

ADVERTISED PLAN

MA  **Molloy Arboriculture Pty Ltd**

Arboricultural Assessment Report

Monday, 5 September 2022

Site Address:

Emmanuel College 423 Blackshaws Road, Altona North

Prepared for:

Watson Young Architects

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1. EXECUTIVE SUMMARY

The purpose of this report is to provide the findings of an assessment of eighty-six (86) significant tree features on the subject site that may present constraints to future works on the site.

The trees surveyed are a mix of exotic and native species with all trees on the subject site considered planted. Two trees (43 & 44) in adjacent private property are likely to be self-sown due to the species.

The general health and structure of the trees surveyed is considered good with some individuals having minor defects that are expected to respond to typical arboricultural treatments.

The Monterey Cypress to the south of the site are in the poorest condition with evidence of Cypress Dieback Complex with areas of dieback within the canopies noted. The trees are expected to decline over time and site disturbance is likely to increase the rate at which this occurs.

A small number of the trees surveyed require a local law permit with the majority under size.

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2. SCOPE AND REPORT OBJECTIVES

This report is prepared at the request of Ben Di Clemente of Watson Young Architects Pty Ltd to prepare an Arboricultural Assessment Report for significant trees on the subject site in designed study areas.

The report objectives are:

- To assess the vigour, structure and overall condition of significant trees within the defined study areas;
- To provide recommendations for the suitability of retention of the surveyed trees based on observed characteristics;
- Determine the constraints that retention of individual tree features may have on future use of the site
- Determine any relevant statutory controls that apply to the site regarding vegetation removal; and
- To provide a plan showing numbering of the trees surveyed.



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3. SITE ANALYSIS AND SURVEY METHODOLOGY

3.1. Site Analysis

The subject site is a rectangular lot of approximately 79327m² located in an established residential area and currently used as a school.

The northern portion of the site is a large grass sporting field with tennis courts on the western side. The central portion of the site is occupied by various buildings including administration and classrooms.

The southern portion of the site is occupied by an artificial turf playing field with a large grassed area to the west.

A 1.83m wide drainage easement runs along the entire western boundary.

The site has gentle slope of approximately 3m from the norther west to south east.

Three study areas where designated with area 1 predominately containing buildings with the remaining 2 study areas generally open ground

3.2. Planning and Local Regulations

The subject site is located at Emmanuel College 423 Blackshaws Road, Altona North and is within a *General Residential Zone – Schedule 3 (GRZ3)* of the Hobsons Bay Planning Scheme. Vegetation removal on the subject site and neighbouring properties is limited by the Hobsons Bay City Council Community Local Law 2015 Part 5 Safety – people and Property 47. Street and tree protection.

47. Street tree and tree protection

1. A **person** other than an **authorised officer** or a **person** authorised by an **authorised officer** must not destroy, cut, trim, prune or otherwise interfere with a street tree.

Penalty

On the spot infringement 4 penalty units

Maximum court penalty 20 penalty units

2. A **person** must not without a **permit** destroy or remove any tree that has a trunk diameter greater than 45 centimetres measured 1.5 metres above ground level.

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3.3. Survey Methodology

A site visit was conducted on Thursday, 2 June 2022 and Thursday 30 June 2022 by Simon Molloy of Molloy Arboriculture for the purposes of data collection and to assess the trees and site conditions. Detailed data is contained within the Tree Data table in section 6 and tree numbers correspond to the Site Plans located at section 7.

- The subject trees were identified to Genus/Species in the field and is considered as common with no samples taken for further identification;
- Detailed data was collected for the subject trees only;
- The subject trees were assessed from observations made as viewed from ground level with no aerial inspection undertaken to conduct an upper canopy inspection;
- A digital camera was used at ground level and within the canopy to gather photographic evidence. No alterations have been made to any photographs;
- Tree data was recorded digitally using a hand held PDA and converted to an Excel® spreadsheet;
- Height was measured using a Nikon Forestry Pro with canopy width paced out on site. Canopy width is the widest point of the canopy in a single direction
- DBH has been measured at a height of 1.4m (nominal) above natural ground and where direct access was limited an estimation has been made.
- Data has been collected to calculate the Tree Protection Zone (T.P.Z.) and Structural Root Zone (S.R.Z.) in accordance with *AS4970-2009 Protection of Trees on Development Sites.*; and
- No soil, plant material or pest and disease samples were taken for further assessment.

3.4. Documents Viewed

The following documents have been viewed during the preparation of this report:

- Department of Environment, Land, Water And Planning (2018) Planning Property Report, Emmanuel College 423 Blackshaws Road, Altona North [accessed from <http://mapshare.maps.vic.gov.au/vicplan/> , on 02/09/2021]; and
- Plan of Feature Survey prepared by CRA Survey Pty Ltd [dated 10/08/2022]
- Aerial imagery of the site.

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4. OBSERVATIONS

A total of eighty six (86) individual trees were assessed with six (6) trees located at 28-30 Rymill Court and the remaining eighty (80) trees on the subject site. Detailed tree data for the surveyed trees is contained within the table at section 6.

The vigour of the surveyed trees has been determined by assessing foliage colour, size, density, shoot initiation and elongation when compared to a typical specimen of the species.

Vigour	Good	Fair	Poor	Very Poor
Tree #	1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 42, 43, 44, 46, 48, 50, 52, 53, 55, 56, 58, 60, 61, 62, 64, 66, 67, 69, 71, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85 & 86	6, 45, 47, 49, 51, 57, 59, 63, 65, 68 & 70	39, 54 & 72	40 & 41

Table 1: Vigour of surveyed trees

Tree structure has been assessed against a typical example of the species and common arboricultural theories

Structure	Good	Fair	Poor
Tree #	1, 3, 4, 5, 7, 8, 9, 10, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 29, 31, 32, 33, 34, 35, 36, 37, 38, 44, 46, 48, 50, 52, 53, 55, 56, 58, 60, 61, 62, 64, 66, 67, 69, 71, 73, 75, 77, 78, 79, 80, 81, 82, 83, 84, 85 & 86	2, 6, 11, 39, 42, 43, 45, 47, 49, 51, 54, 57, 59, 63, 65, 68, 74 & 76	14, 25, 28, 30, 40, 41, 70 & 72

Table 2: Structure of surveyed trees

The arboricultural value of the trees assessed relates to a combination of factors including tree, vigour, structure, and age and amenity value. The amenity of the tree relates to a trees functional, aesthetic and biological characteristics in an urban context and does not relate any conservation or ecological values as place on trees by other profession

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Arboricultural Rating	No. of Trees	Tree numbers
Moderate	82	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85 & 86
Low	4	8, 20, 21 & 30

Table 3: Arboricultural rating of surveyed trees

Moderate value trees generally exhibited fair vigour, are juvenile or have some minor defects that will respond to arboricultural treatments and are expected to be medium to long term features of the landscape. These trees should generally be retained and protected with removal to occur if the design or the proposed works cannot be undertaken if the trees were retained. Moderate rated trees on neighbouring properties must be adequately protected with design to consider the impact of works on their long term vigour.

