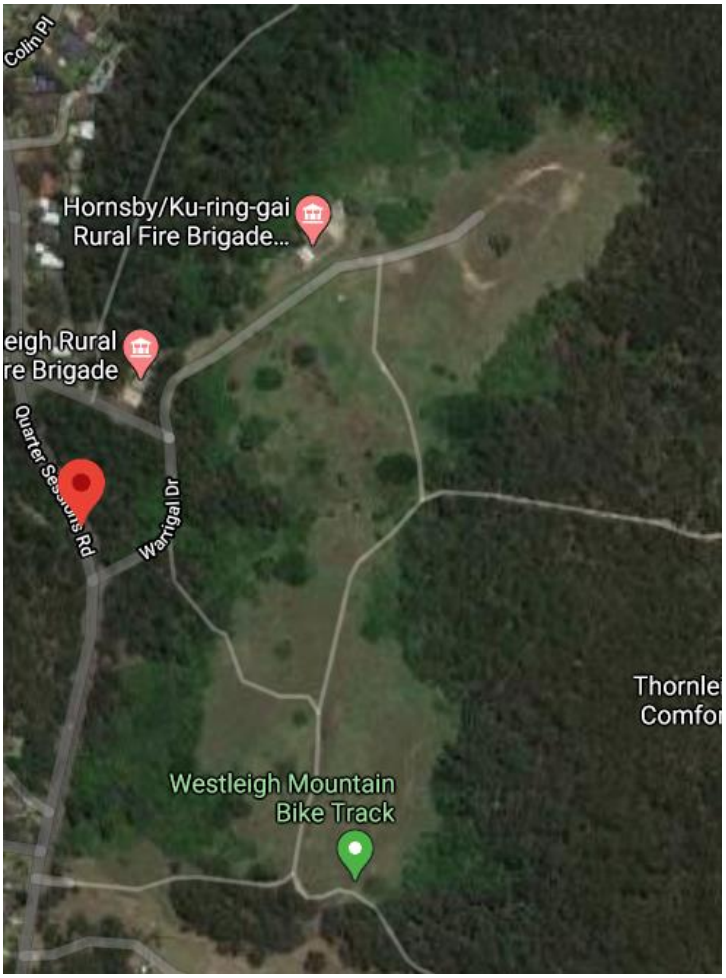


ARBORICULTURAL IMPACT ASSESSMENT

Quarter sessions Road, Westleigh.

Prepared for: Hornsby Council

Prepared by: Australian Tree Consultants

Date: May 6th, 2020.

Executive Summary

The purpose of this assessment is to determine the viability of potential repurposing of some portions of the site for sporting or recreational activities.

The site is home to several threatened species and five vegetation communities, including;

- Sydney Turpentine Ironbark Forest (Critically Endangered Ecological Community)
- Duffy's Forest (Endangered Ecological Community)
- Scribbly Gum Open Woodland
- Bloodwood Scribbly Gum Woodland
- Peppermint - Angophora Forest

The presence of all of these communities was confirmed by the species which were dominating the collection data and associated understorey plants and shrubs which were not captured as part of this assessment.

A total of six hundred and twenty-four (624) trees were surveyed as part of this assessment.

A total of seven (7) trees (1055-1139-1140-1141-1183-1288-1539) appeared to contain hollows which may have the potential to provide current or future nesting opportunities for native birds or arboreal mammals.

Detailed maps showing tree numbers and tree protection zones will be provided in separate files, along with Excel spreadsheets with coordinates that can be uploaded into CAD files if so desired during the design process.

The current designs are at concept stage and are lacking in sufficient detail to allow all of the impacts to be fully assessed at this time. Once the designs have been finalised and construction drawings have been prepared, the findings of this report should be cross-checked to ensure accuracy of information.

Generic tree protection measures are provided in Appendix 2.

A site-specific tree protection plan will also need to be compiled to specify the tree protection requirements relative to each tree to be retained once designs have been finalised.

Contents

Figures

Introduction

Australian Tree Consultants Pty Ltd have been engaged by Hornsby Council to provide details of all trees in the locations shown in figure 1 below.

The Arboricultural Impact Assessment will be limited to the following scope, provided by the client:

Assessment data required:

- Number each tree – affix a suitable horticultural aluminium tag with a number to each tree to be assessed, in a manner which can be easily identified by Council's Surveyor.
- Identify each species.
- Determine the following for each tree:
    - Height
    - Trunk diameter - (DBH)
    - Crown spread
    - Vigour - Good, Normal, Fair, Poor
    - Condition Rating 1 (dead or declining),2,3,4,5 (excellent)
    - Structural Root Zone (SRZ) - (Trees rated 3,4,5)
    - Tree Protection Zone (TPZ) - (Trees rated 3,4,5)
    - Safe Useful Life Expectancy (SULE) - (Trees rated 3,4,5)
    - Presence of tree hollows potentially suitable for wildlife use.

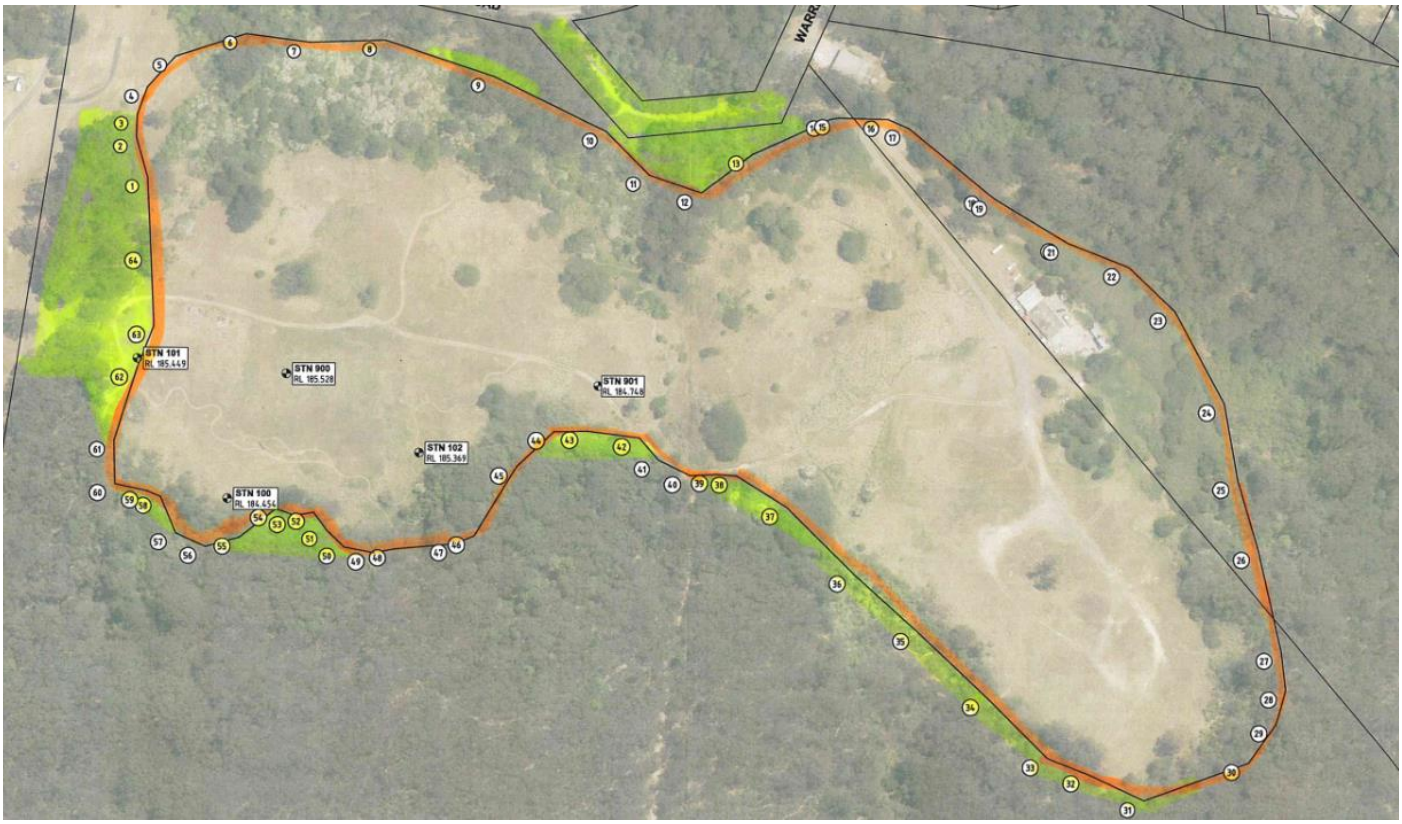


Figure 1-Image showing the areas to be surveyed marked in orange and yellow. Image provided by Hornsby Council.

Methodology

An initial site visit was conducted in April 2020 to inspect the site.

Assessment was undertaken of all trees within the prescribed areas shown in figure 1.

The site is located within the municipality of Hornsby Shire Council. Hornsby council's website states the following in relation to the vegetation present on the site. "The site is bounded to the north by Dog Pound Creek bushland (Bio-Banking site), to the east by Waitara Creek bushland and to the west by Berowra Valley National Park. The site itself is home to several threatened species and five vegetation communities, including;

- Sydney Turpentine Ironbark Forest (Critically Endangered Ecological Community)
- Duffy's Forest (Endangered Ecological Community)
- Scribbly Gum Open Woodland
- Bloodwood Scribbly Gum Woodland
- Peppermint - Angophora Forest

Assessment of the trees was undertaken using the framework of the visual tree assessment procedure (VTA) as prescribed by Mattheck & Broeler 1994.[1]

Tree Protection Zones and Structural Root Zones were calculated in accordance with AS4970-2009- The Protection of Trees on Development Sites [2](see appendix 1.2). Safe Useful Life Expectancy was allocated in accordance with the S.U.L.E[3] (see appendix 1.3). Tree AZ ratings were allocated in accordance with the Tree AZ rating system[4] (see appendix 1.4).

Trees within the survey area were geo-located using a Trimble G07X and tagged with a plastic tag with an individual tree number and QR code enabling the data of each tree to be accessed via smartphone.

The data has been collected and a KMZ file has been created showing the tree locations, tree protection zones and structural root zones on Google Earth.

- No internal diagnostic testing has been completed.
- No sub surface root testing or soil testing has been completed.
- All observations were made from the ground only.
- Tree heights have been estimated and diameters have been measured with a callipers where access allowed.

[1] Mattheck & Broeler 1994- The Body Language of Trees.
[2] Standards Australia- AS4970-2009- The Protection of Trees on Development Sites
[3] Safe Useful Life Expectancy (S.U.L.E)- Barrell Tree Care
[4] Tree AZ- Barrell Tree Care

Site Details

The site is known as Westleigh Park and Sydney Water-Thornleigh Reservoir and is located on Quarter sessions Road, Westleigh.

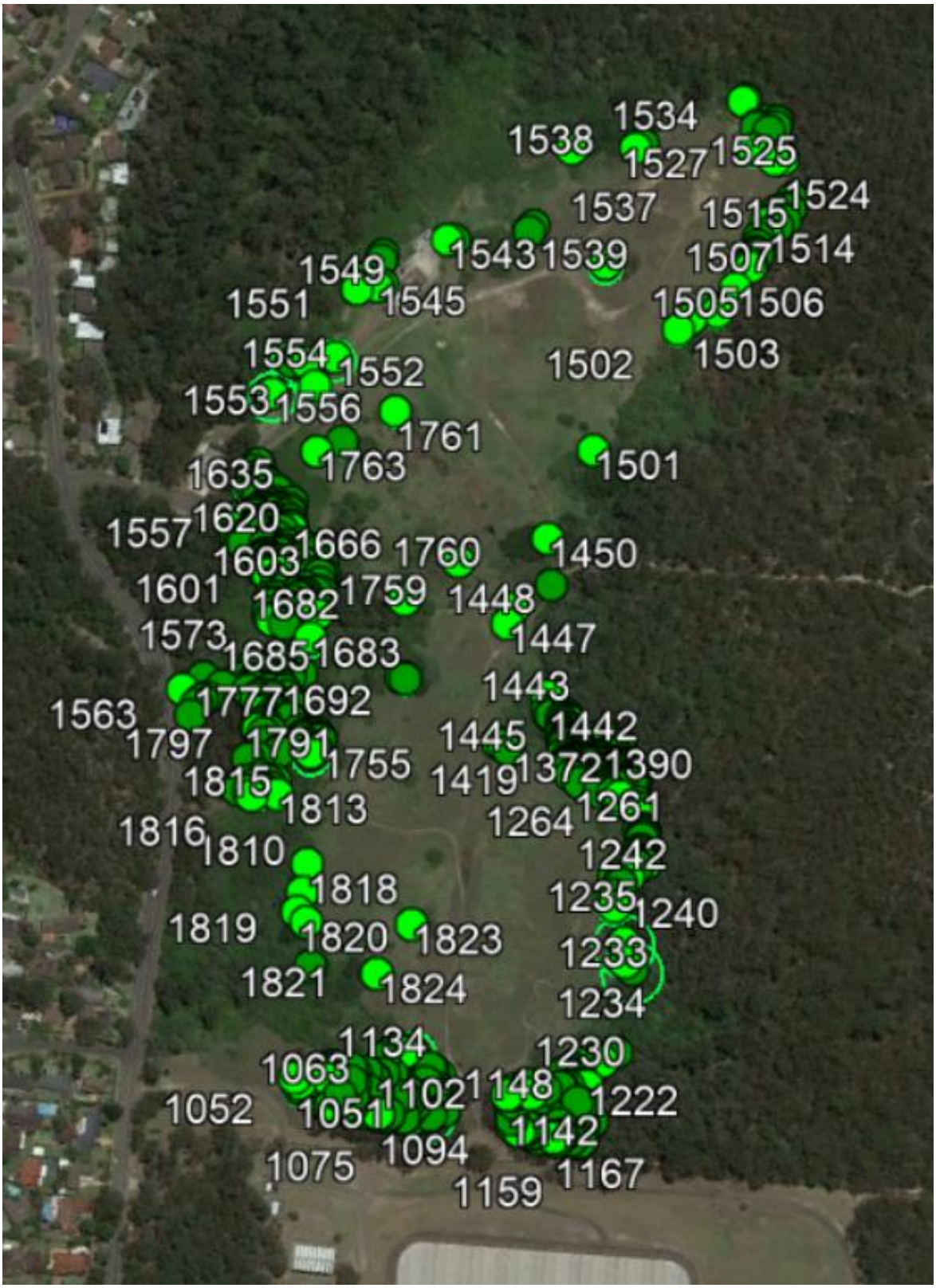


Figure 2- The surveyed trees shown with google map overlay. Detailed maps will be provided in separate files.