Low value trees are not considered worthy of retention and where occurring on the subject site are not a constraint on the use of the site. Low rated trees on neighbouring properties must still be protected.

Permit	No. of Trees	Tree numbers
Y		7, 22, 44, 45, 46, 47, 48, 49, 51, 65, 67, 68, 69, 71 & 73

Table 4: Permit requirements of surveyed trees

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5. CONCLUSIONS & RECOMMENDATIONS

The majority of the trees surveyed displayed the typical vigour, form and structure of the species with no interventions required.

Trees 14, 25, 28, 30, 54, 70, 72 and 77 are of low value with either vigour or structure considered poor to very poor. Removal of these trees as part of any future works would be considered to be appropriate.

Several trees were noted to be growing adjacent drainage infrastructure with disturbance noted. Repair of infrastructure should consider the potential impacts to retained trees.

Trees 1, 2, 3 and 4 are large trees in maturity and the area provided is considered insufficient with ongoing long-term damage to the adjacent infrastructure expected.

The Monterey Cypress at the southern end of the site are generally in poor condition with signs of Cypress Dieback Complex. The trees are likely to remain a component of the landscape for a significant time, however their landscape amenity will decline over this period. Failure of minor branches and continued dieback of the canopy is expected.

Trees 5, 7, 22, 41, 45, 46, 47, 49, 51, 65, 68 and 71 require a local law permit for removal.

Generally where new works are proposed adjacent trees that are to be retained encroachment should be no more than 10-15% into the TPZ. An assessment of the proposal works should be undertaken by a suitably qualified and experienced arborist to ascertain the potential impact to tree vigour or stability.

All root and canopy pruning of trees retained must be undertaken by a suitably qualified and experienced arborist in accordance with AS4373-2007 *Pruning of Amenity Trees*.

All retained trees must be adequately protected with the principle means of protection fencing or ground protection. The majority of the TPZ where occurring on the subject site and the nature strip for street trees will require protection.

Tree Protection During Construction

The following are general guidelines that must be implemented during demolition excavation and construction to minimise the impact of works on retained trees.

- The Tree Protection Zone (TPZ) of all retained trees is fenced and clearly marked at all times. Fencing should generally be compliant with the specifications as

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contained within section 4.4 of AS4970 and where required fencing is to be reduced by the minimum amount necessary to undertake approved works and replaced by ground protection.

- If required the consultant arborist is to be on-site to supervise excavation works around any retained trees where the TPZ will be encroached.
- No persons, vehicles or machinery to enter the TPZ without the consent of the consulting arborist or site manager.
- Any underground service installations within the TPZ should be bored and utility authorities should common trench where possible.
- No fuel, oil dumps or chemicals shall be allowed in or stored on the TPZ and the servicing and re-fuelling of equipment and vehicles should be carried out away from the root zones.
- No storage of material, equipment or temporary building should take place over the root zone of any tree.
- Nothing whatsoever should be attached to any tree including temporary services wires, nails, screws or any other fixing device.
- Supplementary watering should be provided to all trees through any dry periods during and after the construction process. Testing with a soil probe in a number of locations around the tree will help ascertain soil moisture levels and requirements to irrigate. Water needs to be applied slowly to avoid runoff. A daily watering with 5 litres of water for every 30 mm of trunk calliper may provide the most even soil moisture level for roots (Watson & Himelick, 1997). Irrigation should wet the entire root zone and be allowed to dry out prior to another application. Watering should continue from November until April.

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6. TREE DATA

Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
1	<i>Corymbia maculata</i>	Spotted Gum	10.4	8	28	39	Good	Good	20+	Native	Mature	Moderate	3.36	2.23
2	<i>Angophora costata</i>	Smooth Barked Apple	7.4	7	26	31	Good	Fair	20+	Native	Mature	Moderate	3.12	2.02
3	<i>Angophora costata</i>	Smooth Barked Apple	10.2	7	34	41	Good	Good	20+	Native	Mature	Moderate	4.08	2.28
4	<i>Eucalyptus microcarpa</i>	Black Box	11.5	8	31	41	Good	Good	20+	Native	Mature	Moderate	3.72	2.28
5	<i>Corymbia maculata</i>	Spotted Gum	20.2	17	78	99	Good	Good	20+	Native	Mature	Moderate	9.36	3.3
6	<i>Eucalyptus leucoxylon</i> "Rosea"	Red Flowering Yellow Gum	17	12	38/38 (54)	57	Fair	Fair	20+	Native	Mature	Moderate	6.48	2.61
7	<i>Eucalyptus leucoxylon</i>	Yellow Gum	10.2	14	61	70	Good	Good	20+	Native	Mature	Moderate	7.32	2.85
8	<i>Eucalyptus leucoxylon</i>	Yellow Gum	4.5	4	10	14	Good	Good	20+	Native	Juvenile	Low	2	1.5
9	<i>Betula pendula</i>	Silver Birch	6	4	12	19	Good	Good	10-20	Exotic	Mature	Moderate	2	1.65

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Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
10	<i>Gleditsia triacanthos</i> 'Sunburst'	Honey Locust	7.6	8	19	21	Good	Good	20+	Exotic	Mature	Moderate	2.28	1.72
11	<i>Acer palmatum</i>	Japanese Maple	4	4	16	21	Good	Fair	10--20	Exotic	Mature	Moderate	2	1.72
12	<i>Pyrus calleryana</i> 'Capital'	Capital Pear	6	3	19	20	Good	Good	20+	Exotic	Mature	Moderate	2.28	1.68
13	<i>Pyrus calleryana</i> 'Capital'	Capital Pear	6	3	19	20	Good	Good	20+	Exotic	Mature	Moderate	2.28	1.68
14	<i>Pyrus calleryana</i> 'Capital'	Capital Pear	5.5	3	10/7 (12)	18	Good	Poor	20+	Exotic	Mature	Moderate	2	1.61
15	<i>Pyrus calleryana</i> 'Capital'	Capital Pear	6	3	17	19	Good	Good	20+	Exotic	Mature	Moderate	2.04	1.65
16	<i>Prunus cerasifera</i> 'Nigra'	Purple Plum	5	3	16	17	Good	Good	20+	Exotic	Semi Mature	Moderate	2	1.57
17	<i>Prunus cerasifera</i> 'Nigra'	Purple Plum	5	3	16	17	Good	Good	20+	Exotic	Semi Mature	Moderate	2	1.57
18	<i>Prunus cerasifera</i> 'Nigra'	Purple Plum	5	3	16	17	Good	Good	20+	Exotic	Semi Mature	Moderate	2	1.57