Tree schedule

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1051	*Corymbia gummifera*	Red Bloodwood	10	3	200	220	2400	1752	Fair	3	2	A2	No	
1052	*Angophora costata*	Smooth-barked Apple Myrtle	22	14	450	700	5400	2849	Normal	3	2	A2	No	
1053	*Angophora costata*	Smooth-barked Apple Myrtle	24	20	1000	1200	12000	3573	Normal	3	2	A2	No	
1054	*Corymbia gummifera*	Red Bloodwood	24	12	380	500	4560	2474	Fair	3	2	A2	No	
1055	*Eucalyptus pilularis*	Blackbutt	18	5	450	650	5400	2762	Poor	2	3	Z4	Yes	
1056	*Eucalyptus pilularis*	Blackbutt	26	15	450	600	5400	2670	Good	4	2	A2	No	
1057	*Corymbia gummifera*	Red Bloodwood	24	6	380	450	4560	2366	Normal	3	2	A2	No	
1058	*Corymbia gummifera*	Red Bloodwood	26	14	450	550	5400	2575	Normal	3	2	A2	No	
1059	*Eucalyptus pilularis*	Blackbutt	26	12	350	550	4200	2575	Poor	2	3	Z4	No	
1060	*Syncarpia glomulifera*	Turpentine	11	3	300	320	3600	2051	Good	3	2	A2	No	
1061	*Corymbia gummifera*	Red Bloodwood	15	4	300	340	3600	2104	Normal	3	2	A2	No	
1062	*Angophora costata*	Smooth-barked Apple Myrtle	23	14	800	1100	9600	3445	Normal	3	2	A2	No	
1063	*Syncarpia glomulifera*	Turpentine	13	4	300	450	3600	2366	Normal	3	2	A2	No	
1064	*Corymbia gummifera*	Red Bloodwood	24	15	400	530	4800	2535	Normal	3	2	A2	No	
1065	*Angophora costata*	Smooth-barked Apple Myrtle	26	12	480	400	5760	2252	Fair	3	2	A2	No	
1066	*Angophora costata*	Smooth-barked Apple Myrtle	20	12	600	1000	7200	3309	Fair	3	2	A2	No	
1067	*Angophora costata*	Smooth-barked Apple Myrtle	20	9	280	320	3360	2051	Poor	2	3	Z4	No	
1068	*Eucalyptus globoidea*	White Stringybark	9	10	300	340	3600	2104	Poor	2	3	Z4	No	
1069	*Eucalyptus globoidea*	White Stringybark	22	12	360	640	4320	2744	Fair	3	2	A2	No	
1070	*Eucalyptus globoidea*	White Stringybark	22	12	320	500	3840	2474	Fair	3	2	A2	No	
1071	*Angophora costata*	Smooth-barked Apple Myrtle	27	14	480	650	5760	2762	Normal	3	2	A2	No	
1072	*Syncarpia glomulifera*	Turpentine	12	3	200	200	2400	1683	Poor	2	3	Z4	No	
1073	*Eucalyptus eugenioides*	Thin-leaved Stringybark	18	6	300	370	3600	2180	Poor	2	3	Z4	No	
1074	Dead Tree	Dead Tree	18	3	300	300	3600	1996	Dead	1	4	Z4	No	
1075	*Corymbia gummifera*	Red Bloodwood	19	8	480	400	5760	2252	Poor	2	4	Z4	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1076	*Eucalyptus pilularis*	Blackbutt	24	18	500	700	6000	2849	Normal	3	2	A2	No	
1077	*Eucalyptus eugenioides*	Thin-leaved Stringybark	24	15	450	500	5400	2474	Normal	3	2	A2	No	
1078	Dead Tree	Dead Tree	14	5	400	420	4800	2299	Dead	1	4	Z4	No	
1079	*Corymbia gummifera*	Red Bloodwood	12	3	250	400	3000	2252	Poor	2	4	Z4	No	
1080	Dead Tree	Dead Tree	14	3	300	400	3600	2252	Dead	1	4	Z4	No	
1081	*Corymbia gummifera*	Red Bloodwood	24	12	400	450	4800	2366	Poor	2	4	Z4	No	
1082	*Corymbia gummifera*	Red Bloodwood	24	12	400	440	4800	2344	Poor	2	4	Z4	No	
1083	*Syncarpia glomulifera*	Turpentine	12	6	320	540	3840	2555	Fair	3	3	A2	No	
1084	*Angophora costata*	Smooth-barked Apple Myrtle	14	6	200	260	2400	1879	Fair	3	3	A2	No	
1085	*Eucalyptus pilularis*	Blackbutt	30	28	1200	1400	14400	3812	Normal	4	1	A3	No	
1086	Dead Tree	Dead Tree	12	9	600	620	7200	2707	Dead	1	4	Z4	No	
1087	*Angophora costata*	Smooth-barked Apple Myrtle	26	17	500	550	6000	2575	Normal	3	2	A2	No	
1088	*Angophora costata*	Smooth-barked Apple Myrtle	18	6	440	600	5280	2670	Normal	3	2	A2	No	
1089	*Angophora costata*	Smooth-barked Apple Myrtle	28	19	700	900	8400	3166	Poor	3	3	Z4	No	
1090	*Corymbia gummifera*	Red Bloodwood	20	10	450	500	5400	2474	Fair	3	3	A2	No	
1091	*Angophora costata*	Smooth-barked Apple Myrtle	12	3	200	320	2400	2051	Poor	2	3	Z4	No	
1092	*Corymbia gummifera*	Red Bloodwood	12	2	230	270	2760	1910	Poor	2	4	Z4	No	
1093	*Corymbia gummifera*	Red Bloodwood	25	7	300	500	3600	2474	Poor	2	3	Z4	No	
1094	*Syncarpia glomulifera*	Turpentine	25	8	450	600	5400	2670	Fair	4	2	A2	No	
1095	*Angophora costata*	Smooth-barked Apple Myrtle	10	3	180	240	2160	1817	Normal	3	3	A2	No	
1096	*Angophora costata*	Smooth-barked Apple Myrtle	10	3	180	240	2160	1817	Normal	3	3	A2	No	
1097	*Angophora costata*	Smooth-barked Apple Myrtle	22	14	420	460	5040	2388	Good	4	2	A2	No	
1098	*Eucalyptus acmenoides*	White Mahogany	26	18	600	750	7200	2933	Fair	3	3	A2	No	
1099	*Corymbia gummifera*	Red Bloodwood	17	6	320	440	3840	2344	Fair	2	2	A2	No	
1100	*Angophora costata*	Smooth-barked Apple Myrtle	25	14	950	1000	11400	3309	Fair	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1101	*Eucalyptus acmenoides*	White Mahogany	27	15	460	580	5520	2633	Fair	3	2	A2	No	
1102	*Eucalyptus acmenoides*	White Mahogany	27	16	460	570	5520	2613	Fair	3	2	A2	No	
1103	*Angophora costata*	Smooth-barked Apple Myrtle	11	5	230	340	2760	2104	Normal	3	2	A2	No	
1104	*Angophora costata*	Smooth-barked Apple Myrtle	10	6	350	450	4200	2366	Normal	3	2	A2	No	
1105	*Angophora costata*	Smooth-barked Apple Myrtle	10	4	200	240	2400	1817	Normal	3	2	A2	No	
1106	*Angophora costata*	Smooth-barked Apple Myrtle	10	6	360	380	4320	2204	Normal	2	3	A2	No	
1107	*Eucalyptus pilularis*	Blackbutt	30	38	1300	1700	15600	4136	Normal	1	4	Z4	No	
1108	*Eucalyptus sieberi*	Black Ash	19	5	200	250	2400	1849	Good	4	1	A2	No	
1109	*Eucalyptus pilularis*	Blackbutt	24	10	380	450	4560	2366	Normal	3	2	A2	No	
1110	*Eucalyptus pilularis*	Blackbutt	11	3	180	220	2160	1752	Poor	2	2	A2	No	
1111	*Angophora costata*	Smooth-barked Apple Myrtle	23	10	450	500	5400	2474	Poor	2	3	Z4	No	
1112	*Corymbia gummifera*	Red Bloodwood	12	3	180	230	2160	1785	Fair	2	3	A2	No	
1113	*Angophora costata*	Smooth-barked Apple Myrtle	24	14	600	650	7200	2762	Normal	3	2	A2	No	
1114	*Corymbia gummifera*	Red Bloodwood	18	10	380	600	4560	2670	Poor	2	3	Z4	No	
1115	*Eucalyptus acmenoides*	White Mahogany	26	25	1200	1400	14400	3812	Poor	1	4	Z4	No	
1116	*Eucalyptus pilularis*	Blackbutt	20	8	320	360	3840	2155	Fair	3	3	A2	No	
1117	*Eucalyptus pilularis*	Blackbutt	10	4	230	400	2760	2252	Poor	1	4	Z4	No	
1118	*Eucalyptus sieberi*	Black Ash	18	4	180	270	2160	1910	Fair	4	2	A2	No	
1119	*Eucalyptus acmenoides*	White Mahogany	10	3	200	230	2400	1785	Normal	4	2	A2	No	
1120	*Eucalyptus sieberi*	Black Ash	14	3	200	230	2400	1785	Normal	4	2	A2	No	
1121	*Eucalyptus pilularis*	Blackbutt	15	3	200	240	2400	1817	Normal	4	2	A2	No	
1122	*Eucalyptus pilularis*	Blackbutt	21	12	500	950	6000	3239	Poor	2	4	Z4	No	
1123	*Syncarpia glomulifera*	Turpentine	18	8	350	500	4200	2474	Good	4	2	A2	No	
1124	*Eucalyptus pilularis*	Blackbutt	19	6	300	450	3600	2366	Normal	4	2	A2	No	
1125	*Syncarpia glomulifera*	Turpentine	18	7	350	470	4200	2410	Fair	3	3	A2	No	
1126	*Eucalyptus pilularis*	Blackbutt	20	5	360	440	4320	2344	Fair	3	3	A2	No	
1127	*Eucalyptus pilularis*	Blackbutt	20	15	450	800	5400	3013	Fair	2	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1128	*Eucalyptus pilularis*	Blackbutt	24	15	470	640	5640	2744	Normal	3	3	A2	No	
1129	Dead Tree	Dead Tree	24	15	700	1000	8400	3309	Dead	1	4	Z4	No	
1130	*Eucalyptus pilularis*	Blackbutt	11	3	180	280	2160	1939	Normal	3	2	A2	No	
1131	*Eucalyptus pilularis*	Blackbutt	11	3	250	380	3000	2204	Normal	3	2	A2	No	
1132	*Eucalyptus pilularis*	Blackbutt	16	6	320	400	3840	2252	Normal	4	2	A2	No	
1133	*Syncarpia glomulifera*	Turpentine	18	15	1250	1500	15000	3924	Fair	3	2	A2	No	
1134	*Syncarpia glomulifera*	Turpentine	18	9	380	500	4560	2474	Normal	4	2	A2	No	
1135	*Syncarpia glomulifera*	Turpentine	18	8	680	750	8160	2933	Good	4	2	A2	No	
1136	*Syncarpia glomulifera*	Turpentine	15	5	450	500	5400	2474	Good	4	2	A2	No	
1137	*Syncarpia glomulifera*	Turpentine	15	5	350	360	4200	2155	Good	3	2	A2	No	
1138	*Eucalyptus pilularis*	Blackbutt	22	10	350	470	4200	2410	Normal	3	2	A2	No	
1139	*Angophora costata*	Smooth-barked Apple Myrtle	10	6	320	370	3840	2180	Fair	3	3	A2	Yes	
1140	*Eucalyptus pilularis*	Blackbutt	28	15	820	980	9840	3281	Fair	3	2	A2	Yes	
1141	*Eucalyptus eugenioides*	Thin-leaved Stringybark	14	7	300	400	3600	2252	Fair	3	2	A2	Yes	
1142	*Eucalyptus eugenioides*	Thin-leaved Stringybark	20	10	380	500	4560	2474	Fair	3	2	A2	No	
1143	*Eucalyptus pilularis*	Blackbutt	15	6	350	650	4200	2762	Dead	2	3	Z4	No	
1144	*Eucalyptus acmenoides*	White Mahogany	23	15	500	650	6000	2762	Normal	4	2	A2	No	
1145	*Syncarpia glomulifera*	Turpentine	14	6	350	470	4200	2410	Fair	3	2	A2	No	
1146	*Eucalyptus pilularis*	Blackbutt	25	15	470	580	5640	2633	Fair	3	2	A2	No	
1147	*Eucalyptus acmenoides*	White Mahogany	18	11	400	470	4800	2410	Fair	3	2	A2	No	
1148	*Syncarpia glomulifera*	Turpentine	14	8	450	530	5400	2535	Normal	3	2	A2	No	
1149	*Eucalyptus acmenoides*	White Mahogany	15	3	180	240	2160	1817	Good	4	2	A2	No	
1150	*Eucalyptus acmenoides*	White Mahogany	15	3	180	240	2160	1817	Fair	3	3	A2	No	
1151	*Eucalyptus acmenoides*	White Mahogany	24	18	600	640	7200	2744	Fair	3	3	A2	No	
1152	*Angophora costata*	Smooth-barked Apple Myrtle	20	8	350	390	4200	2228	Normal	3	2	A2	No	
1153	*Eucalyptus acmenoides*	White Mahogany	23	12	400	450	4800	2366	Normal	3	2	A2	No	
1154	*Syncarpia glomulifera*	Turpentine	15	7	550	740	6600	2916	Normal	3	2	A2	No	
1155	*Syncarpia glomulifera*	Turpentine	15	5	350	480	4200	2431	Normal	3	2	A2	No	
1156	*Syncarpia glomulifera*	Turpentine	15	5	350	480	4200	2431	Normal	3	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1157	*Angophora costata*	Smooth-barked Apple Myrtle	25	14	700	840	8400	3076	Good	5	1	A3	No	
1158	*Eucalyptus acmenoides*	White Mahogany	21	12	480	540	5760	2555	Normal	3	2	A2	No	
1159	*Corymbia gummifera*	Red Bloodwood	18	6	380	560	4560	2594	Normal	3	2	A2	No	
1160	*Syncarpia glomulifera*	Turpentine	8	3	240	340	2880	2104	Normal	4	2	A2	No	
1161	Dead Tree	Dead Tree	9	3	200	230	2400	1785	Dead	1	4	Z4	No	
1162	*Syncarpia glomulifera*	Turpentine	15	9	400	480	4800	2431	Normal	4	2	A2	No	
1163	*Corymbia gummifera*	Red Bloodwood	17	5	300	400	3600	2252	Poor	2	3	Z4	No	
1164	*Angophora costata*	Smooth-barked Apple Myrtle	14	6	200	230	2400	1785	Normal	3	2	A2	No	
1165	*Angophora costata*	Smooth-barked Apple Myrtle	15	5	300	420	3600	2299	Good	4	2	A2	No	
1166	*Eucalyptus acmenoides*	White Mahogany	15	6	280	380	3360	2204	Fair	3	4	Z4	No	
1167	*Syncarpia glomulifera*	Turpentine	15	4	240	460	2880	2388	Normal	3	2	A2	No	
1168	*Angophora costata*	Smooth-barked Apple Myrtle	19	14	500	1000	6000	3309	Fair	3	3	A2	No	
1169	*Corymbia gummifera*	Red Bloodwood	22	15	470	540	5640	2555	Fair	3	3	A2	No	
1170	*Angophora costata*	Smooth-barked Apple Myrtle	12	4	180	260	2160	1879	Poor	2	4	Z4	No	
1171	*Eucalyptus acmenoides*	White Mahogany	20	6	340	460	4080	2388	Fair	3	3	A2	No	
1172	*Syncarpia glomulifera*	Turpentine	14	3	360	450	4320	2366	Normal	4	2	A2	No	
1173	*Angophora costata*	Smooth-barked Apple Myrtle	20	14	370	540	4440	2555	Good	4	2	A2	No	
1174	*Corymbia gummifera*	Red Bloodwood	25	15	440	620	5280	2707	Normal	3	2	A2	No	
1175	*Angophora costata*	Smooth-barked Apple Myrtle	20	8	300	470	3600	2410	Fair	3	3	A2	No	
1176	*Eucalyptus acmenoides*	White Mahogany	24	12	420	580	5040	2633	Fair	3	3	A2	No	
1177	*Eucalyptus acmenoides*	White Mahogany	26	15	670	750	8040	2933	Fair	3	3	A2	No	
1178	*Syncarpia glomulifera*	Turpentine	16	10	520	700	6240	2849	Normal	4	2	A2	No	
1179	*Angophora costata*	Smooth-barked Apple Myrtle	18	8	280	400	3360	2252	Normal	3	2	A2	No	
1180	*Eucalyptus acmenoides*	White Mahogany	26	18	540	660	6480	2779	Normal	3	2	A2	No	
1181	*Eucalyptus acmenoides*	White Mahogany	28	19	480	550	5760	2575	Normal	3	2	A2	No	
1182	*Eucalyptus acmenoides*	White Mahogany	18	10	300	450	3600	2366	Poor	2	3	Z4	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1183	*Syncarpia glomulifera*	Turpentine	22	14	700	800	8400	3013	Fair	3	3	A2	Yes	
1184	*Corymbia gummifera*	Red Bloodwood	24	10	320	440	3840	2344	Fair	3	3	A2	No	
1185	*Eucalyptus pilularis*	Blackbutt	26	15	460	700	5520	2849	Fair	3	3	A2	No	
1186	*Syncarpia glomulifera*	Turpentine	14	6	280	440	3360	2344	Normal	4	2	A2	No	
1187	*Eucalyptus acmenoides*	White Mahogany	24	12	380	650	4560	2762	Poor	2	4	Z4	No	
1188	*Syncarpia glomulifera*	Turpentine	24	12	700	1000	8400	3309	Poor	2	4	Z4	No	
1189	*Corymbia gummifera*	Red Bloodwood	25	14	480	720	5760	2883	Fair	3	3	A2	No	
1190	*Syncarpia glomulifera*	Turpentine	14	6	300	340	3600	2104	Fair	3	2	A2	No	
1191	*Eucalyptus acmenoides*	White Mahogany	18	9	300	400	3600	2252	Poor	2	4	Z4	No	
1192	*Eucalyptus acmenoides*	White Mahogany	21	5	360	430	4320	2322	Poor	2	4	Z4	No	
1193	*Syncarpia glomulifera*	Turpentine	26	7	650	900	7800	3166	Good	4	2	A2	No	
1194	*Syncarpia glomulifera*	Turpentine	20	12	700	1100	8400	3445	Poor	2	3	Z4	No	
1195	*Corymbia gummifera*	Red Bloodwood	20	3	300	360	3600	2155	Poor	2	4	Z4	No	
1196	*Eucalyptus acmenoides*	White Mahogany	20	3	300	350	3600	2129	Poor	2	4	Z4	No	
1197	*Eucalyptus acmenoides*	White Mahogany	20	6	320	400	3840	2252	Poor	2	4	Z4	No	
1198	*Syncarpia glomulifera*	Turpentine	14	3	300	360	3600	2155	Fair	3	2	A2	No	
1199	*Eucalyptus acmenoides*	White Mahogany	25	14	750	900	9000	3166	Good	4	2	A2	No	
1200	*Syncarpia glomulifera*	Turpentine	16	10	350	700	4200	2849	Poor	2	4	Z4	No	
1201	*Corymbia gummifera*	Red Bloodwood	16	2	350	400	4200	2252	Poor	2	4	Z4	No	
1202	*Syncarpia glomulifera*	Turpentine	18	4	400	600	4800	2670	Normal	3	2	A2	No	
1203	*Corymbia gummifera*	Red Bloodwood	16	10	300	400	3600	2252	Fair	3	3	A2	No	
1204	*Syncarpia glomulifera*	Turpentine	28	16	650	780	7800	2981	Normal	3	2	A2	No	
1205	*Angophora costata*	Smooth-barked Apple Myrtle	28	10	380	490	4560	2453	Normal	4	2	A2	No	
1206	*Corymbia gummifera*	Red Bloodwood	18	12	450	500	5400	2474	Normal	3	3	A2	No	
1207	*Angophora costata*	Smooth-barked Apple Myrtle	14	9	320	440	3840	2344	Fair	3	3	A2	No	
1208	*Syncarpia glomulifera*	Turpentine	12	8	340	460	4080	2388	Normal	3	2	A2	No	
1209	*Angophora costata*	Smooth-barked Apple Myrtle	18	12	340	520	4080	2515	Good	4	2	A2	No	
1210	*Corymbia gummifera*	Red Bloodwood	18	14	500	550	6000	2575	Fair	2	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1211	*Angophora costata*	Smooth-barked Apple Myrtle	23	14	400	500	4800	2474	Normal	3	2	A2	No	
1212	*Eucalyptus pilularis*	Blackbutt	26	18	750	950	9000	3239	Fair	3	3	A2	No	
1213	*Eucalyptus acmenoides*	White Mahogany	20	15	650	800	7800	3013	Poor	2	3	Z4	No	
1214	*Syncarpia glomulifera*	Turpentine	12	4	320	470	3840	2410	Normal	3	2	A2	No	
1215	*Corymbia gummifera*	Red Bloodwood	20	15	500	720	6000	2883	Normal	4	2	A2	No	
1216	*Corymbia gummifera*	Red Bloodwood	24	14	440	720	5280	2883	Normal	4	2	A2	No	
1217	*Syncarpia glomulifera*	Turpentine	15	8	550	950	6600	3239	Poor	2	4	Z4	No	
1218	*Eucalyptus pilularis*	Blackbutt	19	12	480	980	5760	3281	Poor	1	4	Z4	No	
1219	*Eucalyptus pilularis*	Blackbutt	24	18	900	1200	10800	3573	Poor	2	4	Z4	No	
1220	*Syncarpia glomulifera*	Turpentine	11	2	160	200	1920	1683	Fair	3	3	A2	No	
1221	*Eucalyptus pilularis*	Blackbutt	26	10	350	700	4200	2849	Normal	4	2	A2	No	
1222	*Syncarpia glomulifera*	Turpentine	12	5	300	440	3600	2344	Normal	4	2	A2	No	
1223	*Syncarpia glomulifera*	Turpentine	12	3	200	360	2400	2155	Normal	4	2	A2	No	
1224	*Angophora costata*	Smooth-barked Apple Myrtle	22	12	680	780	8160	2981	Poor	2	4	Z4	No	
1225	Dead Tree	Dead Tree	18	10	650	800	7800	3013	Dead	1	4	Z4	No	
1226	*Eucalyptus pilularis*	Blackbutt	10	4	260	340	3120	2104	Normal	3	3	A2	No	
1227	*Angophora costata*	Smooth-barked Apple Myrtle	12	4	260	300	3120	1996	Normal	3	2	A2	No	
1228	*Eucalyptus pilularis*	Blackbutt	13	4	300	400	3600	2252	Normal	3	2	A2	No	
1229	*Eucalyptus pilularis*	Blackbutt	9	3	260	390	3120	2228	Normal	3	2	A2	No	
1230	Dead Tree	Dead Tree	12	5	340	380	4080	2204	Dead	1	4	Z4	No	
1231	*Eucalyptus acmenoides*	White Mahogany	20	14	550	650	6600	2762	Normal	3	2	A2	No	
1232	*Syncarpia glomulifera*	Turpentine	27	25	1600	1800	19200	4236	Normal	3	2	A2	No	
1233	*Syncarpia glomulifera*	Turpentine	11	4	350	440	4200	2344	Normal	4	2	A2	No	
1234	Eryrhrina x sykesii	Common Coral Tree	18	18	1600	2000	19200	4428	Good	2	4	Z4	No	
1235	Pinus radiata	Monterey Pine	28	15	800	950	9600	3239	Poor	2	4	Z4	No	
1236	*Syncarpia glomulifera*	Turpentine	15	10	800	900	9600	3166	Normal	3	2	A2	No	
1237	*Eucalyptus acmenoides*	White Mahogany	26	14	800	960	9600	3253	Normal	3	2	A2	No	
1238	Dead Tree	Dead Tree	12	5	300	320	3600	2051	Dead	1	4	Z4	No	
1239	*Eucalyptus acmenoides*	White Mahogany	14	8	450	700	5400	2849	Fair	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1240	*Syncarpia glomulifera*	Turpentine	11	3	200	300	2400	1996	Normal	3	2	A2	No	
1241	*Syncarpia glomulifera*	Turpentine	6	2	160	300	1920	1996	Fair	3	3	A2	No	
1242	Dead Tree	Dead Tree	21	12	350	450	4200	2366	Dead	1	4	Z4	No	
1243	*Syncarpia glomulifera*	Turpentine	12	6	300	400	3600	2252	Fair	3	3	A2	No	
1244	*Syncarpia glomulifera*	Turpentine	12	6	300	400	3600	2252	Fair	3	3	A2	No	
1245	*Eucalyptus acmenoides*	White Mahogany	24	12	340	480	4080	2431	Fair	3	3	A2	No	
1246	*Syncarpia glomulifera*	Turpentine	12	8	420	680	5040	2814	Normal	3	2	A2	No	
1247	*Syncarpia glomulifera*	Turpentine	15	8	420	680	5040	2814	Normal	3	2	A2	No	
1248	*Eucalyptus acmenoides*	White Mahogany	26	6	380	500	4560	2474	Normal	3	2	A2	No	
1249	*Syncarpia glomulifera*	Turpentine	14	5	300	400	3600	2252	Good	4	2	A2	No	
1250	*Syncarpia glomulifera*	Turpentine	20	12	600	800	7200	3013	Normal	4	2	A2	No	
1251	*Syncarpia glomulifera*	Turpentine	15	6	400	500	4800	2474	Normal	4	2	A2	No	
1252	*Syncarpia glomulifera*	Turpentine	19	8	450	600	5400	2670	Normal	4	2	A2	No	
1253	*Eucalyptus acmenoides*	White Mahogany	18	8	300	380	3600	2204	Fair	2	3	A2	No	
1254	*Syncarpia glomulifera*	Turpentine	14	6	600	780	7200	2981	Fair	3	3	A2	No	
1255	*Eucalyptus acmenoides*	White Mahogany	28	18	750	950	9000	3239	Normal	3	2	A2	No	
1256	*Syncarpia glomulifera*	Turpentine	9	8	400	700	4800	2849	Poor	2	4	Z4	No	
1257	*Syncarpia glomulifera*	Turpentine	9	2	240	340	2880	2104	Normal	3	2	A2	No	
1258	*Syncarpia glomulifera*	Turpentine	15	8	600	700	7200	2849	Fair	2	3	A2	No	
1259	*Syncarpia glomulifera*	Turpentine	15	11	800	1300	9600	3695	Fair	3	3	A2	No	
1260	*Eucalyptus acmenoides*	White Mahogany	12	8	300	400	3600	2252	Normal	3	2	A2	No	
1261	*Eucalyptus eugenioides*	Thin-leaved Stringybark	18	6	400	500	4800	2474	Normal	3	2	A2	No	
1262	*Eucalyptus haemastoma*	Scribbly Gum	14	11	500	600	6000	2670	Fair	3	3	A2	No	
1263	*Eucalyptus haemastoma*	Scribbly Gum	14	11	600	800	7200	3013	Poor	2	4	Z4	No	
1264	Dead Tree	Dead Tree	18	15	700	900	8400	3166	Dead	1	4	Z4	No	
1265	*Syncarpia glomulifera*	Turpentine	12	3	200	250	2400	1849	Normal	4	2	A2	No	
1266	*Syncarpia glomulifera*	Turpentine	12	4	490	600	5880	2670	Fair	2	4	Z4	No	
1267	*Syncarpia glomulifera*	Turpentine	12	4	320	340	3840	2104	Fair	2	3	A2	No	
1268	*Syncarpia glomulifera*	Turpentine	16	10	320	650	3840	2762	Normal	4	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1269	*Syncarpia glomulifera*	Turpentine	9	5	270	340	3240	2104	Fair	3	3	A2	No	
1270	*Eucalyptus acmenoides*	White Mahogany	20	12	450	500	5400	2474	Good	4	2	A2	No	
1271	*Syncarpia glomulifera*	Turpentine	14	8	260	340	3120	2104	Normal	4	2	A2	No	
1272	*Syncarpia glomulifera*	Turpentine	12	3	190	230	2280	1785	Fair	3	3	A2	No	
1273	Dead Tree	Dead Tree	8	2	200	200	2400	1683	Dead	1	4	Z4	No	
1274	*Syncarpia glomulifera*	Turpentine	11	4	260	330	3120	2077	Poor	2	2	A2	No	
1275	*Syncarpia glomulifera*	Turpentine	12	4	240	290	2880	1968	Dead	4	2	A2	No	
1276	*Syncarpia glomulifera*	Turpentine	14	7	300	370	3600	2180	Normal	3	2	A2	No	
1277	*Eucalyptus eugenioides*	Thin-leaved Stringybark	20	8	350	450	4200	2366	Normal	4	3	A2	No	
1278	*Eucalyptus eugenioides*	Thin-leaved Stringybark	26	12	760	670	9120	2797	Good	4	2	A2	No	
1279	*Syncarpia glomulifera*	Turpentine	11	5	290	340	3480	2104	Normal	4	2	A2	No	
1280	*Eucalyptus acmenoides*	White Mahogany	20	10	390	410	4680	2276	Normal	4	2	A2	No	
1281	*Syncarpia glomulifera*	Turpentine	8	4	280	500	3360	2474	Fair	3	3	A2	No	
1282	*Syncarpia glomulifera*	Turpentine	8	3	280	300	3360	1996	Fair	3	3	A2	No	
1283	*Syncarpia glomulifera*	Turpentine	12	4	200	250	2400	1849	Normal	4	2	A2	No	
1284	*Syncarpia glomulifera*	Turpentine	9	3	170	200	2040	1683	Fair	3	3	A2	No	
1285	*Syncarpia glomulifera*	Turpentine	13	7	260	300	3120	1996	Normal	4	2	A2	No	
1286	*Eucalyptus acmenoides*	White Mahogany	23	14	430	500	5160	2474	Good	4	2	A2	No	
1287	*Eucalyptus pilularis*	Blackbutt	28	18	650	850	7800	3091	Normal	3	2	A2	No	
1288	Dead Tree	Dead Tree	9	4	440	510	5280	2494	Dead	1	4	Z4	Yes	
1289	Dead Tree	Dead Tree	11	2	250	320	3000	2051	Dead	1	4	Z4	No	
1290	*Syncarpia glomulifera*	Turpentine	12	4	250	300	3000	1996	Normal	3	3	A2	No	
1291	*Syncarpia glomulifera*	Turpentine	10	3	190	200	2280	1683	Fair	3	3	A2	No	
1292	*Syncarpia glomulifera*	Turpentine	10	3	170	200	2040	1683	Poor	2	4	Z4	No	
1293	*Syncarpia glomulifera*	Turpentine	12	6	260	360	3120	2155	Fair	3	3	A2	No	
1294	*Eucalyptus acmenoides*	White Mahogany	18	10	380	500	4560	2474	Good	4	2	A2	No	
1295	*Syncarpia glomulifera*	Turpentine	11	2	180	220	2160	1752	Fair	3	3	A2	No	
1296	*Syncarpia glomulifera*	Turpentine	16	8	360	520	4320	2515	Poor	2	3	Z4	No	
1297	*Syncarpia glomulifera*	Turpentine	11	2	170	200	2040	1683	Fair	3	3	A2	No	
1298	*Syncarpia glomulifera*	Turpentine	11	2	170	200	2040	1683	Fair	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1299	*Syncarpia glomulifera*	Turpentine	10	8	240	300	2880	1996	Good	4	2	A2	No	
1300	*Syncarpia glomulifera*	Turpentine	14	3	200	250	2400	1849	Fair	3	3	A2	No	
1351	*Syncarpia glomulifera*	Turpentine	9	3	170	200	2040	1683	Fair	3	3	A2	No	
1352	*Syncarpia glomulifera*	Turpentine	12	6	180	240	2160	1817	Fair	3	3	A2	No	
1353	Dead Tree	Dead Tree	12	5	240	280	2880	1939	Dead	1	4	Z4	No	
1354	*Syncarpia glomulifera*	Turpentine	10	4	260	320	3120	2051	Fair	3	3	A2	No	
1355	*Syncarpia glomulifera*	Turpentine	8	3	180	210	2160	1718	Poor	2	4	Z4	No	
1356	*Syncarpia glomulifera*	Turpentine	12	5	250	310	3000	2024	Fair	3	3	A2	No	
1357	*Syncarpia glomulifera*	Turpentine	10	3	170	230	2040	1785	Fair	3	3	A2	No	
1358	*Syncarpia glomulifera*	Turpentine	14	6	340	400	4080	2252	Fair	3	3	A2	No	
1359	*Syncarpia glomulifera*	Turpentine	14	3	200	220	2400	1752	Good	4	2	A2	No	
1360	*Syncarpia glomulifera*	Turpentine	14	3	200	220	2400	1752	Good	4	2	A2	No	
1361	*Syncarpia glomulifera*	Turpentine	10	3	200	220	2400	1752	Good	4	2	A2	No	
1362	*Syncarpia glomulifera*	Turpentine	14	6	330	680	3960	2814	Normal	3	3	A2	No	
1363	*Syncarpia glomulifera*	Turpentine	12	4	280	350	3360	2129	Normal	3	3	A2	No	
1364	*Syncarpia glomulifera*	Turpentine	9	4	350	370	4200	2180	Poor	2	4	Z4	No	
1365	*Eucalyptus resinifera*	Red Mahogany	15	8	250	300	3000	1996	Normal	3	2	A2	No	
1366	*Syncarpia glomulifera*	Turpentine	12	4	260	340	3120	2104	Normal	3	3	A2	No	
1367	*Syncarpia glomulifera*	Turpentine	8	3	200	210	2400	1718	Poor	2	3	Z4	No	
1368	*Syncarpia glomulifera*	Turpentine	10	4	330	370	3960	2180	Fair	3	3	A2	No	
1369	*Syncarpia glomulifera*	Turpentine	14	7	400	550	4800	2575	Normal	4	2	A2	No	
1370	*Syncarpia glomulifera*	Turpentine	8	4	180	220	2160	1752	Fair	2	3	A2	No	
1371	*Syncarpia glomulifera*	Turpentine	6	3	150	200	1800	1683	Poor	2	4	Z4	No	
1372	*Syncarpia glomulifera*	Turpentine	11	3	240	280	2880	1939	Normal	3	2	A2	No	
1373	*Syncarpia glomulifera*	Turpentine	11	3	240	280	2880	1939	Normal	3	2	A2	No	
1374	*Syncarpia glomulifera*	Turpentine	15	3	180	240	2160	1817	Good	4	2	A2	No	
1375	*Syncarpia glomulifera*	Turpentine	12	4	270	350	3240	2129	Normal	3	2	A2	No	
1376	Dead Tree	Dead Tree	8	10	300	400	3600	2252	Dead	1	4	Z4	No	
1377	*Syncarpia glomulifera*	Turpentine	11	5	270	320	3240	2051	Normal	3	2	A2	No	
1378	*Syncarpia glomulifera*	Turpentine	11	5	270	320	3240	2051	Normal	3	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1379	*Syncarpia glomulifera*	Turpentine	11	5	270	320	3240	2051	Normal	3	2	A2	No	
1380	*Syncarpia glomulifera*	Turpentine	11	5	250	300	3000	1996	Normal	3	2	A2	No	
1381	*Syncarpia glomulifera*	Turpentine	13	7	400	450	4800	2366	Normal	3	3	A2	No	
1382	*Syncarpia glomulifera*	Turpentine	12	4	280	400	3360	2252	Good	4	2	A2	No	
1383	*Eucalyptus acmenoides*	White Mahogany	18	6	300	350	3600	2129	Good	4	2	A2	No	
1384	*Syncarpia glomulifera*	Turpentine	11	2	220	240	2640	1817	Fair	3	3	A2	No	
1385	*Syncarpia glomulifera*	Turpentine	11	2	220	240	2640	1817	Fair	3	3	A2	No	
1386	*Eucalyptus acmenoides*	White Mahogany	20	12	440	500	5280	2474	Good	4	2	A2	No	
1387	*Syncarpia glomulifera*	Turpentine	11	3	200	250	2400	1849	Good	4	2	A2	No	
1388	*Syncarpia glomulifera*	Turpentine	9	2	180	240	2160	1817	Fair	3	3	A2	No	
1389	*Eucalyptus acmenoides*	White Mahogany	18	14	520	700	6240	2849	Good	4	2	A2	No	
1390	*Syncarpia glomulifera*	Turpentine	9	4	230	280	2760	1939	Poor	2	3	Z4	No	
1391	*Corymbia gummifera*	Red Bloodwood	9	2	160	180	1920	1611	Poor	3	4	Z4	No	
1392	*Syncarpia glomulifera*	Turpentine	11	3	290	360	3480	2155	Normal	3	3	A2	No	
1393	*Syncarpia glomulifera*	Turpentine	12	2	220	360	2640	2155	Good	3	2	A2	No	
1394	*Syncarpia glomulifera*	Turpentine	8	2	180	210	2160	1718	Poor	2	4	Z4	No	
1395	*Syncarpia glomulifera*	Turpentine	12	2	150	180	1800	1611	Fair	3	3	A2	No	
1396	*Syncarpia glomulifera*	Turpentine	13	4	280	370	3360	2180	Fair	3	3	A2	No	
1397	*Syncarpia glomulifera*	Turpentine	12	6	290	370	3480	2180	Good	4	2	A2	No	
1398	*Eucalyptus acmenoides*	White Mahogany	20	14	460	550	5520	2575	Good	4	2	A2	No	
1399	*Syncarpia glomulifera*	Turpentine	9	5	290	300	3480	1996	Normal	3	3	A2	No	
1400	*Syncarpia glomulifera*	Turpentine	12	6	280	400	3360	2252	Normal	3	3	A2	No	
1401	*Eucalyptus pilularis*	Blackbutt	25	14	500	620	6000	2707	Good	4	2	A2	No	
1402	*Syncarpia glomulifera*	Turpentine	12	3	200	280	2400	1939	Normal	3	2	A2	No	
1403	*Syncarpia glomulifera*	Turpentine	12	3	250	330	3000	2077	Normal	3	2	A2	No	
1404	*Syncarpia glomulifera*	Turpentine	9	3	180	210	2160	1718	Fair	3	3	A2	No	
1405	*Syncarpia glomulifera*	Turpentine	14	3	300	380	3600	2204	Fair	3	3	A2	No	
1406	*Syncarpia glomulifera*	Turpentine	13	4	240	320	2880	2051	Good	4	2	A2	No	
1407	*Syncarpia glomulifera*	Turpentine	13	6	260	300	3120	1996	Normal	4	3	A2	No	
1408	*Syncarpia glomulifera*	Turpentine	11	2	160	180	1920	1611	Fair	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1409	*Syncarpia glomulifera*	Turpentine	14	6	330	390	3960	2228	Normal	4	3	A2	No	
1410	*Syncarpia glomulifera*	Turpentine	8	4	180	230	2160	1785	Poor	2	4	Z4	No	
1411	*Syncarpia glomulifera*	Turpentine	14	4	240	400	2880	2252	Good	4	2	A2	No	
1412	*Syncarpia glomulifera*	Turpentine	6	4	160	240	1920	1817	Poor	2	4	Z4	No	
1413	*Syncarpia glomulifera*	Turpentine	9	4	230	240	2760	1817	Poor	2	4	Z4	No	
1414	*Syncarpia glomulifera*	Turpentine	13	4	290	410	3480	2276	Fair	3	3	A2	No	
1415	*Syncarpia glomulifera*	Turpentine	13	4	310	370	3720	2180	Fair	3	3	A2	No	
1416	*Syncarpia glomulifera*	Turpentine	9	3	220	240	2640	1817	Poor	2	3	Z4	No	
1417	*Syncarpia glomulifera*	Turpentine	14	4	320	400	3840	2252	Fair	3	3	A2	No	
1418	*Syncarpia glomulifera*	Turpentine	14	5	600	800	7200	3013	Good	4	2	A2	No	
1419	*Syncarpia glomulifera*	Turpentine	6	8	240	300	2880	1996	Poor	2	4	Z4	No	
1420	*Syncarpia glomulifera*	Turpentine	12	6	500	750	6000	2933	Normal	3	2	A2	No	
1421	*Eucalyptus acmenoides*	White Mahogany	14	6	400	480	4800	2431	Good	4	2	A2	No	
1422	*Eucalyptus acmenoides*	White Mahogany	14	6	400	480	4800	2431	Good	4	2	A2	No	
1423	*Syncarpia glomulifera*	Turpentine	9	3	270	370	3240	2180	Normal	3	2	A2	No	
1424	*Syncarpia glomulifera*	Turpentine	11	3	320	400	3840	2252	Good	4	2	A2	No	
1425	*Syncarpia glomulifera*	Turpentine	11	3	320	400	3840	2252	Good	4	2	A2	No	
1426	*Syncarpia glomulifera*	Turpentine	6	3	230	300	2760	1996	Normal	3	3	A2	No	
1427	*Syncarpia glomulifera*	Turpentine	9	5	400	600	4800	2670	Normal	3	3	A2	No	
1428	*Syncarpia glomulifera*	Turpentine	10	6	350	460	4200	2388	Good	4	2	A2	No	
1429	*Syncarpia glomulifera*	Turpentine	12	3	300	340	3600	2104	Poor	2	3	Z4	No	
1430	*Syncarpia glomulifera*	Turpentine	12	4	300	370	3600	2180	Normal	3	2	A2	No	
1431	*Syncarpia glomulifera*	Turpentine	10	5	400	500	4800	2474	Normal	3	3	A2	No	
1432	*Syncarpia glomulifera*	Turpentine	10	5	320	360	3840	2155	Normal	3	3	A2	No	
1433	*Syncarpia glomulifera*	Turpentine	12	4	260	320	3120	2051	Normal	3	3	A2	No	
1434	*Syncarpia glomulifera*	Turpentine	15	8	350	550	4200	2575	Good	4	2	A2	No	
1435	*Syncarpia glomulifera*	Turpentine	6	2	160	190	1920	1647	Poor	2	4	Z4	No	
1436	*Syncarpia glomulifera*	Turpentine	11	5	350	450	4200	2366	Fair	2	3	A2	No	
1437	*Syncarpia glomulifera*	Turpentine	11	4	260	340	3120	2104	Fair	4	3	A2	No	
1438	*Eucalyptus acmenoides*	White Mahogany	23	15	600	850	7200	3091	Good	4	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1439	*Syncarpia glomulifera*	Turpentine	10	5	270	320	3240	2051	Fair	3	3	A2	No	
1440	*Syncarpia glomulifera*	Turpentine	7	2	220	280	2640	1939	Normal	4	2	A2	No	
1441	Dead Tree	Dead Tree	12	2	300	330	3600	2077	Dead	1	4	Z4	No	
1442	*Eucalyptus acmenoides*	White Mahogany	18	8	300	420	3600	2299	Fair	3	3	A2	No	
1443	*Syncarpia glomulifera*	Turpentine	13	10	500	900	6000	3166	Fair	3	3	A2	No	
1444	*Acacia decurrens*	Green Wattle	7	10	250	300	3000	1996	Poor	2	4	Z4	No	not tagged.
1445	*Acacia decurrens*	Green Wattle	7	10	250	300	3000	1996	Poor	2	4	Z4	No	
1446	*Acacia decurrens*	Green Wattle	7	10	250	300	3000	1996	Poor	2	4	Z4	No	
1447	Acacia sp.	Wattle	11	4	250	300	3000	1996	Poor	2	4	Z4	No	
1448	Cinnamomum camphora	Camphor Laurel	12	5	220	250	2640	1849	Good	2	4	Z4	No	
1449	*Acacia decurrens*	Green Wattle	7	4	160	200	1920	1683	Normal	3	3	A2	No	
1450	Eryrhrina x sykesii	Common Coral Tree	15	20	350	450	4200	2366	Normal	3	3	A2	No	group of trees (15)
1501	Eryrhrina x sykesii	Common Coral Tree	15	20	350	450	4200	2366	Normal	3	3	A2	No	group of trees.
1502	Eucalyptus piperita	Sydney Peppermint	18	14	700	890	8400	3151	Normal	4	3	A2	No	
1503	*Eucalyptus haemastoma*	Scribbly Gum	15	10	350	500	4200	2474	Normal	4	2	A2	No	
1504	Eucalyptus piperita	Sydney Peppermint	18	16	500	650	6000	2762	Good	4	2	A2	No	
1505	Eucalyptus piperita	Sydney Peppermint	18	20	700	900	8400	3166	Normal	3	2	A2	No	
1506	Eucalyptus piperita	Sydney Peppermint	10	6	200	250	2400	1849	Good	4	2	A2	No	
1507	*Eucalyptus haemastoma*	Scribbly Gum	12	10	400	500	4800	2474	Fair	3	3	A2	No	
1508	*Corymbia gummifera*	Red Bloodwood	8	5	250	260	3000	1879	Fair	3	3	A2	No	
1509	*Allocasuarina littoralis*	Black She-oak	10	5	280	400	3360	2252	Normal	4	2	A2	No	
1510	*Allocasuarina littoralis*	Black She-oak	10	5	280	400	3360	2252	Fair	3	3	A2	No	
1511	*Eucalyptus haemastoma*	Scribbly Gum	9	5	340	290	4080	1968	Normal	4	3	A2	No	
1512	*Eucalyptus haemastoma*	Scribbly Gum	18	17	550	1100	6600	3445	Good	4	2	A2	No	
1513	*Eucalyptus haemastoma*	Scribbly Gum	18	17	700	950	8400	3239	Good	4	2	A2	No	
1514	*Eucalyptus pilularis*	Blackbutt	18	10	450	600	5400	2670	Dead	4	2	A2	No	
1515	Eucalyptus piperita	Sydney Peppermint	13	18	800	1000	9600	3309	Fair	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1516	Eucalyptus piperita	Sydney Peppermint	20	12	500	700	6000	2849	Fair	3	3	A2	No	
1517	*Corymbia gummifera*	Red Bloodwood	18	4	270	350	3240	2129	Poor	3	4	Z4	No	
1518	*Eucalyptus racemosa*	Scribbly Gum	18	15	650	800	7800	3013	Good	4	2	A2	No	
1519	*Eucalyptus pilularis*	Blackbutt	14	8	340	420	4080	2299	Good	4	2	A2	No	
1520	*Eucalyptus haemastoma*	Scribbly Gum	14	8	340	440	4080	2344	Good	4	2	A2	No	
1521	*Eucalyptus racemosa*	Scribbly Gum	12	10	430	500	5160	2474	Normal	3	2	A2	No	
1522	*Allocasuarina torulosa*	Forest She-oak	10	12	310	400	3720	2252	Good	4	2	A2	No	
1523	Dead Tree	Dead Tree	10	2	200	230	2400	1785	Dead	1	4	Z4	No	
1524	*Acacia decurrens*	Green Wattle	8	4	170	200	2040	1683	Normal	3	3	A2	No	
1525	*Allocasuarina torulosa*	Forest She-oak	9	4	320	370	3840	2180	Fair	3	3	A2	No	
1526	*Eucalyptus racemosa*	Scribbly Gum	12	14	380	530	4560	2535	Normal	4	2	A2	No	
1527	*Eucalyptus racemosa*	Scribbly Gum	17	15	750	1000	9000	3309	Good	5	2	A2	No	
1528	*Eucalyptus racemosa*	Scribbly Gum	14	10	400	580	4800	2633	Normal	4	2	A2	No	
1529	*Corymbia gummifera*	Red Bloodwood	15	4	280	320	3360	2051	Fair	3	3	A2	No	
1530	*Eucalyptus haemastoma*	Scribbly Gum	12	5	200	320	2400	2051	Fair	3	3	A2	No	
1531	*Eucalyptus haemastoma*	Scribbly Gum	12	5	200	320	2400	2051	Fair	3	3	A2	No	
1532	*Corymbia gummifera*	Red Bloodwood	10	2	190	220	2280	1752	Normal	3	3	A2	No	
1533	*Allocasuarina torulosa*	Forest She-oak	8	4	350	450	4200	2366	Good	4	2	A2	No	
1534	*Allocasuarina torulosa*	Forest She-oak	10	12	400	500	4800	2474	Poor	1	4	Z4	No	
1535	Dead Tree	Dead Tree	10	5	300	400	3600	2252	Dead	1	4	Z4	No	
1536	Cinnamomum camphora	Camphor Laurel	10	10	450	500	5400	2474	Normal	2	4	Z4	No	
1537	Eryrhrina x sykesii	Common Coral Tree	15	20	600	700	7200	2849	Normal	2	4	Z4	No	grove of trees.
1538	Eryrhrina x sykesii	Common Coral Tree	15	20	600	700	7200	2849	Normal	2	4	Z4	No	grove of trees.
1539	Dead Tree	Dead Tree	15	17	900	1200	10800	3573	Dead	1	4	Z4	Yes	
1540	Acacia sp.	Wattle	12	5	260	300	3120	1996	Fair	3	3	A2	No	
1541	Acacia sp.	Wattle	12	5	260	300	3120	1996	Fair	2	4	Z4	No	Not tagged covered in vines.
1542	*Acacia decurrens*	Green Wattle	6	6	500	600	6000	2670	Poor	1	4	Z4	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1543	*Acacia decurrens*	Green Wattle	8	7	500	600	6000	2670	Poor	1	4	Z4	No	
1544	*Callistemon salignus*	Willow Bottlebrush	10	10	500	560	6000	2594	Good	4	2	A2	No	
1545	*Callistemon salignus*	Willow Bottlebrush	10	10	500	560	6000	2594	Good	4	2	A2	No	
1546	*Eucalyptus pilularis*	Blackbutt	15	10	400	560	4800	2594	Normal	3	3	A2	No	
1547	*Eucalyptus pilularis*	Blackbutt	15	10	400	560	4800	2594	Normal	3	3	A2	No	
1548	*Angophora costata*	Smooth-barked Apple Myrtle	10	5	280	320	3360	2051	Normal	3	3	A2	No	
1549	*Eucalyptus pilularis*	Blackbutt	12	10	300	400	3600	2252	Normal	3	3	A2	No	
1550	*Eucalyptus punctata*	Grey Gum	24	18	500	650	6000	2762	Normal	3	3	A2	No	
1551	*Angophora costata*	Smooth-barked Apple Myrtle	8	4	230	300	2760	1996	Poor	3	4	Z4	No	
1552	Eucalyptus robusta	Swamp Mahogany	12	18	1100	1250	13200	3635	Fair	3	3	A2	No	
1553	Eucalyptus robusta	Swamp Mahogany	12	18	850	1200	10200	3573	Fair	3	3	A2	No	
1554	*Eucalyptus saligna x botryoides*	Hybrid Sydney Blue Gum	24	16	450	500	5400	2474	Good	4	2	A2	No	
1555	*Eucalyptus saligna x botryoides*	Hybrid Sydney Blue Gum	24	16	1100	1400	13200	3812	Good	4	2	A2	No	
1556	*Eucalyptus saligna x botryoides*	Hybrid Sydney Blue Gum	30	19	1300	1500	15600	3924	Good	4	2	A2	No	not tagged
1557	*Corymbia gummifera*	Red Bloodwood	18	15	500	750	6000	2933	Normal	2	3	A2	No	
1558	*Corymbia gummifera*	Red Bloodwood	18	15	500	750	6000	2933	Normal	2	3	A2	No	
1559	*Angophora costata*	Smooth-barked Apple Myrtle	14	2	170	200	2040	1683	Good	4	2	A2	No	
1560	*Corymbia gummifera*	Red Bloodwood	12	2	170	200	2040	1683	Fair	3	3	A2	No	
1561	*Angophora costata*	Smooth-barked Apple Myrtle	20	10	300	350	3600	2129	Fair	3	3	A2	No	
1562	*Corymbia gummifera*	Red Bloodwood	14	10	450	590	5400	2652	Fair	3	3	A2	No	
1563	*Eucalyptus pilularis*	Blackbutt	25	12	600	750	7200	2933	Normal	4	2	A2	No	
1564	*Eucalyptus pilularis*	Blackbutt	18	10	450	520	5400	2515	Good	4	2	A2	No	
1565	*Allocasuarina torulosa*	Forest She-oak	5	3	260	320	3120	2051	Poor	2	4	Z4	No	
1566	*Angophora costata*	Smooth-barked Apple Myrtle	10	3	170	250	2040	1849	Normal	3	3	A2	No	
1567	*Eucalyptus acmenoides*	White Mahogany	14	6	300	340	3600	2104	Normal	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1568	*Eucalyptus acmenoides*	White Mahogany	15	10	400	500	4800	2474	Normal	3	3	A2	No	
1569	*Eucalyptus acmenoides*	White Mahogany	15	10	400	500	4800	2474	Normal	3	3	A2	No	
1570	*Syncarpia glomulifera*	Turpentine	12	10	600	750	7200	2933	Good	4	2	A2	No	
1571	*Eucalyptus acmenoides*	White Mahogany	20	9	450	600	5400	2670	Good	4	2	A2	No	
1572	*Eucalyptus acmenoides*	White Mahogany	20	9	350	500	4200	2474	Fair	3	3	A2	No	
1573	*Angophora costata*	Smooth-barked Apple Myrtle	14	8	400	600	4800	2670	Good	4	2	A2	No	
1574	*Eucalyptus acmenoides*	White Mahogany	18	10	450	500	5400	2474	Normal	4	3	A2	No	
1575	*Corymbia gummifera*	Red Bloodwood	12	4	240	300	2880	1996	Normal	4	3	A2	No	
1576	*Syncarpia glomulifera*	Turpentine	20	8	400	450	4800	2366	Good	4	2	A2	No	
1577	*Angophora costata*	Smooth-barked Apple Myrtle	17	10	350	420	4200	2299	Normal	4	3	A2	No	
1578	*Angophora costata*	Smooth-barked Apple Myrtle	20	12	600	600	7200	2670	Good	4	3	A2	No	
1579	*Angophora costata*	Smooth-barked Apple Myrtle	20	12	600	600	7200	2670	Good	4	3	A2	No	
1580	*Angophora costata*	Smooth-barked Apple Myrtle	20	12	600	600	7200	2670	Good	4	3	A2	No	
1581	*Eucalyptus acmenoides*	White Mahogany	22	14	800	1000	9600	3309	Good	4	3	A2	No	
1582	*Syncarpia glomulifera*	Turpentine	15	8	390	400	4680	2252	Good	4	3	A2	No	
1583	*Syncarpia glomulifera*	Turpentine	20	12	600	800	7200	3013	Good	4	3	A2	No	
1584	*Angophora costata*	Smooth-barked Apple Myrtle	18	12	480	590	5760	2652	Good	4	3	A2	No	
1585	*Angophora costata*	Smooth-barked Apple Myrtle	23	14	400	460	4800	2388	Good	5	1	A2	No	
1586	*Angophora costata*	Smooth-barked Apple Myrtle	10	2	260	450	3120	2366	Poor	1	4	Z4	No	
1587	*Syncarpia glomulifera*	Turpentine	12	5	300	400	3600	2252	Normal	3	3	A2	No	
1588	*Syncarpia glomulifera*	Turpentine	19	11	600	900	7200	3166	Good	5	2	A2	No	
1589	*Angophora costata*	Smooth-barked Apple Myrtle	23	15	500	630	6000	2726	Good	5	2	A2	No	
1590	*Angophora costata*	Smooth-barked Apple Myrtle	18	14	280	350	3360	2129	Normal	4	3	A2	No	
1591	*Angophora costata*	Smooth-barked Apple Myrtle	23	20	700	850	8400	3091	Good	4	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1592	*Angophora costata*	Smooth-barked Apple Myrtle	12	6	270	320	3240	2051	Good	4	2	A2	No	
1593	*Angophora costata*	Smooth-barked Apple Myrtle	15	14	330	450	3960	2366	Good	4	2	A2	No	
1594	*Angophora costata*	Smooth-barked Apple Myrtle	20	10	340	450	4080	2366	Normal	3	2	A2	No	
1595	*Angophora costata*	Smooth-barked Apple Myrtle	20	10	380	440	4560	2344	Normal	3	2	A2	No	
1596	*Syncarpia glomulifera*	Turpentine	12	5	230	400	2760	2252	Fair	3	3	A2	No	
1597	Dead Tree	Dead Tree	14	0	300	410	3600	2276	Dead	1	4	Z4	No	
1598	*Angophora costata*	Smooth-barked Apple Myrtle	20	12	320	430	3840	2322	Fair	3	3	A2	No	
1599	*Eucalyptus acmenoides*	White Mahogany	20	12	330	400	3960	2252	Fair	3	3	A2	No	
1600	*Angophora costata*	Smooth-barked Apple Myrtle	20	11	260	400	3120	2252	Fair	3	3	A2	No	
1601	*Angophora costata*	Smooth-barked Apple Myrtle	25	14	500	580	6000	2633	Good	4	2	A2	No	
1602	*Corymbia gummifera*	Red Bloodwood	9	4	200	280	2400	1939	Normal	3	3	A2	No	
1603	*Angophora costata*	Smooth-barked Apple Myrtle	18	15	400	550	4800	2575	Good	4	2	A2	No	
1604	*Corymbia gummifera*	Red Bloodwood	14	4	300	300	3600	1996	Normal	3	3	A2	No	
1605	*Corymbia gummifera*	Red Bloodwood	14	4	300	300	3600	1996	Normal	3	3	A2	No	
1606	*Syncarpia glomulifera*	Turpentine	18	12	460	530	5520	2535	Good	5	2	A2	No	
1607	*Eucalyptus pilularis*	Blackbutt	19	10	400	600	4800	2670	Fair	3	4	Z4	No	
1608	*Angophora costata*	Smooth-barked Apple Myrtle	12	3	230	260	2760	1879	Normal	4	3	A2	No	
1609	*Angophora costata*	Smooth-barked Apple Myrtle	18	8	360	400	4320	2252	Fair	3	3	A2	No	
1610	*Eucalyptus acmenoides*	White Mahogany	23	16	500	660	6000	2779	Fair	3	4	Z4	No	
1611	*Angophora costata*	Smooth-barked Apple Myrtle	15	10	320	360	3840	2155	Normal	4	3	A2	No	
1612	*Corymbia gummifera*	Red Bloodwood	18	8	350	430	4200	2322	Poor	2	4	Z4	No	
1613	*Eucalyptus acmenoides*	White Mahogany	20	8	320	350	3840	2129	Normal	4	3	A2	No	
1614	*Eucalyptus acmenoides*	White Mahogany	20	8	320	350	3840	2129	Fair	3	3	A2	No	
1615	*Angophora costata*	Smooth-barked Apple Myrtle	21	5	220	300	2640	1996	Fair	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1616	*Eucalyptus pilularis*	Blackbutt	23	14	550	700	6600	2849	Fair	3	3	A2	No	
1617	*Angophora costata*	Smooth-barked Apple Myrtle	18	12	320	500	3840	2474	Good	4	2	A2	No	
1618	*Angophora costata*	Smooth-barked Apple Myrtle	18	3	200	230	2400	1785	Good	4	2	A2	No	
1619	*Eucalyptus pilularis*	Blackbutt	18	12	300	380	3600	2204	Fair	3	3	A2	No	
1620	*Corymbia gummifera*	Red Bloodwood	20	12	330	430	3960	2322	Normal	3	2	A2	No	
1621	*Corymbia gummifera*	Red Bloodwood	17	3	170	200	2040	1683	Good	4	2	A2	No	
1622	*Angophora costata*	Smooth-barked Apple Myrtle	15	8	240	400	2880	2252	Fair	4	3	A2	No	
1623	Dead Tree	Dead Tree	16	8	390	430	4680	2322	Dead	1	4	Z4	No	
1624	*Syncarpia glomulifera*	Turpentine	12	8	390	430	4680	2322	Dead	1	4	Z4	No	
1625	*Syncarpia glomulifera*	Turpentine	14	4	190	250	2280	1849	Good	4	2	A2	No	
1626	*Syncarpia glomulifera*	Turpentine	10	4	200	360	2400	2155	Normal	4	3	A2	No	
1627	*Angophora costata*	Smooth-barked Apple Myrtle	18	8	210	340	2520	2104	Good	4	2	A2	No	
1628	*Angophora costata*	Smooth-barked Apple Myrtle	18	8	400	500	4800	2474	Good	4	2	A2	No	
1629	*Eucalyptus saligna x botryoides*	Hybrid Sydney Blue Gum	21	16	600	850	7200	3091	Good	5	2	A2	No	
1630	*Eucalyptus saligna x botryoides*	Hybrid Sydney Blue Gum	21	12	380	470	4560	2410	Good	5	2	A2	No	
1631	*Angophora costata*	Smooth-barked Apple Myrtle	12	5	170	200	2040	1683	Good	5	2	A2	No	
1632	*Angophora costata*	Smooth-barked Apple Myrtle	18	8	360	450	4320	2366	Good	5	2	A2	No	
1633	Cinnamomum camphora	Camphor Laurel	15	12	300	1000	3600	3309	Good	2	4	Z4	No	
1634	*Syncarpia glomulifera*	Turpentine	9	3	160	190	1920	1647	Good	5	2	A2	No	
1635	*Eucalyptus pilularis*	Blackbutt	26	15	900	1200	10800	3573	Normal	3	3	A2	No	
1636	*Angophora costata*	Smooth-barked Apple Myrtle	11	3	180	230	2160	1785	Good	4	2	A2	No	
1637	*Angophora costata*	Smooth-barked Apple Myrtle	11	3	180	230	2160	1785	Good	4	2	A2	No	
1638	*Angophora costata*	Smooth-barked Apple Myrtle	18	8	350	400	4200	2252	Good	4	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1639	*Angophora costata*	Smooth-barked Apple Myrtle	20	10	440	700	5280	2849	Good	4	2	A2	No	
1640	*Angophora costata*	Smooth-barked Apple Myrtle	12	5	300	400	3600	2252	Normal	4	3	A2	No	
1641	*Syncarpia glomulifera*	Turpentine	18	8	450	600	5400	2670	Good	5	2	A2	No	
1642	*Eucalyptus pilularis*	Blackbutt	18	8	500	600	6000	2670	Poor	3	4	Z4	No	
1643	*Angophora costata*	Smooth-barked Apple Myrtle	18	14	460	560	5520	2594	Normal	5	3	A2	No	
1644	*Syncarpia glomulifera*	Turpentine	12	14	600	800	7200	3013	Normal	3	3	A2	No	
1645	*Angophora costata*	Smooth-barked Apple Myrtle	15	7	350	450	4200	2366	Good	4	2	A2	No	
1646	*Angophora costata*	Smooth-barked Apple Myrtle	20	10	300	340	3600	2104	Good	4	2	A2	No	
1647	*Angophora costata*	Smooth-barked Apple Myrtle	18	10	230	280	2760	1939	Good	5	2	A2	No	
1648	*Angophora costata*	Smooth-barked Apple Myrtle	18	10	230	280	2760	1939	Good	5	2	A2	No	
1649	*Angophora costata*	Smooth-barked Apple Myrtle	18	4	180	230	2160	1785	Good	5	2	A2	No	
1650	*Angophora costata*	Smooth-barked Apple Myrtle	18	6	300	360	3600	2155	Good	4	1	A2	No	
1651	*Angophora costata*	Smooth-barked Apple Myrtle	18	8	260	300	3120	1996	Good	4	2	A2	No	
1652	*Eucalyptus resinifera*	Red Mahogany	18	15	510	600	6120	2670	Good	4	2	A2	No	
1653	Cinnamomum camphora	Camphor Laurel	15	12	300	700	3600	2849	Normal	2	4	Z4	No	
1654	*Eucalyptus pilularis*	Blackbutt	12	5	150	210	1800	1718	Fair	3	3	A2	No	
1655	*Eucalyptus acmenoides*	White Mahogany	12	5	170	240	2040	1817	Good	4	2	A2	No	
1656	*Corymbia gummifera*	Red Bloodwood	7	3	200	230	2400	1785	Fair	3	3	A2	No	
1657	Dead Tree	Dead Tree	20	15	570	710	6840	2866	Poor	1	4	Z4	No	
1658	*Syncarpia glomulifera*	Turpentine	13	4	400	500	4800	2474	Poor	1	4	Z4	No	
1659	*Angophora costata*	Smooth-barked Apple Myrtle	14	5	190	240	2280	1817	Good	4	2	A2	No	
1660	*Angophora costata*	Smooth-barked Apple Myrtle	18	14	450	600	5400	2670	Good	5	2	A2	No	
1661	Dead Tree	Dead Tree	12	3	300	320	3600	2051	Dead	1	4	Z4	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1662	*Corymbia gummifera*	Red Bloodwood	15	10	500	700	6000	2849	Good	4	2	A2	No	
1663	*Angophora costata*	Smooth-barked Apple Myrtle	17	8	240	320	2880	2051	Good	4	2	A2	No	
1664	*Angophora costata*	Smooth-barked Apple Myrtle	17	5	260	320	3120	2051	Normal	4	3	A2	No	
1665	*Angophora costata*	Smooth-barked Apple Myrtle	17	5	300	400	3600	2252	Normal	4	3	A2	No	
1666	*Syncarpia glomulifera*	Turpentine	19	17	650	1500	7800	3924	Normal	5	2	A2	No	
1667	*Syncarpia glomulifera*	Turpentine	9	5	250	400	3000	2252	Good	4	2	A2	No	
1668	*Syncarpia glomulifera*	Turpentine	12	12	800	1200	9600	3573	Good	4	3	A2	No	
1669	Dead Tree	Dead Tree	12	12	1000	1500	12000	3924	Dead	1	4	Z4	No	
1670	*Syncarpia glomulifera*	Turpentine	15	8	450	600	5400	2670	Good	5	2	A2	No	
1671	*Syncarpia glomulifera*	Turpentine	18	15	800	1200	9600	3573	Good	5	1	A3	No	
1672	*Angophora costata*	Smooth-barked Apple Myrtle	18	8	300	380	3600	2204	Good	4	2	A2	No	
1673	*Angophora costata*	Smooth-barked Apple Myrtle	16	10	400	560	4800	2594	Good	4	2	A2	No	
1674	*Angophora costata*	Smooth-barked Apple Myrtle	16	10	400	520	4800	2515	Normal	3	2	A2	No	
1675	*Angophora costata*	Smooth-barked Apple Myrtle	11	5	380	390	4560	2228	Normal	3	2	A2	No	
1676	*Syncarpia glomulifera*	Turpentine	11	4	450	500	5400	2474	Normal	3	2	A2	No	
1677	*Angophora costata*	Smooth-barked Apple Myrtle	11	2	150	200	1800	1683	Fair	3	3	A2	No	
1678	*Angophora costata*	Smooth-barked Apple Myrtle	18	11	400	520	4800	2515	Normal	4	2	A2	No	
1679	*Syncarpia glomulifera*	Turpentine	20	10	850	1200	10200	3573	Good	5	2	A2	No	
1680	*Angophora costata*	Smooth-barked Apple Myrtle	20	14	600	700	7200	2849	Good	4	2	A2	No	
1681	*Eucalyptus acmenoides*	White Mahogany	12	4	250	300	3000	1996	Good	4	2	A2	No	
1682	Dead Tree	Dead Tree	10	4	180	180	2160	1611	Dead	1	4	Z4	No	
1683	*Angophora costata*	Smooth-barked Apple Myrtle	16	15	850	1100	10200	3445	Poor	2	4	Z4	No	
1684	*Angophora costata*	Smooth-barked Apple Myrtle	19	18	500	600	6000	2670	Fair	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1685	*Angophora costata*	Smooth-barked Apple Myrtle	22	12	500	620	6000	2707	Fair	3	3	A2	No	
1686	*Angophora costata*	Smooth-barked Apple Myrtle	15	8	190	240	2280	1817	Fair	3	3	A2	No	
1687	Dead Tree	Dead Tree	10	5	400	450	4800	2366	Fair	1	4	Z4	No	
1688	Dead Tree	Dead Tree	10	5	400	450	4800	2366	Fair	1	4	Z4	No	
1689	*Syncarpia glomulifera*	Turpentine	9	4	300	400	3600	2252	Good	4	2	A2	No	
1690	*Angophora costata*	Smooth-barked Apple Myrtle	15	4	250	320	3000	2051	Good	4	2	A2	No	
1691	*Angophora costata*	Smooth-barked Apple Myrtle	19	12	500	600	6000	2670	Good	4	2	A2	No	
1692	*Angophora costata*	Smooth-barked Apple Myrtle	22	18	400	470	4800	2410	Good	4	2	A2	No	
1693	*Angophora costata*	Smooth-barked Apple Myrtle	15	3	170	200	2040	1683	Fair	3	3	A2	No	
1694	*Angophora costata*	Smooth-barked Apple Myrtle	15	10	250	370	3000	2180	Fair	4	3	A2	No	
1695	*Angophora costata*	Smooth-barked Apple Myrtle	16	8	260	320	3120	2051	Normal	3	2	A2	No	
1696	*Angophora costata*	Smooth-barked Apple Myrtle	10	6	170	230	2040	1785	Fair	3	3	A2	No	
1697	*Angophora costata*	Smooth-barked Apple Myrtle	18	12	300	350	3600	2129	Good	4	2	A2	No	
1698	*Eucalyptus pilularis*	Blackbutt	26	18	570	680	6840	2814	Good	4	2	A2	No	
1699	Dead Tree	Dead Tree	18	14	700	900	8400	3166	Good	1	4	Z4	No	
1700	Dead Tree	Dead Tree	10	10	300	350	3600	2129	Dead	1	4	Z4	No	
1751	*Angophora costata*	Smooth-barked Apple Myrtle	11	8	500	590	6000	2652	Fair	4	3	A2	No	
1752	*Eucalyptus sieberi*	Black Ash	16	8	450	500	5400	2474	Normal	4	2	A2	No	
1753	*Eucalyptus sieberi*	Black Ash	12	3	200	220	2400	1752	Good	4	2	A2	No	
1754	*Acacia decurrens*	Green Wattle	8	12	200	350	2400	2129	Poor	2	4	Z4	No	
1755	Dead Tree	Dead Tree	10	5	200	300	2400	1996	Dead	1	4	Z4	No	
1756	Dead Tree	Dead Tree	18	15	500	630	6000	2726	Dead	1	4	Z4	No	
1757	Eryrhrina x sykesii	Common Coral Tree	12	15	700	900	8400	3166	Good	2	4	Z4	No	grove of trees.
1758	Acacia sp.	Wattle	13	6	400	550	4800	2575	Normal	3	3	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1759	*Syncarpia glomulifera*	Turpentine	15	8	350	550	4200	2575	Normal	3	3	A2	No	not tagged
1760	Acacia sp.	Wattle	9	5	250	350	3000	2129	Normal	3	3	A2	No	not tagged
1761	*Angophora costata*	Smooth-barked Apple Myrtle	26	20	700	850	8400	3091	Good	4	2	A2	No	not tagged.
1762	Eryrhrina x sykesii	Common Coral Tree	12	20	700	850	8400	3091	Good	4	2	A2	No	not tagged
1763	*Syncarpia glomulifera*	Turpentine	10	6	500	560	6000	2594	Good	4	2	A2	No	not tagged
1764	*Angophora costata*	Smooth-barked Apple Myrtle	14	6	400	420	4800	2299	Good	4	2	A2	No	
1765	*Angophora costata*	Smooth-barked Apple Myrtle	17	7	500	700	6000	2849	Normal	3	2	A2	No	
1766	Dead Tree	Dead Tree	12	4	400	430	4800	2322	Dead	1	4	Z4	No	
1767	*Angophora costata*	Smooth-barked Apple Myrtle	13	6	300	410	3600	2276	Normal	4	3	A2	No	
1768	*Eucalyptus pilularis*	Blackbutt	14	3	230	300	2760	1996	Good	4	2	A2	No	
1769	*Allocasuarina littoralis*	Black She-oak	5	3	180	240	2160	1817	Fair	3	3	A2	No	
1770	*Angophora costata*	Smooth-barked Apple Myrtle	7	3	170	200	2040	1683	Fair	3	3	A2	No	
1771	*Allocasuarina littoralis*	Black She-oak	4	2	150	160	1800	1533	Poor	3	4	Z4	No	
1772	*Allocasuarina littoralis*	Black She-oak	4	2	150	160	1800	1533	Poor	3	4	Z4	No	
1773	*Angophora costata*	Smooth-barked Apple Myrtle	10	3	210	290	2520	1968	Normal	4	2	A2	No	
1774	*Angophora costata*	Smooth-barked Apple Myrtle	10	3	230	300	2760	1996	Normal	4	2	A2	No	
1775	Dead Tree	Dead Tree	20	15	480	630	5760	2726	Dead	1	4	Z4	No	
1776	*Corymbia gummifera*	Red Bloodwood	12	7	350	400	4200	2252	Fair	3	3	A2	No	
1777	*Eucalyptus pilularis*	Blackbutt	20	12	450	500	5400	2474	Poor	2	4	Z4	No	
1778	*Allocasuarina littoralis*	Black She-oak	6	5	260	280	3120	1939	Fair	3	3	A2	No	
1779	Dead Tree	Dead Tree	18	12	500	730	6000	2900	Dead	1	4	Z4	No	
1780	*Eucalyptus pilularis*	Blackbutt	15	10	500	850	6000	3091	Normal	3	2	A2	No	
1781	Dead Tree	Dead Tree	19	16	500	700	6000	2849	Dead	1	4	Z4	No	
1782	*Angophora costata*	Smooth-barked Apple Myrtle	14	5	290	300	3480	1996	Good	4	2	A2	No	
1783	*Angophora costata*	Smooth-barked Apple Myrtle	14	5	290	300	3480	1996	Good	4	2	A2	No	