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Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
19	<i>Prunus cerasifera</i> 'Nigra'	Purple Plum	5	3	16	17	Good	Good	20+	Exotic	Semi Mature	Moderate	2	1.57
20	<i>Pinus halepensis</i>	Aleppo Pine	2	2	10	13	Good	Good	20+	Exotic	Juvenile	Low	2	1.5
21	<i>Acer x freemanii</i> 'Jeffersred' (?)	Autumn Blaze Maple	6	3	8	9	Good	Good	20+	Exotic	Juvenile	Low	2	1.5
22	<i>Melaleuca styphelioides</i>	Prickly leaved Paperbark	7.6	10	68	70	Good	Good	20+	Native	Mature	Moderate	8.16	2.85
23	<i>Waterhousia floribunda</i>	Weeping Lilly Pilly	8.4	9	23	37	Good	Good	20+	Native	Mature	Moderate	2.76	2.18
24	<i>Fraxinus americana</i>	White Ash	9	10	34	42	Good	Good	20+	Exotic	Mature	Moderate	4.08	2.3
25	<i>Waterhousia floribunda</i>	Weeping Lilly Pilly	10	11	26/21/ 8/11 (36)	39	Good	Poor	10-20	Native	Mature	Moderate	4.32	2.23
26	<i>Pyrus calleryana</i> 'Capital'	Capital Pear	12	3	15	19	Good	Good	20+	Exotic	Mature	Moderate	2	1.65
27	<i>Betula pendula</i>	Silver Birch	9	6	17	22	Good	Good	20+	Exotic	Mature	Moderate	2	1.65

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Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
28	<i>Cupressus sempervirens</i>	Mediterranean Cypress	6	5	12/12/ 11/8/4 (22)	22	Good	Poor	20+	Exotic	Mature	Moderate	2.64	1.75
29	<i>Pyrus calleryana</i>	Callery Pear	9.2	11	28	34	Good	Good	20+	Exotic	Mature	Moderate	3.36	2.1
30	<i>Pyrus calleryana</i>	Callery Pear	7	1	10	15	Good	Poor	20+	Exotic	Mature	Low	2	1.5
31	<i>Pyrus calleryana</i>	Callery Pear	9.2	11	34	39	Good	Good	20+	Exotic	Mature	Moderate	4.08	2.23
32	<i>Pyrus calleryana</i>	Callery Pear	9.2	10	35	43	Good	Good	20+	Exotic	Mature	Moderate	4.2	2.32
33	<i>Acer</i>	Jeffers red	4	3	14	18	Good	Good	20+	Exotic	Mature	Moderate	2	1.61
34	<i>Pyrus calleryana</i>	Capital Pear	4	2	12	14	Good	Good	20+	Exotic	Juvenile	Moderate	2	1.5
35	<i>Pyrus calleryana</i>	Callery Pear	4	2	11	13	Good	Good	20+	Exotic	Mature	Moderate	2	1.5
36	<i>Pyrus calleryana</i>	Callery Pear	4	2	11	13	Good	Good	20+	Exotic	Mature	Moderate	2	1.5
37	<i>Pyrus calleryana</i>	Callery Pear	4	2	10	12	Good	Good	20+	Exotic	Mature	Moderate	2	1.5
38	<i>Pyrus calleryana</i>	Callery Pear	3.5	2	9	11	Good	Good	20+	Exotic	Mature	Moderate	2	1.5
39	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	10	9	35	42	Poor	Fair	10-20	Exotic	Mature	Moderate	4.2	2.5

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Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
40	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	8	7	25/30/ 25 (46)	75	V. Poor	Poor	10-20	Exotic	Mature	Moderate	5.52	2.93
41	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	6	7	30/45 (57)	70	V. Poor	Poor	10-20	Exotic	Mature	Moderate	6.84	2.85
42	<i>Fraxinus angustifolia</i>	Desert Ash	9	8	30	40	Good	Fair	10-20	Exotic	Mature	Moderate	3.6	2.25
43	<i>Fraxinus angustifolia</i>	Desert Ash	9	8	30	40	Good	Fair	10-20	Exotic	Mature	Moderate	3.6	2.25
44	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	43	65	Good	Good	20+	Native	Mature	Moderate	5.16	2.76
45	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	10	7	53	60	Fair	Fair	20+	Exotic	Mature	Moderate	6.36	2.67
46	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	59	82	Good	Good	20+	Native	Mature	Moderate	7.08	3.04
47	<i>Hesperocyparis macrocarpa</i>	Monterey Pine	10	7	50	60	Fair	Fair	20+	Exotic	Mature	Moderate	6	2.67
48	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	43	55	Good	Good	20+	Native	Mature	Moderate	5.16	2.57

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Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
49	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	10	7	45	56	Fair	Fair	20+	Exotic	Mature	Moderate	5.4	2.59
50	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	36	51	Good	Good	20+	Native	Mature	Moderate	4.32	2.49
51	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	10	7	48	54	Fair	Fair	20+	Exotic	Mature	Moderate	5.76	2.55
52	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	38	53	Good	Good	20+	Native	Mature	Moderate	4.56	2.53
53	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	33	45	Good	Good	20+	Native	Mature	Moderate	3.96	2.37
54	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	5.5	6	36	43	Poor	Fair	10-20	Exotic	Mature	Low	4.32	2.32
55	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	34	50	Good	Good	20+	Native	Mature	Moderate	4.08	2.47
56	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	33/39 (51)	61	Good	Good	20+	Native	Mature	Moderate	6.12	2.69

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57	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	7	6	26	34	Fair	Fair	20+	Exotic	Mature	Moderate	3.12	2.1
58	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	29	34	Good	Good	20+	Native	Mature	Moderate	3.48	2.1
59	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	10	7	36	46	Fair	Fair	20+	Exotic	Mature	Moderate	4.32	2.39
60	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	42	58	Good	Good	20+	Native	Mature	Moderate	5.04	2.63
61	<i>Casuarina cunninghamiana</i>	River Sheoak	15	7	42	57	Good	Good	20+	Native	Mature	Moderate	5.04	2.61
62	<i>Casuarina cunninghamiana</i>	River Sheoak	10	5	22	32	Good	Good	20+	Native	Mature	Moderate	2.64	2.05
63	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	10	7	41	50	Fair	Fair	20+	Exotic	Mature	Moderate	4.92	2.47
64	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	35	53	Good	Good	20+	Native	Mature	Moderate	4.2	2.53