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1784	*Angophora costata*	Smooth-barked Apple Myrtle	14	5	290	300	3480	1996	Good	4	2	A2	No	
1785	*Angophora costata*	Smooth-barked Apple Myrtle	11	4	230	260	2760	1879	Good	4	2	A2	No	
1786	*Angophora costata*	Smooth-barked Apple Myrtle	11	4	230	260	2760	1879	Good	4	2	A2	No	
1787	Dead Tree	Dead Tree	11	2	220	260	2640	1879	Dead	1	4	Z4	No	
1788	*Angophora costata*	Smooth-barked Apple Myrtle	16	7	390	440	4680	2344	Good	4	3	A2	No	
1789	*Angophora costata*	Smooth-barked Apple Myrtle	16	7	430	500	5160	2474	Good	4	3	A2	No	
1790	*Angophora costata*	Smooth-barked Apple Myrtle	16	4	220	280	2640	1939	Normal	4	3	A2	No	
1791	*Angophora costata*	Smooth-barked Apple Myrtle	25	15	1000	1300	12000	3695	Normal	3	3	A2	No	
1792	*Angophora costata*	Smooth-barked Apple Myrtle	12	5	180	200	2160	1683	Good	4	2	A2	No	
1793	*Angophora costata*	Smooth-barked Apple Myrtle	14	8	300	450	3600	2366	Good	4	2	A2	No	
1794	*Eucalyptus pilularis*	Blackbutt	14	3	280	400	3360	2252	Normal	3	2	A2	No	
1795	*Eucalyptus pilularis*	Blackbutt	18	6	280	400	3360	2252	Normal	3	2	A2	No	
1796	*Eucalyptus pilularis*	Blackbutt	9	2	180	220	2160	1752	Good	4	2	A2	No	
1797	Dead Tree	Dead Tree	15	5	400	500	4800	2474	Dead	1	4	Z4	No	
1798	Dead Tree	Dead Tree	15	4	250	260	3000	1879	Dead	1	4	Z4	No	
1799	Dead Tree	Dead Tree	15	4	300	360	3600	2155	Dead	1	4	Z4	No	
1800	*Eucalyptus pilularis*	Blackbutt	26	20	470	580	5640	2633	Good	5	2	A2	No	
1801	Dead Tree	Dead Tree	23	14	360	500	4320	2474	Dead	1	4	Z4	No	
1802	*Eucalyptus pilularis*	Blackbutt	24	10	430	600	5160	2670	Good	4	2	A2	No	not tagged
1803	*Allocasuarina littoralis*	Black She-oak	12	8	300	400	3600	2252	Fair	3	3	A2	No	
1804	*Eucalyptus pilularis*	Blackbutt	20	12	560	710	6720	2866	Fair	3	3	A2	No	
1805	*Corymbia gummifera*	Red Bloodwood	18	9	590	630	7080	2726	Normal	3	2	A2	No	
1806	*Corymbia gummifera*	Red Bloodwood	19	15	1200	1500	14400	3924	Good	5	1	A3	No	
1807	*Corymbia gummifera*	Red Bloodwood	9	3	280	400	3360	2252	Good	4	2	A2	No	
1808	Dead Tree	Dead Tree	12	5	280	400	3360	2252	Dead	1	4	Z4	No	not tagged

Tree no.	Scientific Name	Common Name	Height (m)	Spread (m)	DBH (mm)	DAB (mm)	TPZ (mm)	SRZ (mm)	Vigour	Condition	SULE	Tree/AZ	Hollows	Notes/Comm
1809	Dead Tree	Dead Tree	13	12	700	1000	8400	3309	Dead	1	4	Z4	No	
1810	*Allocasuarina littoralis*	Black She-oak	5	4	300	390	3600	2228	Normal	3	3	A2	No	
1811	*Allocasuarina littoralis*	Black She-oak	5	4	220	350	2640	2129	Normal	3	3	A2	No	
1812	Acacia sp.	Wattle	7	4	200	270	2400	1910	Fair	3	3	A2	No	
1813	*Eucalyptus pilularis*	Blackbutt	24	15	630	790	7560	2997	Good	4	2	A2	No	
1814	*Corymbia gummifera*	Red Bloodwood	13	3	380	520	4560	2515	Normal	3	3	A2	No	
1815	Acacia sp.	Wattle	12	5	260	300	3120	1996	Fair	3	3	A2	No	
1816	Acacia sp.	Wattle	12	5	280	330	3360	2077	Fair	3	3	A2	No	
1817	Dead Tree	Dead Tree	10	8	360	450	4320	2366	Dead	1	4	Z4	No	
1818	Acacia sp.	Wattle	10	5	250	300	3000	1996	Poor	2	4	Z4	No	not tagged
1819	Acacia sp.	Wattle	14	9	350	360	4200	2155	Poor	2	4	Z4	No	not tagged
1820	Cinnamomum camphora	Camphor Laurel	17	15	500	600	6000	2670	Normal	3	3	A2	No	not tagged
1821	Eryrhrina x sykesii	Common Coral Tree	13	12	500	600	6000	2670	Normal	3	3	A2	No	not tagged
1822	Eryrhrina x sykesii	Common Coral Tree	10	5	300	500	3600	2474	Normal	3	3	A2	No	not tagged
1823	Dead Tree	Dead Tree	8	2	200	210	2400	1718	Dead	1	4	Z4	No	Dead grove of trees
1824	Dead Tree	Dead Tree	8	2	200	210	2400	1718	Dead	1	4	Z4	No	Dead grove of trees.