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Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
65	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	10	7	50	51	Fair	Fair	20+	Exotic	Mature	Moderate	6	2.49
66	<i>Casuarina cunninghamiana</i>	River Sheoak	14	8	28	34	Good	Good	20+	Native	Mature	Moderate	3.36	2.1
67	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	7	7	24/34 (42)	57	Good	Good	20+	Native	Mature	Moderate	5.04	2.61
68	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	7	8	56	59	Fair	Fair	20+	Exotic	Mature	Moderate	6.72	2.65
69	<i>Casuarina cunninghamiana</i>	River Sheoak	11.4	8	36	48	Good	Good	20+	Native	Senescent	Moderate	4.32	2.43
70	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	5	5	17	24	Fair	Poor	10-20	Exotic	Mature	Low	2.04	1.82
71	<i>Casuarina cunninghamiana</i>	River Sheoak	11.5	7	48	60	Good	Good	20+	Native	Mature	Moderate	5.76	2.67
72	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	6	7	39	41	Poor	Poor	10-20	Exotic	Mature	Low	4.68	2.28

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Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
73	<i>Casuarina cunninghamiana</i>	River Sheoak	14	9	34/49 (45)	83	Good	Good	20+	Native	Mature	Moderate	5.4	3.06
74	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	5	6	28	31	Fair	Fair	20+	Exotic	Mature	Moderate	3.36	2.02
75	<i>Casuarina cunninghamiana</i>	River Sheoak	10	6	22	32	Good	Good	20+	Native	Mature	Moderate	2.64	2.05
76	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	6	6	17/10/ 18/9 (28)	39	Fair	Fair	20+	Exotic	Mature	Moderate	3.4	2.23
77	<i>Casuarina cunninghamiana</i>	River Sheoak	8	6	29	42	Good	Good	20+	Native	Mature	Moderate	3.48	2.3
78	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	27	36	Good	Good	20+	Exotic	Mature	Moderate	3.24	2.15
79	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	28	36	Good	Good	20+	Exotic	Mature	Moderate	3.36	2.15
80	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	26	35	Good	Good	20+	Exotic	Mature	Moderate	3.12	2.13

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Tree #	Botanical Name	Common Name	Height (m)	Width (m)	DBH (cm)	DAB (cm)	Vigour	Structure	ULE	Origin	Age Class	Arb Rating	TPZ (m)	SRZ (m)
81	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	26	34	Good	Good	20+	Exotic	Mature	Moderate	3.12	2.1
82	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	29	35	Good	Good	20+	Exotic	Mature	Moderate	3.48	2.13
83	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	28	36	Good	Good	20+	Exotic	Mature	Moderate	3.36	2.15
84	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	31	41	Good	Good	20+	Exotic	Mature	Moderate	3.72	2.28
85	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	33	43	Good	Good	20+	Exotic	Mature	Moderate	3.96	2.32
86	<i>Hesperocyparis macrocarpa</i>	Golden Cypress	11	7	27	35	Good	Good	20+	Exotic	Mature	Moderate	3.24	2.13

Table 6-1: Tree data

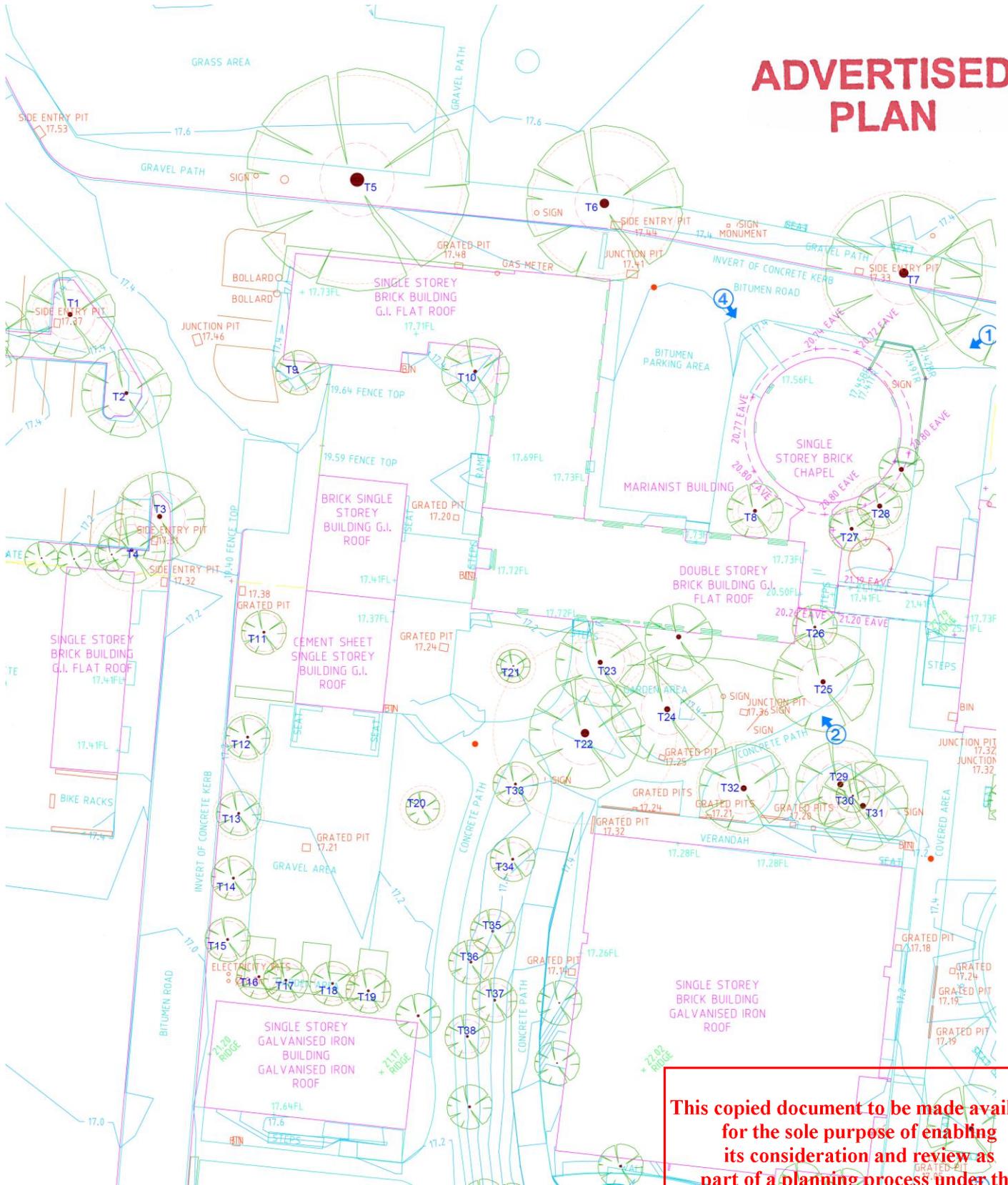
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7. SITE PLAN

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Area A



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8. PHOTOGRAPHIC CATALOGUE



Photograph 1: Tree 1



Photograph 2: Tree 2



Photograph 3: Damage to tree 2



Photograph 4: Tree 3

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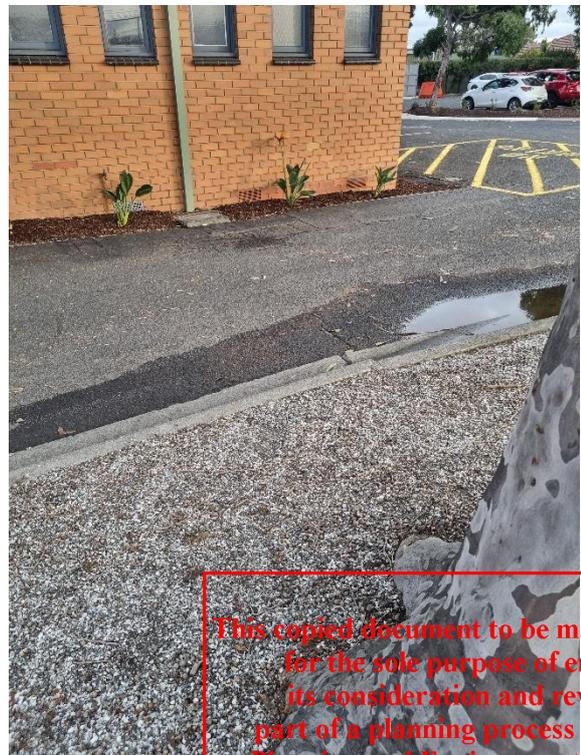
Photograph 5: Damage to infrastructure adjacent tree 3



Photograph 6: Tree 4



Photograph 7: Tree 5



Photograph 8: Damage to infrastructure adjacent tree 5

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Photograph 9: Tree 6



Photograph 10: Tree 7



Photograph 11: Tree 8



Photograph 12: Tree 9

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Photograph 13: Tree 10



Photograph 14: Tree 11



Photograph 15: Trees 12, 13, 14 and 15

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Photograph 16: Trees 16, 17, 18 and 19



Photograph 17: Tree 20



Photograph 18: Tree 21

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Photograph 19: Tree 22



Photograph 20: Tree 23



Photograph 21: Tree 24

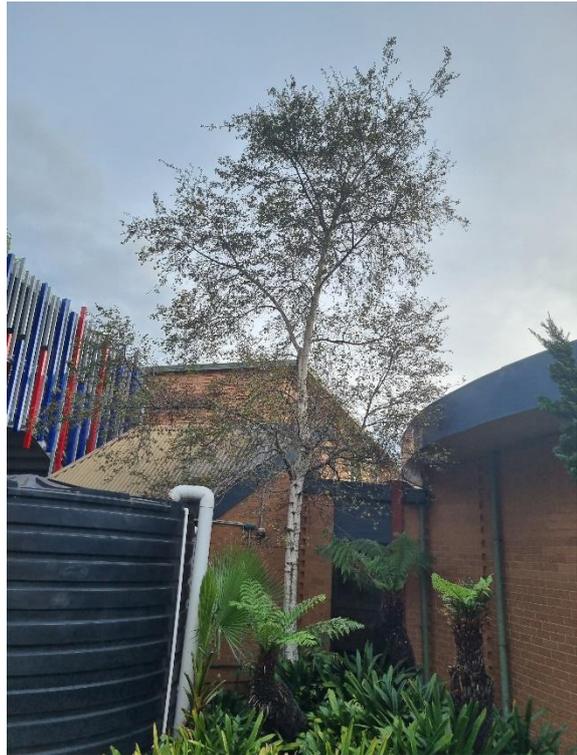


Photograph 22: Tree 25

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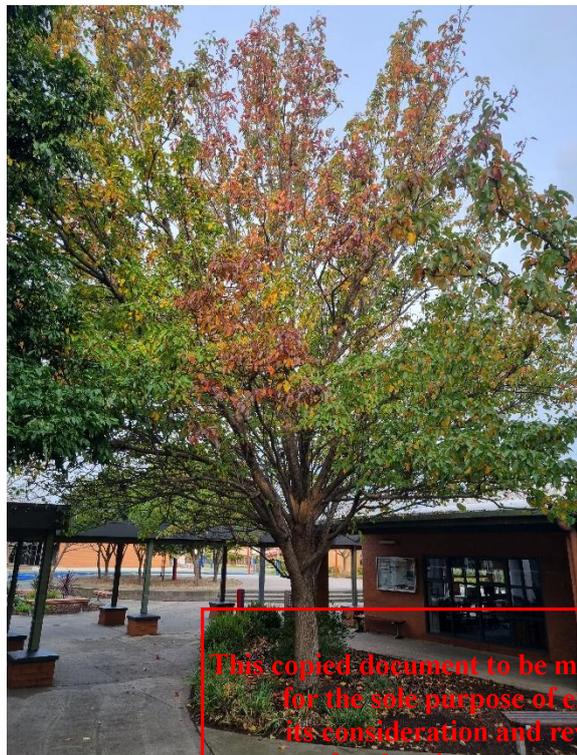
Photograph 23: Tree 26



Photograph 24: Tree 27



Photograph 25: Tree 28



Photograph 26: Trees 29 and 30

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Photograph 27: Tree 32



Photograph 28: Tree 34



Photograph 29: Trees 35, 36, 37 & 38

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Photograph 30: Trees 39, 40, 41, 42 and 43



Photograph 31: Trees 44, 45, 46, 47, and 48

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Photograph 32: Trees 49, 50, 51, 52, 53, 54, 55, 56 & 57



Photograph 33: Trees 56, 57, 58, 59, 60, 61, 62, 63, 64 & 65

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Photograph 34: Trees 61, 62, 63, 64, 65, 66 & 67



Photograph 35: Trees 68, 69, 70, 71 & 72

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Photograph 36: Trees 71, 72, 73, 74 & 75



Photograph 37: Tree 76



Photograph 38: Tree 77

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Photograph 39: Trees 78 - 86

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9. QUALIFICATIONS AND EXPERIENCE OF AUTHOR

This Arborist Report is written by Simon Molloy of Molloy Arboriculture Pty Ltd.

I have a Diploma of Applied Science Horticulture (Arboriculture) Arboriculture from University of Melbourne (1997), Graduate Certificate Arboricultural from University of Melbourne (2020) and have 25 years of practicing and consulting in the arboricultural industry. I have provided expert witness at VCAT and in law courts in Melbourne, Victoria and in British Columbia, Canada.

I have thorough arboricultural training, extensive experience and the necessary expertise in arboricultural knowledge and practices to make determinations in regards to tree health, retention value, and structural stability and positioning of trees.