S.U.L.E Ratings

SULE is a method of assessing the relative importance of individual trees within an identified group (normally a development site with finite boundaries). It is based on subjective assessment and cannot be considered an absolute judgement. Realistically, the best that can be achieved is a broad categorisation of good, medium and bad. Identifying the extremes of good and bad is not usually contentious; the medium category is normally the most difficult. SULE helps the making of informed judgements on which trees are the most important in planning decisions. The nature of trees and opinions on trees is extremely variable; this means that there are always exceptions to the rules and common sense is an important aspect of applying the method. Only a person experienced and knowledgeable in the management of trees can carry out a competent SULE assessment. SULE is a means of presenting complex tree information in a simplified form that professionals with no tree expertise can understand and use to make judgements in the wider context. These professionals are normally layout designers who have to decide which trees to keep and lose in planning new developments close to trees.[5]

The following chart shows the breakdown of S.U.L.E ratings across the surveyed trees.

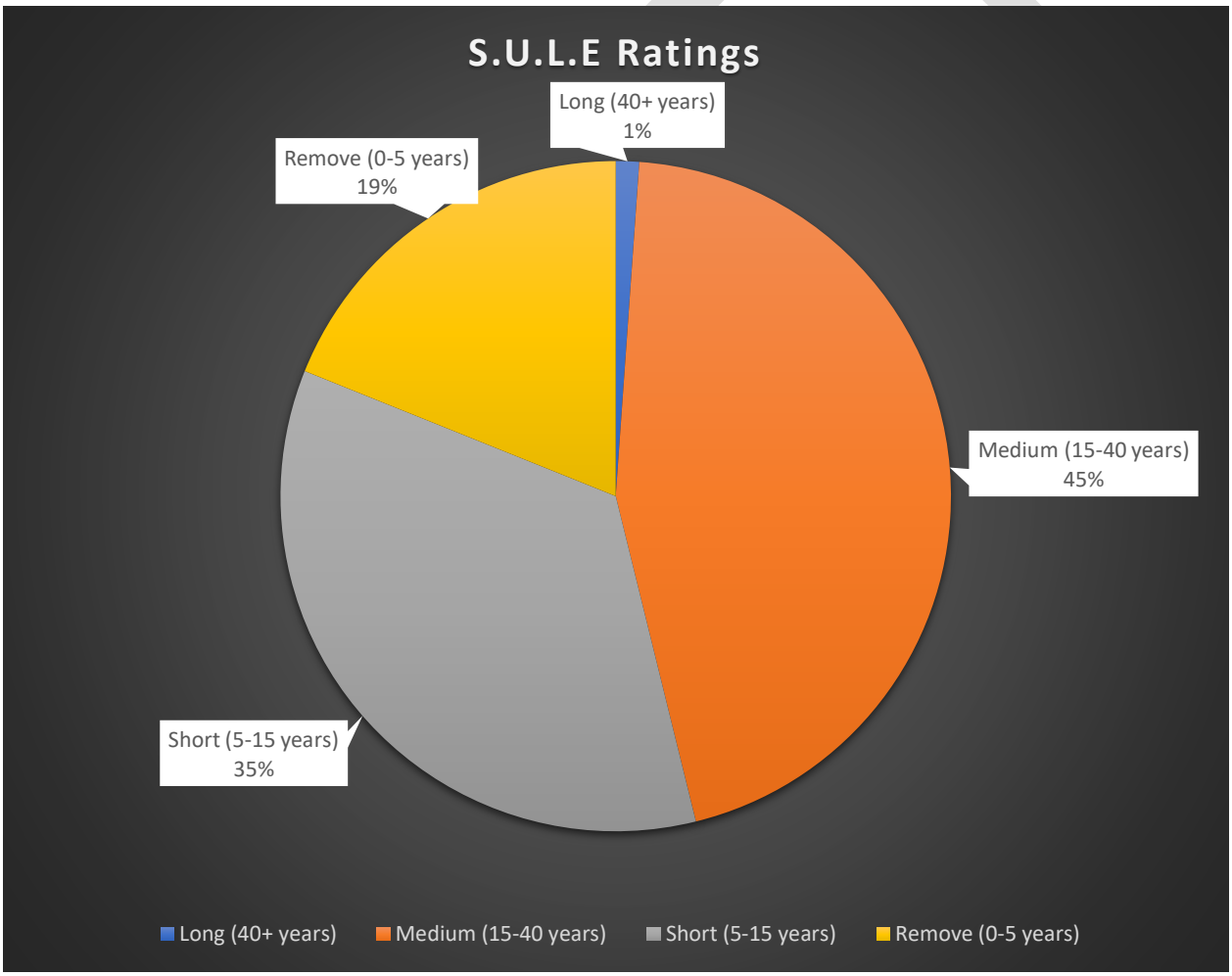


Figure 3- Pie Chart showing the S.U.L.E ratings of the surveyed trees.

[5] Barrell Tree Consultancy- TreeAZ.com- S.U.L.E Its use and status into the new millennium.

Tree AZ Ratings

One of the most fundamental decisions affecting tree management concerns whether trees are suitable for retention or not. Traditionally, these decisions have been based on assessing characteristics that add obvious value, such as good form, long life expectancy and size. The dilemma with this approach is that it seems right, but determining value is notoriously unreliable because there are so many extremely complicated elements to consider. The TreeAZ method of tree assessment approaches this problem from another angle, effectively sidestepping many of these difficulties and providing a means for tree managers to make consistently reliable and defensible decisions. Instead of assessing all the good things about trees, which would be a particularly tricky task, it focuses on the bad things that would justify felling. If there are no valid reasons to fell a tree, then it is considered good by default and quantifying the amount of 'goodness' it has is frequently unnecessary. Instinctively, we all know that trees are good, but their many benefits are offset as individuals become more of a risk, more of a nuisance and more of a management problem. TreeAZ adopts this starting point that all trees are good; it then systematically reviews the factors that could reasonably result in them being felled and, if they pass all those tests, then they are worth retaining. Its systematic structure allows tree managers to reveal their decision-making process in a transparent way, significantly reducing the risk of any criticism, should any harm arise from their decision. The following chart shows the breakdown of tree AZ ratings across the surveyed trees.[6]

The following chart shows the breakdown of TreeAZ ratings across the surveyed trees.

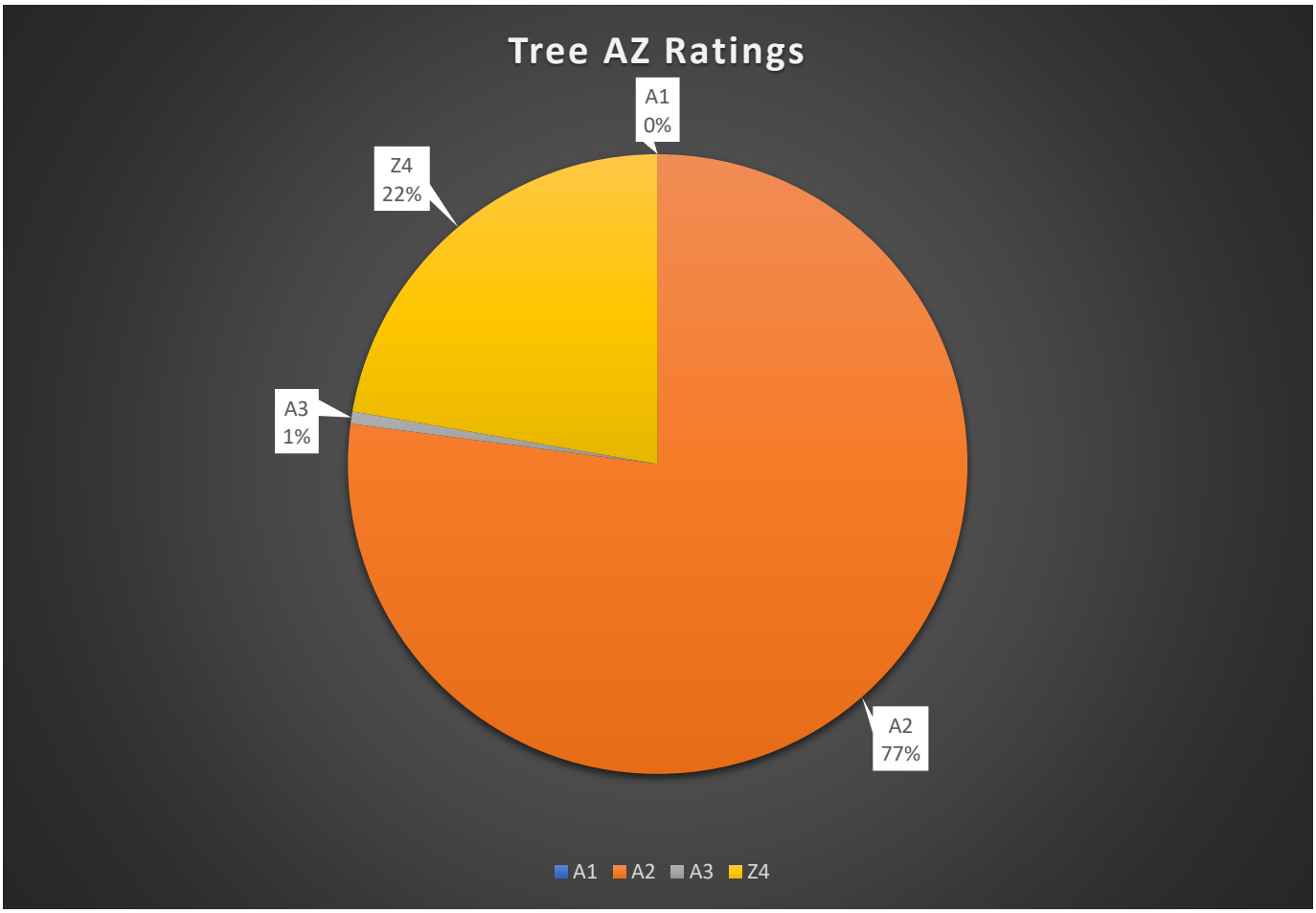


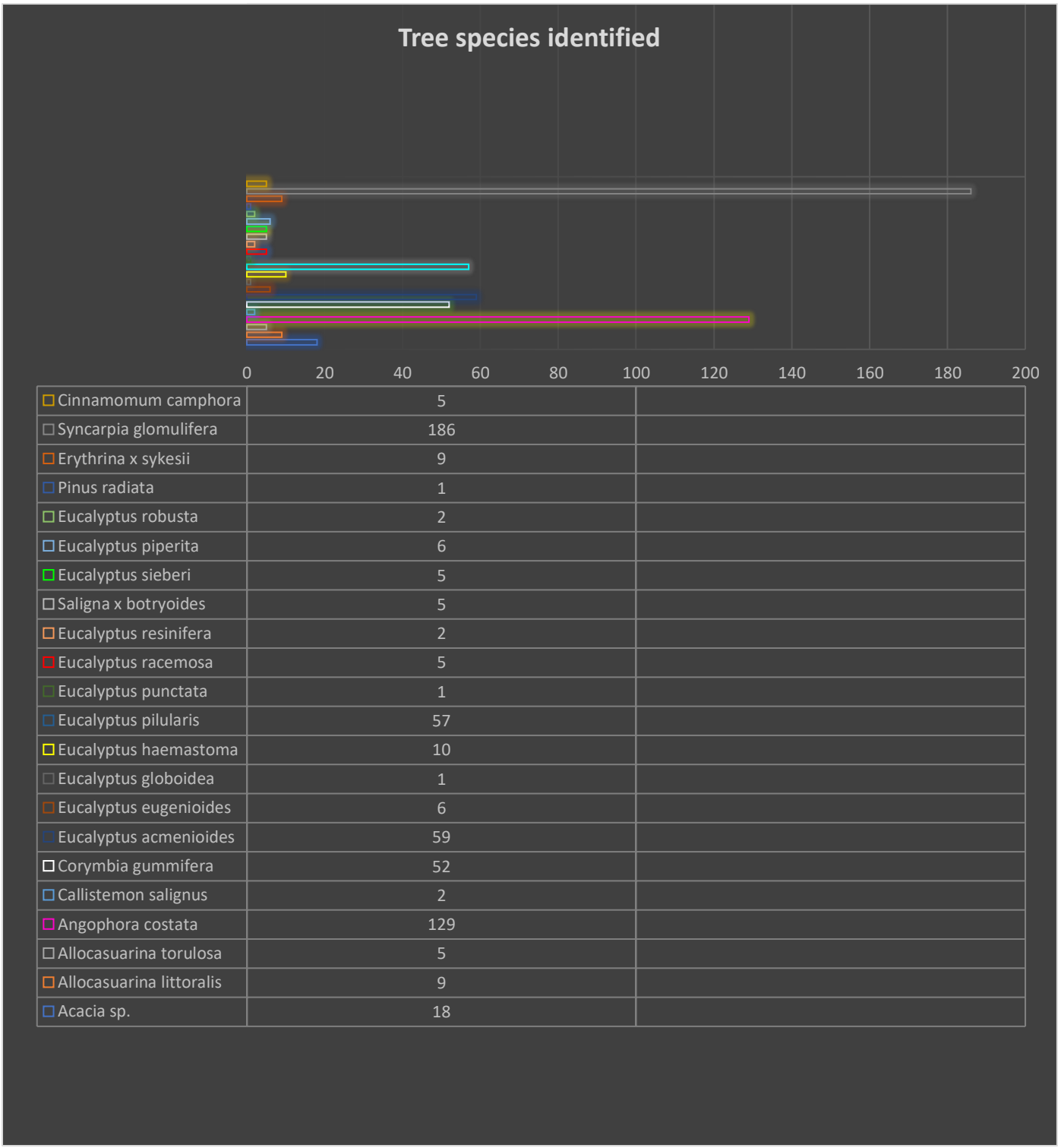
Figure 4- Pie chart showing the tree AZ ratings allocated to the surveyed trees.

[6] Barrell Tree Consultancy- TreeAZ system- TreeAZ.com

Tree species identified

There were twenty-four (24) tree species captured during our assessment. The site was dominated by five (5) species which account for 483 of the 624 surveyed trees, which amounts to 77.4% of the surveyed tree population. The dominant species and associated understorey appeared consistent with the list of tree communities and threatened endangered tree communities, listed on Hornsby Shire Councils website as existing in the location.

The following chart shows the breakdown of tree species across the surveyed area.



Cinnamomum camphora	5
Syncarpia glomulifera	186
Erythrina x sykesii	9
Pinus radiata	1
Eucalyptus robusta	2
Eucalyptus piperita	6
Eucalyptus sieberi	5
Saligna x botryoides	5
Eucalyptus resinifera	2
Eucalyptus racemosa	5
Eucalyptus punctata	1
Eucalyptus pilularis	57
Eucalyptus haemastoma	10
Eucalyptus globoidea	1
Eucalyptus eugenioides	6
Eucalyptus acmenioides	59
Corymbia gummifera	52
Callistemon salignus	2
Angophora costata	129
Allocasuarina torulosa	5
Allocasuarina littoralis	9
Acacia sp.	18

Figure 5- The figure above shows the total number of each tree species identified on site.

Conclusions

The proposed development at Westleigh Park is as yet undetermined and these details are to provide guidance regarding the potential for future repurposing of some of the land for sporting or recreation facilities.

The site is home to several threatened species and five vegetation communities, including;

- Sydney Turpentine Ironbark Forest (Critically Endangered Ecological Community)
- Duffy's Forest (Endangered Ecological Community)
- Scribbly Gum Open Woodland
- Bloodwood Scribbly Gum Woodland
- Peppermint - Angophora Forest

The presence of all of these communities was confirmed by the species which were dominating the collection data and associated understorey plants and shrubs which were not captured as part of this assessment.

A total of six hundred and twenty-four (624) trees were surveyed as part of this assessment.

A total of seven (7) trees (1055-1139-1140-1141-1183-1288-1539) appeared to contain hollows which may have the potential to provide current or future nesting opportunities for native birds or arboreal mammals.

Detailed maps showing tree numbers and tree protection zones will be provided in separate files, along with Excel spreadsheets with coordinates that can be uploaded into CAD files if so desired during the design process.