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10. DEFINITION OF TERMS

- DBH – The total diameter of the tree trunk at 1.4 m from ground level.
- Where there is a multi- stemmed tree the assessor will calculate a D.B.H. as per the method described in AS4970-2009.
- T.P.Z.: The calculated area of root zone to be protected to allow for continued vigorous growth of the tree. All measurements are expressed as a radius
- S.R.Z.: The calculated area of root mass required for stability of the tree. This amount of root mass is not adequate for continued vigorous growth of the tree. All measurements are expressed as a radius

Tree Vigour

Good: The tree is demonstrating good or exceptional growth for the species. The tree should exhibit a full canopy of foliage and have only minor pest or disease problems. Foliage colour size and density should be typical of a health specimen of that species.

Fair: The tree is in reasonable condition and growing well for the species. The tree should exhibit an adequate canopy of foliage. There may be some dead wood in the crown, some grazing by insect or animals may be evident, and/or foliage colour, size or density may be atypical for a healthy specimen of that species.

Poor: The tree is not growing to its full capacity. Extension growth of the laterals may be minimal. The canopy may be thinning or sparse. Large amounts of dead wood may be evident throughout the crown, as well as significant pest and disease problems. Other symptoms of stress indicating tree decline may be present.

Very poor: The tree appears to be in a state of decline, and the canopy may be very thin and sparse. A significant volume of dead wood may be present in the canopy, or pest and disease problems may be causing a severe decline in tree health.

Dead: The tree is dead.

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Structure

- Good
- Fair
- Poor
- Very poor
- Failed

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The definition of structure is the likelihood of the tree to fail under normal condition. A tree with good structure is highly unlikely to suffer any significant failure, while a tree with poor to very poor structure is likely or very likely to fail.

Good: The tree has a well-defined and balanced crown. Branch unions appear to be strong, with no defects evident in the trunks or the branches. Major limbs are well defined. The tree would be considered a good example for the species. Probability of significant failure is highly unlikely.

Fair: The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance at some branch unions or branches may be exhibiting minor structural faults. If the tree has a single trunk, this may be on a slight lean, or be exhibiting minor defects. Probability of significant failure is low.

Poor: The tree may have a poorly structured crown, the crown may be unbalanced, or exhibit large gaps. Major limbs may not be well defined; branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered major root damage. Probability of significant failure is moderate.

Very poor: The tree has a poorly structured crown. The crown is unbalanced, or exhibits large gaps. Major limbs are not well defined. Branch unions may be poor or faulty at the point of attachment. A section of the tree has failed, or is in imminent danger of failure. Active failure may be present, or failure is probably in the immediate future.

Failed: A significant section of the tree or the whole tree has failed.

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Useful Life Expectancy (ULE)

- 0 years
- Less than 5 years
- 5 to 10 years
- 10 to 20 years
- 20 +

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Useful life expectancy is approximately how long a tree can be retained safely and usefully in the landscape providing site conditions remain unchanged and the recommended works are completed.

It is based on the principals of safety and usefulness in the landscape and should not reflect personal opinions on species suitability.

Unsafe or 0 years: The tree is considered dangerous in the location and/or no longer provides any amenity value.

Less Than 5 years: The tree under normal circumstances and without extra stress should be safe and have value of maximum of 5 years. The tree will need to be replaced in the short term. Replacement plants should be established as soon as possible if there is efficient space, or consideration should be given to the removal of the tree to facilitate replanting.

5 to 10 Years: The tree under normal circumstances and without extra stress should be safe and have value of maximum of 10 years. Trees in this category may require regular inspections and maintenance particularly if they are large specimens. Replacement plants should be established in the short term if there is sufficient space, or consideration should be given to the removal of the tree to facilitate replanting.

10 to 20 Years: The tree under normal circumstances and without extra stress should be safe and of value of up to 20 years. During this period, regular inspections and maintenance will be required.

20 + Years: The tree under normal circumstances and without extra stress should be safe and of value of more than years. During this period, regular inspections and maintenance may be required.

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Origin

- Refers to the natural distribution of the plant.
- Native refers to plants naturally occurring on mainland and all islands of Australia.
- Indigenous refers to plants that naturally occur in the particular geographic area in question
- Exotic refers to plants that do not occur naturally on mainland Australia or all islands

Age Class

- Juvenile plants are those that still exhibit juvenile foliage and characteristics such as narrow vertical form for large spreading trees and are expected to continue vigorous growth
- Semi mature plants are those that exhibit typical mature form and foliage but are still vigorously growing. Vigorous growth and further increase in size is expected
- Mature plants are those that are at the expected largest size for the plant and exhibit some growth. These plants are expected to maintain themselves without significant increase in size
- Senescent plants are those that exhibit dead sections in the canopy or have areas of significant decay. There may be some decrease in the overall size of the plant and failure of structural limbs for trees. Plant is not expected to be a long term component of the landscape dependent on species

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Arboricultural Rating

Relates to the combination of previous tree condition factors, including vigour, structure and U.L.E. and also conveys an amenity value.

Category Description**High**

- Tree of high quality in good to fair condition. Generally a prominent Arboricultural feature. Tree is capable of tolerating changes in its environment. These trees have the potential to be a medium- to long-term component of the landscape if managed appropriately. Retention of these trees is highly desirable.

Moderate

- Tree of moderate quality, in fair or better condition. Tree may have a condition, and or structural problem that will respond to Arboricultural treatment. Tree is capable of tolerating changes in its environment. These trees have the potential to be a medium- to long-term component of the landscape if managed appropriately. Retention of these trees is generally desirable.

Low

- Tree of low quality and/or little amenity value. Tree in poor health and/or with poor structure. Tree unlikely to respond positively to changes in its environment and does not warrant design modification to preserve it.
- Tree is not significant for its size and/or young. These trees are easily replaceable.
- Tree (species) is functionally inappropriate to specific location and would be expected to be problematic if retained.
- Retention of such trees may be considered if not requiring a disproportionate expenditure of resources for a tree in its condition and location.

None

- Tree has a severe structural defect and/or health problem that cannot be sustained with practical Arboricultural techniques and the loss of tree would be expected in the short-term.
- Tree whose retention would be unviable after the removal of adjacent trees (includes trees that have developed in close spaced groups and would not be expected to acclimatise to severe alterations to surrounding environment – removal of adjacent shelter trees)
- Tree has a detrimental effect on the environment, for example, the tree is a woody weed.

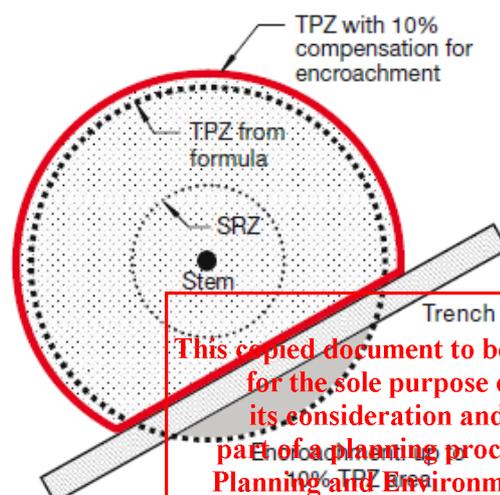
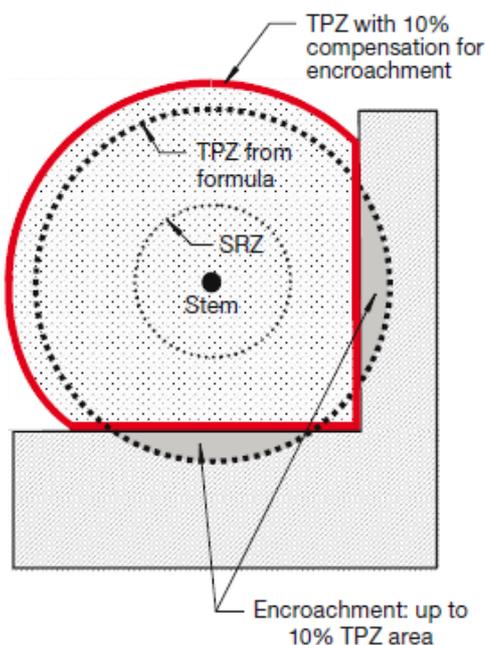
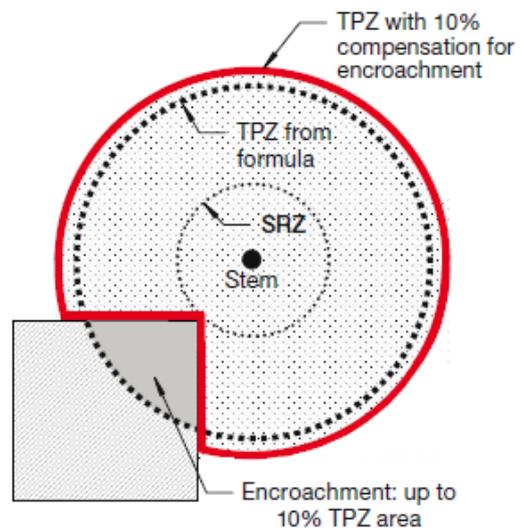
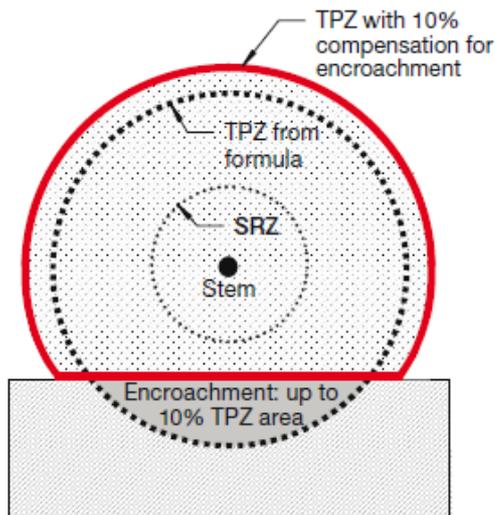
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Encroachment into Tree Protection Zone

(Informative)

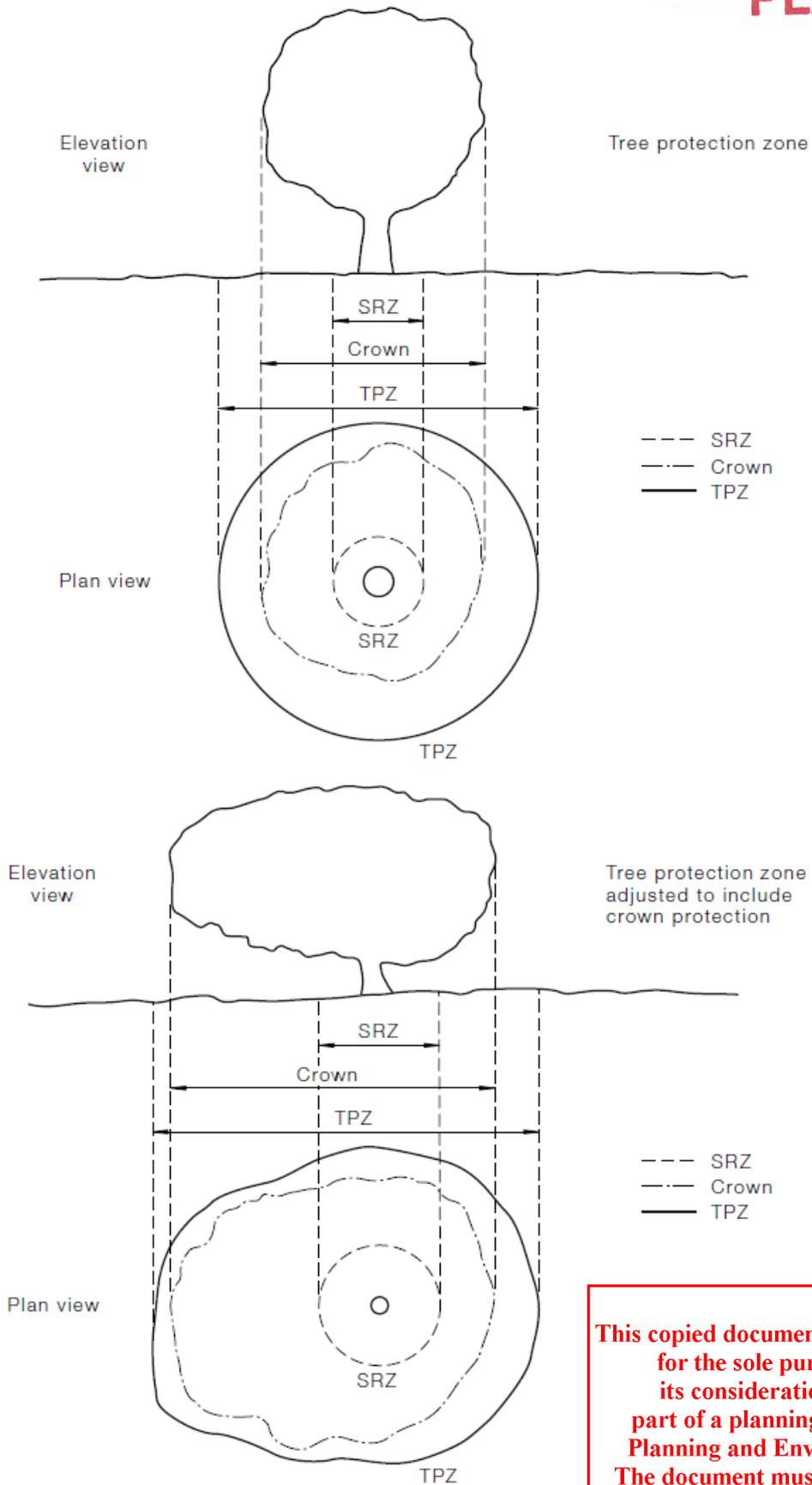
Encroachment into the tree protection zone (T.P.Z.) is sometimes unavoidable.