The current proposal is still in concept stage, so is lacking in sufficient detail to allow all of the impacts to be fully assessed. Once the designs have been finalised and construction drawings have been prepared, the findings of this report should be cross-checked to ensure accuracy of information.

A site-specific tree protection plan will also need to be compiled to specify the tree protection requirements relative to each tree.

Generic tree protection measures are provided in Appendix 2.

References

Mattheck, C. & Breloer, H. 1994, *The Body Language of Trees*.
The Stationery Office. London.

Matheny, N. & Clark, J. 1994. *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas.*
International Society of Arboriculture. Illinois.

Lonsdale, D. 1999. *Principles of Tree Hazard Assessment and Management.*
Arboricultural Association. Stonehouse (UK).

Barrell, J. 2009. *SULE: Its use and status into the new millennium.*
Barrell Tree Consultancy. Hampshire, UK.

Standards Australia. 2009. *AS4970-2009 Protection of trees on development sites.*
Standards Australia. Sydney.

Google Maps. 2020. *The location of Westleigh Park.*
Accessed at **http://maps.google.com**
Accessed 8/5/20.

Disclaimer:

The information contained within this report is to be used solely for the purposes that were specified at the time of engagement.

All attempts have been made to ensure the legitimacy of any information which has been gathered in the process of compiling this report, however Truth About Trees cannot be held liable for inaccurate or misguiding information which has been provided by others.

Any tree inspections or assessments which have been carried out for the purposes of this report are valid only at the time of inspection and are based on what could reasonably be seen or diagnosed from a visual inspection carried out from ground level.

All inspections, unless otherwise stated, are based upon Visual Tree Assessment (VTA) techniques, industry best practice and applied knowledge. No internal diagnostic testing or below ground investigation has been carried out, unless otherwise stated.

Trees are a dynamic living organism and as such they have a finite lifespan the end of which cannot always be predicted or understood, even apparently healthy trees can die suddenly or fall without warning. As such there is no warranty or guarantee provided, or implied, regarding the future risks associated with any tree.

Please feel free to contact me either via telephone or email if you have any questions regarding this report.

Kind regards

Tom Hare- AQF level 5 Consulting Arborist

Australian Tree Consultants

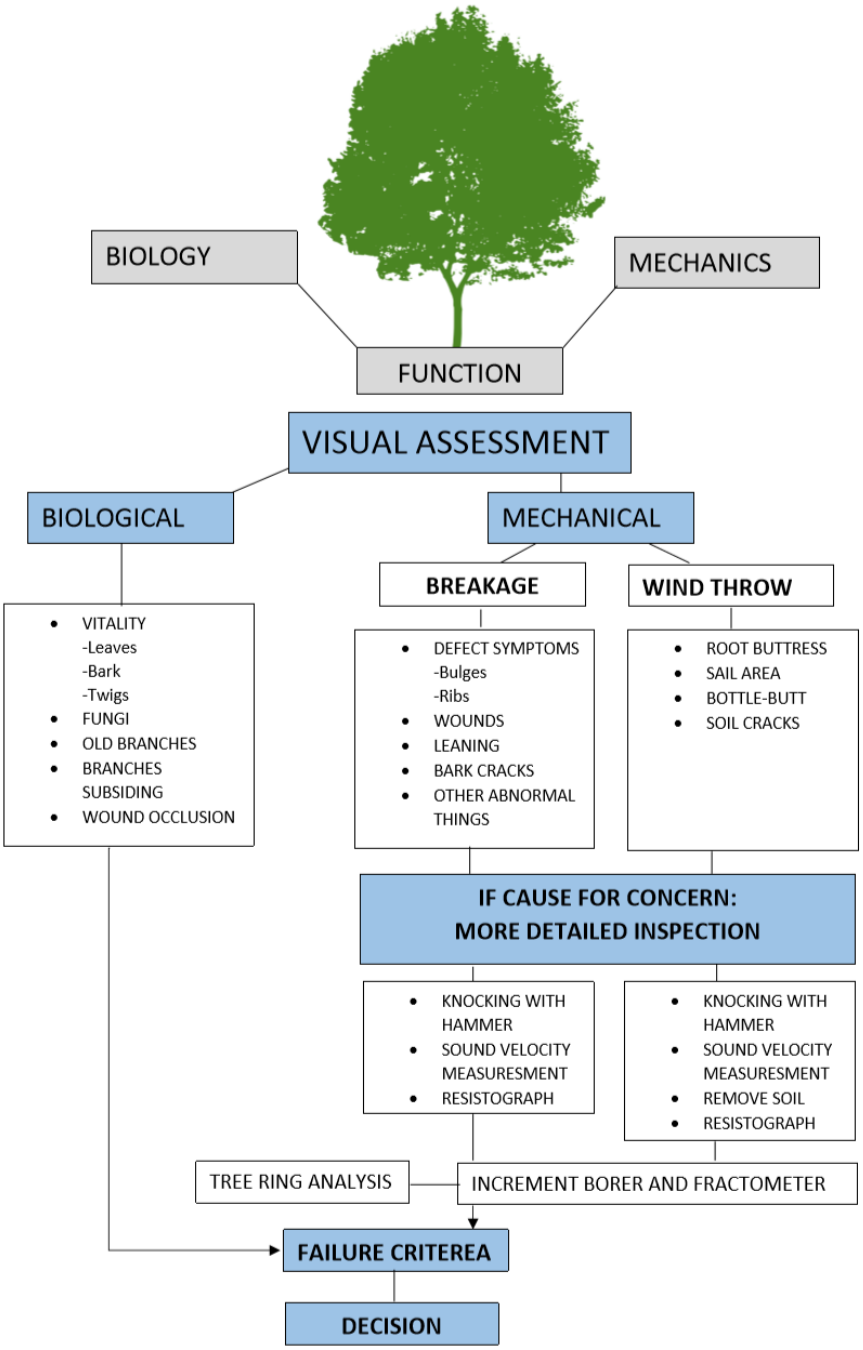
hugh@australiantreeconsultants.com.au

0418 474 796

Appendix 1: Tree assessment methodology

1.1 Visual Tree Assessment (VTA)

The VTA system is based on the theory of tree biology and physiology, as well as tree architecture and structure. This method is used by arborists to identify visible signs on trees that indicate good health, or potential problems. Symptoms of decay, growth patterns and defects are identified and assessed as to their potential to cause whole-tree, part-tree and/or branch failure. This system is based around methods discussed in `*The Body Language of Trees*'[7].



For the purpose of this report, elements of the VTA system will be used, along with industry standard literature, and other relevant studies that provide an insight into potential hazards in trees. This assessment is a snapshot of what could be reasonably seen or determined from a basic visual inspection. The VTA system is generally used as a means to identify hazardous trees; however it is important to realize that for a tree to be hazardous there must be a target; a hazard poses no risk if there is no exposure to the hazard.

[7] Mattheck, C. & Breloer, H. 1994. *The Body Language of Trees*.

1.1.1 Health and Vigour Assessment

The health and vigour of a tree is assessed by looking at the tree canopy and how it is performing. Certain indicators provide information on which to base the assessment. Abnormally small leaves, chlorosis (yellowing), sparse crown, wilting, and die-back can be signs of ill-health or decline but may also be related to a temporary imbalance due to drought or pest infestations. Epicormic growth can be a sign of stress and low energy reserves but can also be related to increased light levels through the removal or pruning of adjacent trees. Extension growth can be a good indicator of vigour but this can vary greatly between species and under differing climatic conditions. For these reasons, each individual symptom or observation needs to be assessed with objectivity and consideration of all available information.

1.1.2 Structural Assessment

The structural assessment of trees is carried out using the basic framework of Visual Tree Assessment. Signs and symptoms of defects are assessed to gauge the likelihood of failure, because not every defect constitutes a hazard e.g. *"…co-dominant stems are a structural defect. The severity of the defect is increased by included bark, large crowns and strong wind."*[8] If trees were removed purely on the basis that there were defects present without assessing the likelihood of failure or whether practical mitigation measures are available, the urban forest would cease to exist. A basic visual tree assessment is undertaken from ground level, if defects are suspected further investigation may be required and recommended. "*[When using] the Visual Tree Assessment (VTA) procedure for assessing trees, as the suspicion increases that defects are present, the examination becomes more thorough and searching."*[1]

"Some defects, especially some forms of decay, do not give rise to external signs and therefore tend to escape detection in a purely visual survey. If there is no reason for suspecting a hidden defect to occur within a particular part of the tree, there is no reasonable basis for carrying out a detailed internal assessment. Although in theory an unsuspected defect might be detectable by the use of specialized diagnostic devices, this would be impracticable in the absence of some external sign to indicate the place which should be probed. Also, internal examination without good reason is undesirable, as it usually causes injury to the tree and is unreasonably time consuming and costly."[9]

[8] Matheny, N. & Clark, J. 1994. *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas.*

[9] Lonsdale. 1999. *Principles of Tree Hazard Assessment and Management.*

1.2 Tree Protection Zone (TPZ) & Structural Root Zone (SRZ) Calculations

In accordance with Australian Standard *AS4970-2009 Protection of trees on development sites*[10], Tree Protection Zone (TPZ) radius is calculated using the following procedure. Diameter of the trunk is measured at approximately 1.4m above ground level; this measurement is referred to as DBH (Diameter at Breast Height). $R_{TPZ} = DBH \times 12$. For multi-stemmed trees the formula used is $R_{TPZ} = \sqrt{[(DBH1)^2 + (DBH2)^2 + (DBH3)^2]}$. The TPZ is measured radially from the centre of the stem and must be protected on all sides.

The Structural Root Zone (SRZ) radius is calculated by measuring the diameter of the stem close to ground level, just above the basal flare. This measurement is taken as ***D*** and then used in the following formula: $R_{SRZ} = (Dx50)^{0.42} \times 0.64$ and becomes the Structural Root Zone, measured radially from the centre of the stem.

It is important to realize that these calculations provide a notional figure only and tree dynamics, form and site conditions will greatly affect these zones, and it is the job of the arborist to interpret the information correctly.

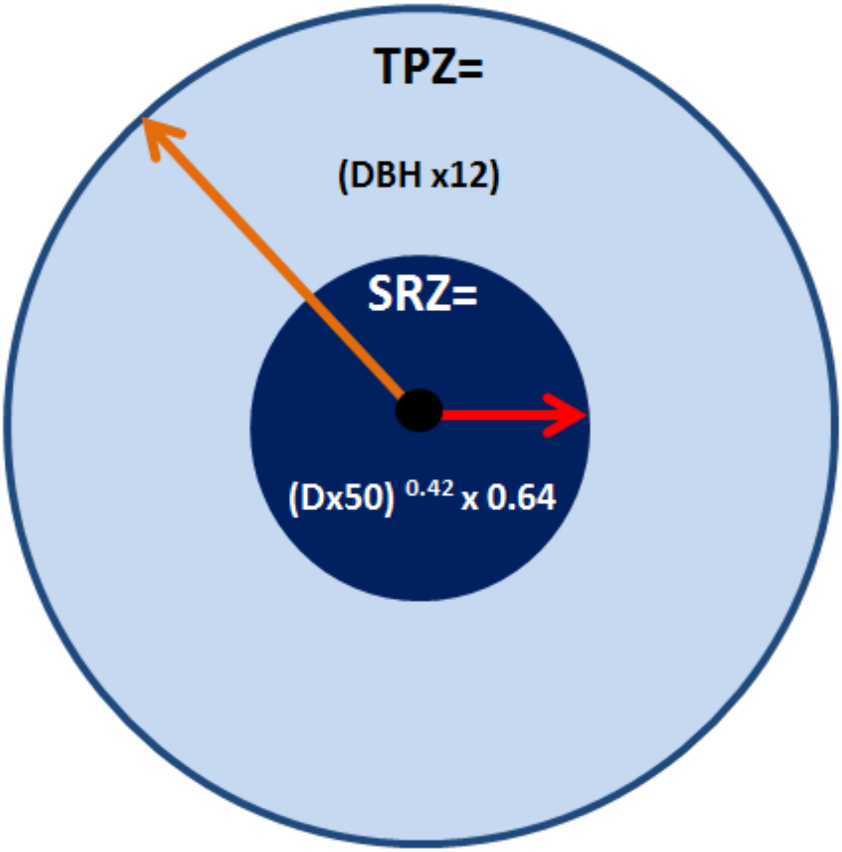


Figure 2 – A representation of TPZ & SRZ calculations.

For palms, cycads, tree ferns, and similar monocots, the TPZ is positioned at least 1m outside the crown projection. SRZs are not applicable to these plant types.

AS4970-2009[3] states "*a TPZ should not be less than 2m nor greater than 15m (except where crown protection is required*" and the minimum radius for an SRZ is 1.5m.

[10] Standards Australia. 2009. *AS4970-2009 Protection of trees on development sites.*

1.3 Safe Useful Life Expectancy (S.U.L.E)

The reference sheet below explains the categories used within the S.U.L.E system of assessment.

Safe Useful Life Expectancy Categories (Updated 04/01)

This reference sheet should be included as supplementary information with all reports where a SULE assessment is an element. Additionally, it can be copied and covered with a laminated plastic protective sheet and used as a field sheet to help with data collection.

Safe Useful Life Expectancy Categories (Updated 01/04/01)

1: **Long SULE:** Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.

- **(a)** Structurally sound trees located in positions that can accommodate future growth.
- **(b)** Trees that could be made suitable for retention in the long term by remedial tree care.
- **(c)** Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.

2: **Medium SULE:** Trees that appeared to be retainable at the time of assessment for 15–40 years with an acceptable level of risk.

- **(a)** Trees that may only live between 15 and 40 more years.
- **(b)** Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.
- **(c)** Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- **(d)** Trees that could be made suitable for retention in the medium term by remedial tree care.

3: **Short SULE:** Trees that appeared to be retainable at the time of assessment for 5–15 years with an acceptable level of risk.

- **(a)** Trees that may only live between 5 and 15 more years.
- **(b)** Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.
- **(c)** Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- **(d)** Trees that require substantial remedial tree care and are only suitable for retention in the short term.

4: **Remove:** Trees that should be removed within the next 5 years.

- **(a)** Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.
- **(b)** Dangerous trees because of instability or recent loss of adjacent trees.
- **(c)** Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.
- **(d)** Damaged trees that are clearly not safe to retain.
- **(e)** Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- **(f)** Trees that are damaging or may cause damage to existing structures within 5 years.
- **(g)** Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).
- **(h)** Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.

5: **Small, young or regularly pruned:** Trees that can be reliably moved or replaced.

- **(a)** Small trees less than 5m in height.
- **(b)** Young trees less than 15 years old but over 5m in height.
- **(c)** Formal hedges and trees intended for regular pruning to artificially control growth.

1.4 Tree AZ rating system

TreeAZ Categories Field Sheet (Version 10.04-ANZ)

CAUTION: TreeAZ assessments must be carried out by a competent person qualified and experienced in arboriculture. The following category descriptions are designed to be a brief field reference and are not intended to be self-explanatory. They must be read in conjunction with the most current explanations published at www.TreeAZ.com.

Category Z: Unimportant trees not worthy of being a material constraint

	Local policy exemptions: Trees that are unsuitable for legal protection for local policy reasons including size, proximity and species
Z1	Young or insignificant small trees, i.e. below the local size threshold for legal protection, etc
Z2	Too close to a building, i.e. exempt from legal protection because of proximity, etc
Z3	Species that cannot be protected for other reasons, i.e. scheduled noxious weeds, out of character in a setting of acknowledged importance, etc
	High risk of death or failure: Trees that are likely to be removed within 10 years because of acute health issues or severe structural failure
Z4	Dead, dying, diseased or declining
Z5	Severe damage and/or structural defects where a high risk of failure cannot be satisfactorily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, overgrown and vulnerable to adverse weather conditions, etc
Z6	Instability, i.e. poor anchorage, increased exposure, etc
	Excessive nuisance: Trees that are likely to be removed within 10 years because of unacceptable impact on people
Z7	Excessive, severe and intolerable inconvenience to the extent that a locally recognized court or tribunal would be likely to authorize removal, i.e. dominance, debris, interference, etc
Z8	Excessive, severe and intolerable damage to property to the extent that a locally recognized court or tribunal would be likely to authorize removal, i.e. severe structural damage to surfacing and buildings, etc
	Good management: Trees that are likely to be removed within 10 years through responsible management of the tree population
Z9	Severe damage and/or structural defects where a high risk of failure can be temporarily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, vulnerable to adverse weather conditions, etc
Z10	Poor condition or location with a low potential for recovery or improvement, i.e. dominated by adjacent trees or buildings, poor architectural framework, etc
Z11	Removal would benefit better adjacent trees, i.e. relieve physical interference, suppression, etc
Z12	Unacceptably expensive to retain, i.e. severe defects requiring excessive levels of maintenance, etc

NOTE: Z trees with a high risk of death/failure (Z4, Z5 & Z6) or causing severe inconvenience (Z7 & Z8) at the time of assessment and need an urgent risk assessment can be designated as ZZ. ZZ trees are likely to be unsuitable for retention and at the bottom of the categorization hierarchy. In contrast, although Z trees are not worthy of influencing new designs, urgent removal is not essential and they could be retained in the short term, if appropriate.

Category A: Important trees suitable for retention for more than 10 years and worthy of being a material constraint

A1	No significant defects and could be retained with minimal remedial care
A2	Minor defects that could be addressed by remedial care and/or work to adjacent trees
A3	Special significance for historical, cultural, commemorative or rarity reasons that would warrant extraordinary efforts to retain for more than 10 years
A4	Trees that may be worthy of legal protection for ecological reasons (Advisory requiring specialist assessment)

NOTE: Category A1 trees that are already large and exceptional, or have the potential to become so with minimal maintenance, can be designated as AA at the discretion of the assessor. Although all A and AA trees are sufficiently important to be material constraints, AA trees are at the top of the categorization hierarchy and should be given the most weight in any selection process.