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Indicative Tree Protection

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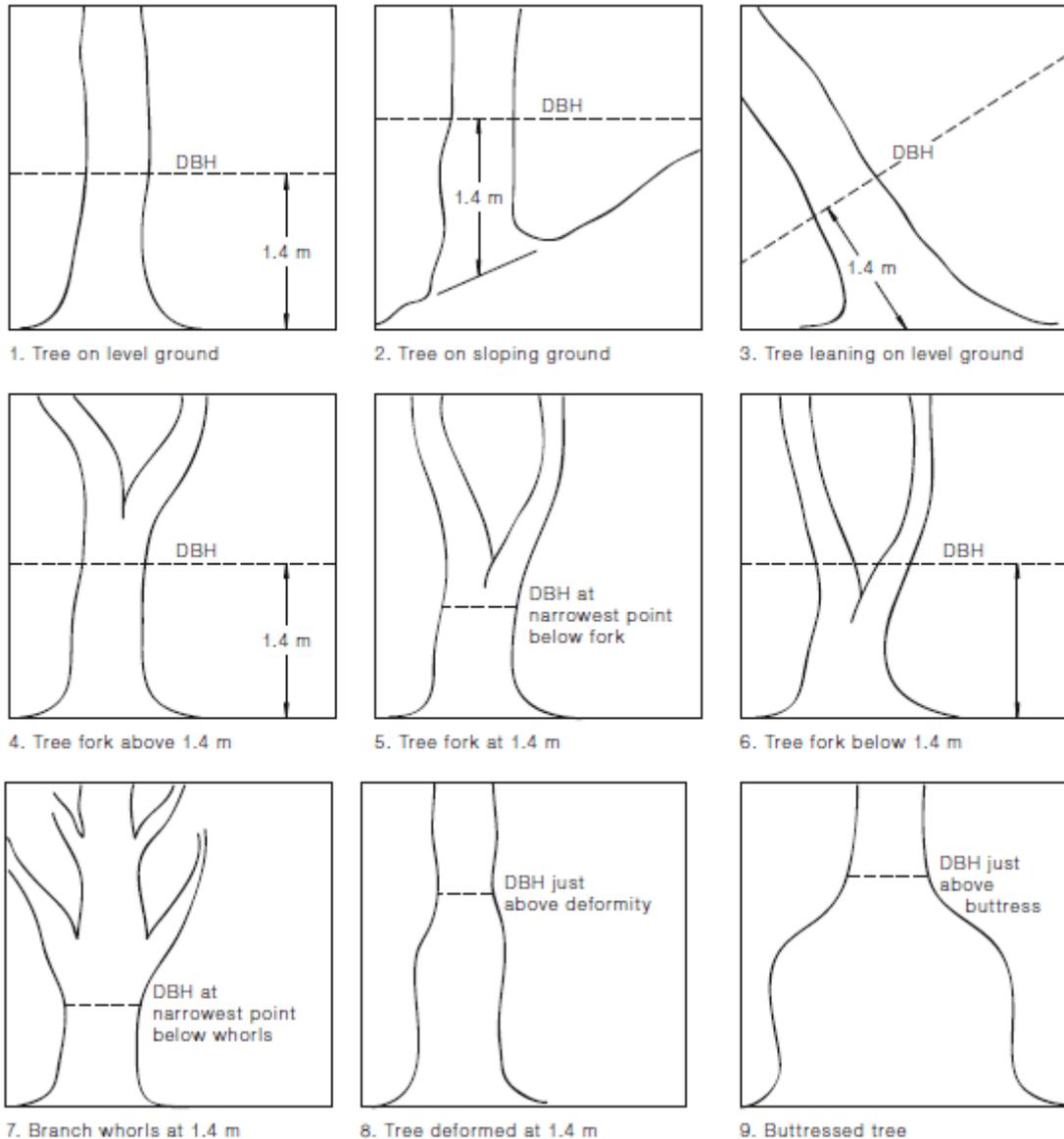
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ADVERTISED PLAN

DIAMETER AT BREAST HEIGHT (DBH)

(Informative)

The diversity of trunk shapes, configurations and growing environments requires that DBH be measured using a range of methods to suit particular situations.



NOTE: For example 6, the combined stem DBH may be calculated using the formula

$$\text{Total DBH} = \sqrt{(\text{DBH}_1)^2 + (\text{DBH}_2)^2 + (\text{DBH}_3)^2}$$

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11. LIMITATION OF LIABILITY

Molloy Arboriculture use their qualifications, education, knowledge, training, diagnostic tools and experience to examine trees and recommend measures. Clients may choose to accept or disregard the recommendations of this assessment and report.

Molloy Arboriculture cannot detect every condition that could possibly lead to the structural failure of a tree. Conditions are often hidden within trees and below ground. Unless otherwise stated observations have been made from ground level and limited to accessible components without dissection, excavation or probing. Molloy Arboriculture cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time.

Treatment, pruning and removal of trees may involve considerations beyond the scope of Molloy Arboriculture services, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters, and related incidents. Molloy Arboriculture cannot take such issues into account unless complete and accurate information is given prior to or at the time of site inspection. Likewise, Molloy Arboriculture cannot accept responsibility for the authorisation or non-authorisation of any recommended treatment or remedial measures undertaken.

In the event that Molloy Arboriculture recommends retesting or inspection of trees at stated intervals or installs any cable/s, bracing systems and support systems Molloy Arboriculture must inspect the system installed at intervals not greater than 12 months unless otherwise specified in written reports. It is the client's responsibility to make arrangements with Molloy Arboriculture to conduct the re-inspection.

Information contained in this report covers those items that were examined and reflect the condition of those items at the time of inspection. There is no warranty or guarantee expressed or implied that the problems or deficiencies of the trees or property in question may not arise in the future.

All written reports must be read in their entirety, at no time shall part of the written assessment be referred to unless taken in full context of the whole written report.

If this written report is to be used in a court of law or any legal situation Molloy Arboriculture must be advised in writing prior to the written assessment being presented in any form to any other party.

To the extent permitted by law, you agree that Molloy Arboriculture Pty Ltd is not liable to you or any other person or entity for any loss or damage caused or alleged to have caused (including loss or damage resulting from negligence), either directly or indirectly, by your use of the information (including by way of example, arboricultural advice) made available to you in this report. Without limiting this disclaimer, in no event will Molloy Arboriculture Pty Ltd be liable to you for any lost revenue or profits, or for special, indirect, consequential or incidental damages (however caused and regardless of the theory of liability) arising out of or related to your use of that information, even if Molloy Arboriculture Pty Ltd has been advised of the possibility of such loss or damage.

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