Further explanations to assist categorization

Z1	Any existing statutory definitions of trees that are too small to be legally protected should be applied and trees less than those heights or diameters will be Z1. If there are none, then if the tree has been planted for less than 5 years it is Z1. If it is less than 5m in height, it will be Z1 unless it is significant, i.e. clearly mature, but small trees are not Z1. If it is greater than 10m in height it is not Z1 unless it was planted in the last 5 years. Applying Z1 to trees between 5–10m is a matter of judgment; the most obvious test being that the tree could be easily and reliably moved or replaced. Ideally, the replacement tree should not be less than 20% of the replaced tree's trunk, height and spread dimensions.
Z2	Any existing statutory rules that prevent protection of trees within a fixed distance of a structure will allow a tree to be subcategorized as Z2.
Z3	Any existing statutory rules or guidance that prevent protection of trees for reasons other than size and proximity dictate Z3, i.e. invasive or alien species. If none exist, then Z3 cannot be applied.
Z4	This subcategory is for trees that are unlikely to recover from a serious health problem. The condition must be terminal with no obvious potential to recover, i.e. severe crown dieback related to excavation damage or root decay, to the extent that the structural branch framework is compromised. Trees that are likely to recover or improve should not be placed in this subcategory, i.e. trees suffering from a foliar problem that has little impact on the branch framework and varies from year to year.
Z5	Severe means so bad that there is no realistic chance of the tree achieving its full potential and there is a high of failure risk. In many cases, the risk of failure can be reduced by dramatic reduction in tree size, but this has severe health, maintenance cost and amenity implications, so is unlikely to be a sustainable management option. A common example is a severely unbalanced tree within a group that will be particularly vulnerable in adverse weather conditions and the adjacent trees mean there is no hope of remedial works resulting in an

	improvement. Topped trees do not automatically fit into this subcategory, although there is an obvious temptation. Species prone to decay, such as willow and poplar, often have severe decay at the origin of vigorous re-growth, creating a high risk of failure in adverse weather conditions. Z5 is clearly appropriate for them. However, this needs to be a careful judgment because topping in itself does not necessarily condemn a tree to this subcategory. Some trees, such as plane, oak and lime, are particularly good at coping with this treatment and often are able to mature with a low risk of failure. If remedial works will allow the tree to be retained with no significant adverse impact on amenity, health or maintenance costs, then it does not fit here.
Z6	Trees can become poorly anchored because of soil erosion through climatic factors, i.e. water or wind, wear from traffic - pedestrian or vehicular, changing soil conditions - increasing wetness, sudden and severe physical stress from storms and root damage such as decay or severance reducing root strength. In some case, i.e. storm induced instability, there may be a realistic chance of recovery and a subcategorization of Z6 may be premature. However, if excessive remedial work is required, it is likely that Z6 is a defensible subcategory. Alterations to tree exposure to the wind occurs because of changes in the shelter provided by adjacent objects such as buildings or trees. This often applies to groups of trees where one large dominant individual will be lost because of poor health or a structural problem, which then dramatically exposes the remaining trees.
Z7	• **Establishing thresholds of acceptable levels of inconvenience:** In its broadest sense, inconvenience is the interference with the authorized use of land. In relation to trees, it can be in the form of roots disrupting landscaping and hard surfacing, parts of trees physically preventing land use, tree debris such as leaves and fruit falling and tree crowns causing excessive shade. The principles for establishing what are acceptable levels of inconvenience are the same irrespective of the cause. In a community context, it is generally accepted that trees provide a significant benefit to society and it is reasonable for individuals to tolerate some level of inconvenience from their presence. However, the precise location or value of these thresholds is not always obvious and is often a subjective interpretation rather than a definitive point. There will always have to be a balancing of the benefit to the community weighed against the inconvenience suffered by the individual. What is an acceptable, tolerable or reasonable level of inconvenience is often a matter of judgment for each specific situation, tempered by experience and common sense. This, in turn, should be guided by court, tribunal and planning decisions that have made informed judgments on these issues. • **Common examples:** Very large trees near existing occupied buildings can dominate to the extent that the disbenefit from the anxiety of the occupants outweighs the benefit of the tree. Regular and severe staining caused by fallen debris to a swimming pool surround may be unacceptable because the stark contrast in colours creates a dirty impression whereas the same staining on a path or drive surface may be more acceptable. In contrast, falling leaves blocking gutters causing them to be cleaned once a year is not that much of a local inconvenience in the context of the wider benefits that trees impart. • **Making the decision:** Assessing inconvenience is almost entirely a subjective judgment, based on experience and understanding of what is perceived as being reasonable and unreasonable for a normal person. As with all these judgments, a simple test is to imagine a court hearing where a judge has to decide if the levels of inconvenience are intolerable. If they are, then the tree is Z7; if they are not that bad, then the tree belongs in another subcategory.
Z8	Where more serious damage occurs to property from root action, then court/tribunal judgments on liability help to focus on what level of damage is deemed tolerable by society. The most common example is direct damage from roots, trunks and branches to structures and surfacing. Repairs to walls may require such extensive excavation and cutting of roots that the tree cannot be retained. However, the use of innovative techniques may reduce root damage, but still produce a viable boundary, allowing the tree to be retained. Root damage to surfacing is often a sustainable reason for removal if rectifying the damage will significantly adversely affect the tree. In contrast, the potential for roots to deform surfacing would be a less reliable basis for allocation to this subcategory because it is so unpredictable. As a general rule, there would need to be good evidence for ongoing damage, with little scope for remedial works, before a tree could be reliably allocated to this subcategory.
Z9	This is a similar subcategory to Z5, but where the defect is not so severe that remedial works have to be extensive and immediate. Quite often, there are less severe defects that are so bad there is no realistic potential for the tree to improve, but it could be retained in the short term with some significant remedial works. This would only be seen as a temporary measure because to continue applying the same principle would not be cost-effective compared to replacement. A typical example would be a tree with a large and progressive cavity that will clearly prevent it ever improving its condition or contribution to amenity. However, substantial thinning and reduction would allow it to be retained in the short term to allow other replacement trees to develop to buffer its inevitable loss. The benefit of retaining it in the short term might outweigh the cost of doing the works as a one-off, but not on a regular basis.
Z10	It is common to find trees that are obviously not good enough for long term retention because they look unhealthy or are so unbalanced or so tall and thin or that they will never improve. However, the problems are not so severe that there is a high risk of death or failure, and they cannot be discounted for that reason. This subcategory is for those trees and relies on the principle of sustained amenity to justify the allocation. Trees with no potential to improve are taking up space where new trees could be growing, which would be enhancing the desirable objective of an uneven age class structure. The replacements would obviously be small trees and these would then fall into the Z1 subcategory. As set out in the Z1 explanations, the precise location on the site is not often that critical, so these trees would not generally be considered worthy of being a material constraint.
Z11	This applies to trees in groups where one individual is destructively interfering with another. The judgment of which is the better tree is obviously subjective and would be informed by which tree had the best potential for sustainable retention. An obvious example is one tree growing up through another and directly rubbing causing damage. Retaining both would probably result in the loss of each, whereas removing one may allow the other to achieve its full potential. Another example would be one tree shading and preventing the sustainable development of a neighbour to the extent that both trees would be prematurely removed if left alone. The removal of one tree may be justified if it allowed the remaining tree to reach its full potential. If both trees could be retained as a group and achieve their full potential, then they should not be included in this subcategory.
Z12	This is a matter of judgment and may vary widely. It primarily applies to existing trees that are not suited to their location, but there is resistance to their replacement. As a general principle, all trees will incur some management costs and these would normally not be a valid reason for removal. However, as those costs increase, their acceptability decreases to a point where it will be more cost-effective to plant a new tree more suited to the location rather than incur the burden of repeated and excessive costs indefinitely. Typical examples include topped trees with excessive decay, pollarded trees to reduce subsidence risk, trees beneath power lines and trees close to buildings, roads and paths. All these examples will require high levels of maintenance that may not be financially acceptable unless the benefits that arise from retaining the trees are particularly high.
A1	Trees that do not require any specific remedial works above those that would be required for normal maintenance.
A2	Trees with minor defects likely to recover from remedial works to be retainable in the long term, i.e. pollards with little decay.
A3	'Special' means unusual, rare or uncommon, i.e. a tree of some historical/cultural significance, etc.
A4	Trees can be valuable ecological habitat that may be protected by legislation, which may be a material constraint on the type and timing of changes that can occur on a site. If an ecological assessment has not been carried out by the time of the survey, and the arborist suspects there may be habitat issues, the tree should be identified as A4, and specialist assessment should be sought.

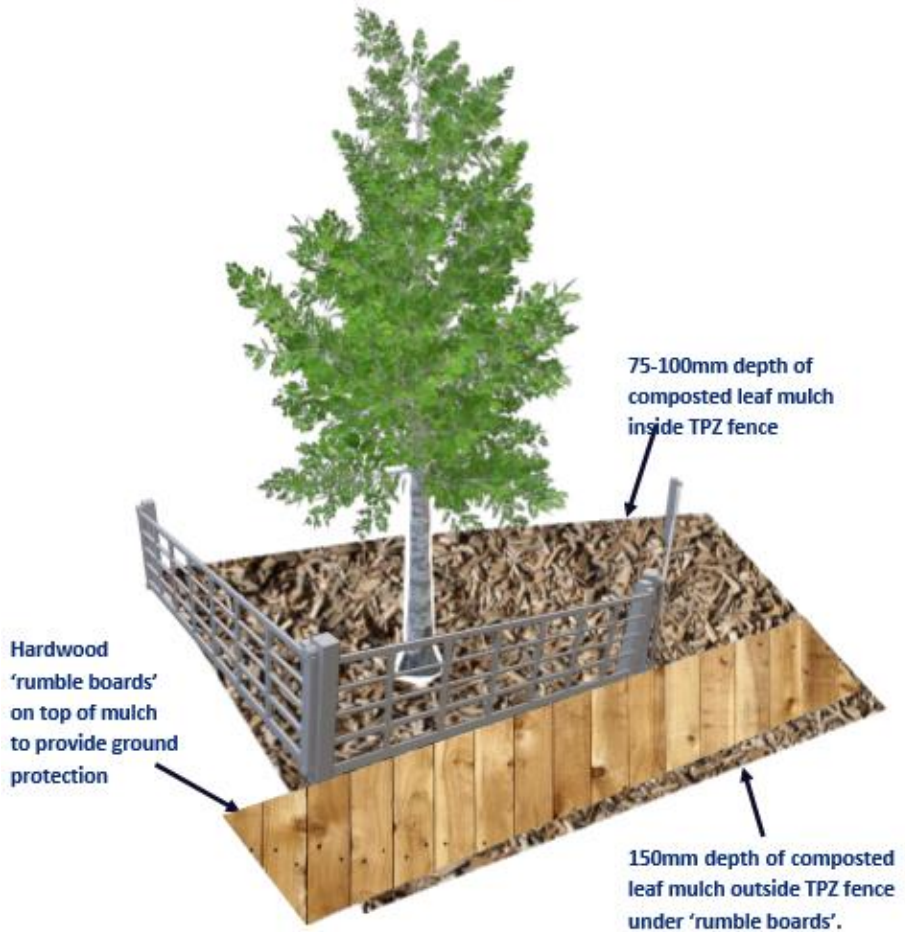
Appendix 2- Generic Tree protection measures

Tree protection measures are used to isolate the calculated tree protection zone from the impacts of construction activities. Tree protection measures come in many different forms and types depending on the type of protection required for the situation. The protection measures can be broadly considered as tree root protection, canopy protection or trunk and branch protection.

Tree root protection: TPZ Fencing- Figure 1

Tree root protection is generally achieved with the allocation and delineation of a tree protection zone (TPZ) in accordance with AS4970-2009- The Protection of Trees on Development Sites. Temporary fencing is used to isolate the area from construction activity and restrict unauthorized access. Where access into the TPZ is required and unavoidable, ground protection measures may be recommended to ensure that the tree roots which are to be protected remain undamaged during works within the TPZ. Any works within the allocated tree protection zones must be directly supervised by a project Arborist with a minimum AQF level 5 qualification. In situations where there are low lying tree branches to be protected, the TPZ may be extended beyond the calculated TPZ in order to incorporate canopy protection as shown below.

Ground protection: Access road within TPZ- Figure 2.



Trunk and branch protection- Figure 3.

Tree protection specifications:

In accordance with AS4970-2009- The Protection of Trees on Development Sites, activities restricted within the TPZ include but are not limited to:

a) Machine excavation including trenching.
b) Excavation for silt fencing.
c) Cultivation.
d) Storage of materials or machinery.
e) Preparation of chemicals, including cement products.
f) Parking of vehicles and plant.
g) Refuelling of machinery.
h) Dumping of waste.
i) Wash down and cleaning of equipment.
j) Placement of fill.
k) Lighting fires.
l) Soil level changes.
m) Temporary or permanent installation of utilities and signs.
n) Physical damage to the tree.

Tree protection fencing:

Tree protection fencing is to be installed prior to site establishment, demolition or commencement of any works on site.

All fencing must be chainmesh fencing 1.8m in height, secured with concrete 'feet' and in accordance with AS4678-Temporary Fencing and Hoardings. Depending on the type of development, shade cloth or similar may be recommended to reduce the spread of dust, particulate matter and liquids into the protected area. Silt fencing may also be required and may be incorporated into the TPZ fencing if required. Once the TPZ fencing has been installed the site Arborist must provide a letter of certification of tree protection measures to the client which may be forwarded on to the private certifier or council. Tree protection fencing is not to me moved, realigned, dismantled or tampered with in any way and shall only be relocated under instruction of the project Arborist. (See Figure 1)

If the protective fencing requires temporary removal, trunk, branch and ground protection must be installed and must comply with AS 4970-2009 - Protection of trees on development sites. Existing fencing and site hoarding may be used as tree protection fencing, providing the TPZ remains isolated from construction activities. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Ground protection may include a permeable membrane such as geotextile fabric beneath a layer of mulch, crushed rock or rumble boards.

Any additional construction activities within the TPZ of the subject trees must be assessed and approved by the project arborist and must comply with AS 4970- 2009 - Protection of trees on development sites.

Tree protection signage:

Tree protection zone signage must be installed and clearly visible from all angles within the site stating, "NO ENTRY TREE PROTECTION ZONE" and phone numbers for the site Arborist and site supervisor/foreman must be provided. TPZ signage must be laminated or otherwise protected to ensure that it remains legible for the duration of the project. (See Figure 1)

Ground protection:

Where access into the TPZ of a tree is necessary and unavoidable, the project Arborist must specify the methods of additional protection required. This may be ground protection in the form of 150mm depth of composted mulch beneath hardwood 'rumble boards' alternatively track mats or road plates may be used (See figure 2). Tree roots are essential for the uptake/absorption of water, oxygen and mineral ions (solutes). It is essential to prevent the disturbance of the soil beneath the dripline and within the TPZ of trees that are to be retained. Soil compaction within the TPZ will adversely affect the ability of roots to function correctly.

Generally, soil level changes within the TPZ of a tree is not recommended and is contrary to AS4970-2009 The Protection of Trees on Development Sites. Certain circumstances can arise where this may be necessary, and the requirements must be carefully considered by the project Arborist. If the grade is to be raised within the TPZ, the material should be coarser or more porous than the underlying material and the suitability of this action must be assessed by the project Arborist.

Trunk and branch protection:

Where there is the risk of accidental mechanical damage due to narrow access paths or large machinery movements, trunk and branch protection may also be recommended (see figure 3). The removal of bark or branches allows the potential ingress of micro-organisms which may cause decay. Furthermore, the removal of bark restricts the trees' ability to distribute water, mineral ions (solutes), and glucose.

Trunk protection shall consist of a layer of either Hessian wrapping, carpet underlay, geotextile fabric or similar wrapped around the trunk, followed by softwood timbers approximately 100mm wide, aligned vertically and spaced evenly around the trunk (with an approx. 100 mm gap between the timbers).

The timbers must be secured using galvanized hoop strapping or tie wire. The timbers shall be wrapped around the trunk but not fixed to the tree with nails, screws or other means, as this will cause injury/damage to the tree.

Crown protection:

Tree crowns/canopy may be injured or damaged by machinery such as; excavators, drilling rigs, trucks, cranes, plant and vehicles. Where crown protection is required, it will usually be located at least one meter outside the perimeter of the crown.

Crown protection may include the installation of a physical barrier, pruning selected branches to establish clearance, or the tying/bracing of branches.

Supervision of works within the TPZ:

If incursion/excavation amounting to greater than 10% of the TPZ is unavoidable, exploratory excavation (under the supervision of the Project Arborist) using non-destructive methods may be considered to evaluate the extent of the root system affected and determine if the tree can remain viable.

If the project arborist identifies conflicting roots that require pruning, they must be pruned with a sharp implement such as; secateurs, pruners, handsaws or a chainsaw back to undamaged tissue. All works within the TPZ of any tree to be retained must be completed under the direct supervision of the project Arborist. This may include non-destructive excavation or hand digging to locate individual piers or fence posts.

The project Arborist is to recommend measures to protect and preserve any roots uncovered during these activities, this may include wrapping the tree roots in hessian or similar and keeping them moist to prevent desiccation.

Any tree roots which are damaged are to be assessed by the supervising Arborist who is to determine the best course of action. If root pruning is recommended, the project Arborist should sever the damaged roots cleanly back to undamaged tissue and cover the exposed portion of root to prevent desiccation.

Where significant roots have been pruned, the project Arborist should complete a letter of certification including a root mapping report explaining the number and diameter of roots which were severed, what impacts are likely and provide recommendations for mitigation of such impacts if required.

All supervision works must be completed by an Arborist with a minimum AQF level 5 in Arboriculture.

Hold points/ certification:

Arborist involvement will be required throughout the development process at key milestones, at a minimum these are:

1. Certification of tree protection installation prior to site establishment
2. Monthly inspection of trees to ensure tree protection measures are effective.
3. Supervision and certification of any works within tree protection zones.
4. Removal of tree protection measures and final certification.

The approved tree protection plan must be available onsite prior to the commencement of works, and throughout the entirety of the project. To ensure the tree protection plan is implemented, hold points have been specified in the schedule of works for Arborist involvement. It is the responsibility of the principal contractor to complete each of the tasks. Once each stage is reached, the work will be inspected and certified by the project arborist and the next stage may commence. Alterations to this schedule may be required due to necessity. However, this shall be through consultation with the project arborist only.

A recommended schedule of works for Arborist involvement is as follows:

Pre-construction:	Prior to demolition and site establishment indicate clearly (with spray paint on trunks) trees marked for removal only. Tree protection (for trees that will be retained) shall be installed prior to demolition and site establishment, this will include mulching of areas within the TPZ. Scheduled inspection of trees by the project arborist should be undertaken monthly during the construction period.
During Construction:	Inspection of trees by project arborist after all major construction has ceased, following the removal of tree protection measures.
Post Construction:	Final inspection of trees by project arborist to confirm tree condition and provide final letter of certification.